

THIRD ISC GENERAL ASSEMBLY
Muscat, Oman 2025

Progress report from the Africa Scoping Project

Document 12d

The following report was prepared for the ISC Governing Board in February 2024 and is supplemented (from p.5) by preliminary results of a survey. A final project report is expected in the course of December 2024.

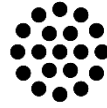
For noting



**International
Science Council**

وزارة التعليم العالي
و البحث العلمي والابتكار
Ministry of Higher Education
Research & Innovation





**International
Science Council**

Progress Report to the ISC Governing Board on the Africa Scoping Project

Date: 14 February 2024

Background:

Towards the end of 2022, Future Africa (FA) and the International Science Council (ISC) agreed to launch a two-year pan-African scoping and development process aimed at identifying the need for and ideal nature of a longer-term ISC role and related institutional presence on the African continent. FA was tasked with convening a consortium of African partners to lead this scoping work. The FA-ISC project agreement was signed on the 13th of January 2023 and funding for the first year of activities was dispersed in March.

Objectives in the reporting period (March 2023 - February 2024):

Based on the project agreement, several areas of focus have been identified for the first year of work:

1. **Appointing a FA-ISC team** to lead the work;
2. **Appointing a consortium of African partners** (the FA-ISC Steering Committee) to act as a steering committee for the project;
3. **Comprehensive stakeholder mapping** and desk research on academies, associations, unions, and other networks with an African presence;
4. **Open consultation** with ISC members and science stakeholders on the continent;
5. **Communication and outreach** to ISC members and science stakeholders on the continent.

Results to date:

Appointing a FA-ISC team: The project team is led by Dr Farai Kapfudzruwa (appointed in March 2023 and supported by Mr Jason Owen (assisted with drafting proposal and provides part-time support) , Ms Lea Hufferman (FA volunteer who worked on the project from June – August 2023), and Dr Claire Chagwiza (appointed as a full time post-doctoral fellow on 1 September 2023 to support the project). Oversight for the project is provided by the FA Director, Dr Heide Hackmann. Alison Meston is the liaison and contact person from the ISC, providing strategic guidance and engagement in the project implementation.

Appointing an FA-ISC Steering Committee: A project steering committee was appointed in August 2023 to provide the project oversight and oversee the implementation. Prof Daya Reddy, Interim Vice Chancellor at the University of Cape Town was nominated as the steering committee chair who will be responsible for engaging with and reporting to the ISC Governing Board on behalf of the project. To date, the committee

has met virtually twice and the next scheduled meeting is on 12 March 2024. The goal is for the steering committee to meet again twice before the end of the project. The following individuals have been appointed to the FA-ISC steering committee:

1. Daya Reddy, Acting-Vice Chancellor, University of Cape Town, South Africa
2. Ahmed Bawa, Professor, University of Johannesburg, South Africa (TBC)
3. Oladoyin Odubanjo, Executive Director, Nigerian Academy of Sciences/INGSA, Nigeria
4. Lisa Korsten, President, African Academy of Sciences, South Africa
5. Christian Acemah, Executive Director, Uganda National Academy of Sciences, Uganda
6. Isabella Aboderin, Director, Perivoli Africa Research Centre (PARC), University of Bristol, UK
7. Nokuthula Mchunu, Deputy-Director, African Open Science Platform, South Africa
8. Mavoarilala Claudine Ramiarison Director de Research - Technical advisor and Project coordinator, Madagascar Ministère de l'Enseignement Supérieur et de la Recherche Scientifique, Madagascar
9. Dorothy Ngila, Director, Strategic Partnerships, National Research Foundation, South Africa
10. Jackie Kado, Executive Director, Network of African Academies, Kenya
11. Priscilla Kolibea Mante, Global Young Academy steering committee co-chair & Professor of Neuropharmacology, KNUST, Ghana

Comprehensive stakeholder mapping: The stakeholder mapping work began in June 2023 and was completed in November 2024. The stakeholder mapping exercise intended to provide an overview of the state of African science, focusing on the stakeholders, their activities, and networks. The project team mapped stakeholders in four categories:

- African ISC members;
- Global academies with an African presence (for example NASAC, IAP, GYA etc.);
- Non-ISC African academies;
- Regional chapters of international associations.
- Knowledge networks in and with a strong African presence.

For each organisation mapped, a number of data points are collected (where available) including : name; location; date joined (for ISC members); category (for ISC members); type of organization; mission; primary activities; presidency / leadership; funding; int. partners/linkages; other key partners; how membership works (for ISC members); URL to an official website (see Appendix A for PPT on results from the stakeholder mapping exercise). The results from the stakeholder mapping exercise are being complemented by a desktop literature review by the postdoctoral fellow. The outcomes from the stakeholder mapping exercise and desktop literature review are intended to produce a position paper and academic journal article which reflects on the state of African science and its impact.

Open consultation: ***The first consultative workshop was conducted by the project team on the 23rd of May, during Africa Week 2023 at the Future Africa Campus.*** The 2-hour consultative meeting engaged the participants on priorities and ideal approach for the 2-year ISC-Future Africa collaborative initiative. A meeting summary was produced following the consultation, which articulates the main points discussed. Three salient themes emerged:

1. The need for complementarity between the many emerging initiatives on the African continent;
2. A desire to look beyond existing ISC membership in Africa and bring in a wider array of science stakeholders;
3. The need to strengthen links with governmental representatives, e.g. the UN, the AU, and others.

The second consultative workshop was held during on the 4th of December at the Future Africa Campus, on the sidelines of the Science Forum South Africa (SFSA) from 4-8 December 2023 in Pretoria, South Africa (see Appendix B for the draft technical report summarising the outcomes of the consultative meeting). The consultative meeting was followed by a plenary session on 8 December during the SFSA in which the project team shared and reflected on the outcomes of the December 4 consultations with participants and stakeholders in the African science ecosystem. The key outcome from the consultations was the proposal to establish an African STI Leadership Forum – not a new institution, but an alliance of committed partners that will regularly convene and connect African science system leaders across various science sectors in order to:

- Reflect on the current state of African sciences and science systems, and associated opportunities and challenges posed;
- Explore collaborative avenues to accelerate African science system development, and enhance its voice, visibility and influence in the global science arena;
- Ascertain interest and commitment of African science system leadership to collaborate in pursuing next level action to advance African science systems, and;
- Explore the complementary role and support of the ISC and other international multilateral institutions in advancing African science.

It is envisioned that such a Forum could be collaboratively governed and with meetings coinciding with prominent scientific convenings on the continent. ***Further consultations on the forum will be held during the International Network for Governmental Science Advice (INGSA) conference on 1-2 May 2024 in Rwanda where Future Africa will co-host a plenary session.*** Depending on the outcomes of the consultations, the STI Leaders Forum will form part of the recommendations to the ISC. Whilst this forum is being proposed as a collective pan-African platform the ISC is expected to play a prominent role through its network of academies and affiliate members.

Beyond the STI Leadership Forum, the consultations are intended to also determine the institutional presence in Africa. ***In this regard, a survey was conducted in November 2023 targeting the ISC members on the continent.*** However, due to the low response, a more targeted approach will be utilized to increase the response rate. ***As a result, the survey will be administered individually to the ISC members on the continent from 1-30 March 2024.***

Communication and outreach: In May 2023 at the mid-term meeting of ISC members, Farai and Jason from the FA-ISC team participated in a panel discussion on regional ISC presence around the world. This engagement served as an introduction to the Africa scoping project for the wider ISC community and allowed for networking with African members and others interested in the work for the project team. The project also published a newsletter in November 2023 on both the ISC and Future Africa website outlining the project goals and a call to action for all the African science ecosystem partners to share their insights and perspectives in shaping the future of African science. The newsletter is available through this link: <https://council.science/about-us/africa/call-to-action-africa/>

Activities planned for 2024

The major activities planned for the rest of 2024 include:

- As outlined above, a plenary session will be co-hosted by Future Africa during the INGSA conference in Rwanda (1-2 May 2024) to further engage the African science stakeholders on the proposed idea of an STI Leadership Forum.
- The survey launched in late 2023 will be re-administered in March through a more targeted approach. The outcomes of the survey are important because they intend to provide insight from the ISC members on the state of African science and the future institutional presence of the ISC in Africa.
- Interviews with science ecosystem leaders or those working on the continent representing key science organizations will be conducted between April and June 2024. Whilst some of the interviews will be conducted virtually, we intend to conduct some of these interviews during the INGSA conference in Rwanda and the STI Summit in New York considering the condensed presence of science ecosystem leaders and stakeholders.
- Consultations are ongoing to explore the possibility of hosting a reception during the STI Forum in New York in May. The goal of the proposed reception is to provide a networking platform and engage stakeholders supportive of the development and strengthening of African science. The networking and engagement is also intended to showcase and highlight the emerging outcomes of the Future Africa-ISC collaborative project.
- A final consultative meeting in September/October is planned to act as a reporting platform on the outcomes of the consultations and proposals to the ISC. The location of the meeting is yet to be determined but the preference is to align it to a global or regional gathering of the science ecosystem stakeholders.

Project Task Team:

Team lead: Dr Farai Kapfudzaruwa

Dr Heide Hackmann

Mr Jason Owen

Ms Lea Hufferman

Dr Claire Chagwiza

Preliminary results from the survey of the Africa ISC members on the to support the development and strengthening of African science ecosystem

Summary

This reports highlights preliminary results from an International Science Council (ISC) online survey conducted by Future Africa at the University of Pretoria from November 2023 to July 2024 with the 41 ISC member organisations from Africa to gather their insights on the institutional presence of the ISC on the continent, and collaborative approaches to develop and strengthen African science systems. This survey is part of a collaborative project which started in December 2022 between the ISC and Future Africa to collectively convene a consortium of African partners to lead a two-year (2) year (2023-2024) pan-African scoping and development process aimed at identifying the need for and ideal nature of a longer-term ISC role and related institutional presence on the African continent.

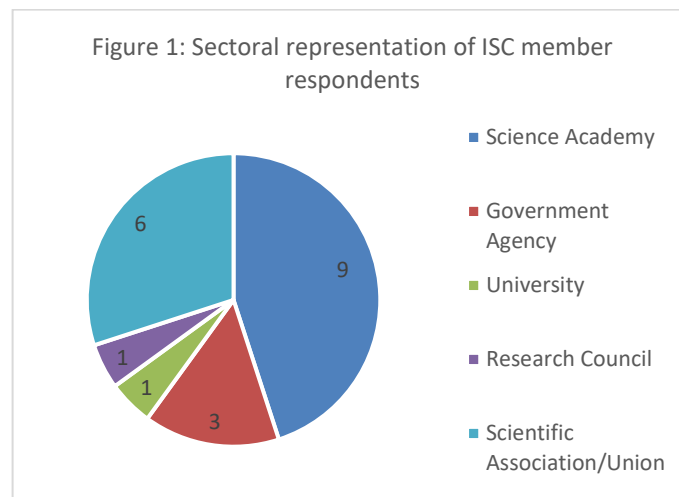
Of the 41 expected responses, we received 20 responses from the senior ISC organizational representatives in Africa and the key highlights from the preliminary results are:

- Funding for the ISC member activities is varied with most organisations relying on national government support, international development agencies and membership fees.
- Many African members are involved in ISC activities and initiatives. However, there were several requests to expand support for these activities, including intra-Africa collaboration.
- Whilst international collaboration is relatively improving, intra-African collaboration is significantly weak. This is mostly a reflection of the current flows of funding from the global north international partners.
- Whilst the ISC's role on the continent is valued, the contributions of the African members in agenda setting of ISC priorities is limited.
- The state of African science across many areas including, innovation, adoption of AI, science-industry collaboration is generally perceived to be weak. This is primarily linked to resource constraints, weak institutional environments (some of which are linked to unstable political environments) to support development of science systems.
- Despite these challenges, there are signs of improvement in other areas such as science outputs, science capacities and science education. This is attributed to increased funding and collaborative efforts from the global north.
- There is increased recognition of the importance of indigenous knowledge systems and how they can be integrated to show the excellence in African science and its global contributions
- There is a positive disposition on the future of African science. This is reflective of the changing policy environments in some countries which are recognising the importance of STI. Furthermore, the potential of the youth dividend and the diaspora is considered valuable to the future of African science.
- To a large extent, there is general agreement on the idea of establishing a pan-African platform or forum to support the collective development of African science system. Such a platform or forum should be consultative, inclusive, and complementary of the existing national and regional STI institutions, initiatives and platforms across the continent.
- Experiences in other pan-African platforms which were often low-profile, too concentrated in one country and exposed to political interferences made other respondents object to the idea of the pan-African platform or forum. Instead, they suggested connecting the existing platforms for synergy utilising networks such as NASAC, AAS, FANUS or RUFORUM.

- There is considerable interest in hosting regional offices of the ISC. However, for them to fulfill their mandate, they should be well funded.

1. Organisational Information

As outlined in figure 1, a total of 20 African ISC member representatives responded to the survey, with the majority being from the science academies, followed by scientific associations or unions. The responding organisational representatives are based in 13 countries (figure 2), with most respondents being from the DRC (3 organisations) followed by Kenya (2), Morocco (2), Botswana (2), Uganda (2) and Sudan (2).



Considering that the majority of the responding organisations are nationally based science academies and scientific associations and unions, it is not surprising that the main source of funding for activities of the respondents is national governments and international development agencies, followed by membership fees (figure 3). Whilst conclusions can not be made due to the sample size of the respondents, it is noteworthy that none of the responding organisations are funded by the private sector. This is consistent with current studies analysing funding flows in science which have shown continued decline in private sector R&D funding in Africa¹. In 2021, it stood at 35% on average compared to 40-70% in the global north.

With regard to partnership (figure 4), the survey results indicate varied collaboration across sectors at the national, regional and global levels. Whilst there is higher levels of partnerships with national governments given the sectoral representation of the respondents (figure 1), there is rather lower levels of collaboration with other policy institutions and industry.

¹ <https://sgciafrica.org/resource/research-funding-in-africa-highlights-from-the-sgci-masterclass-working-paper/>

Figure 2: Host country for the responding organisations

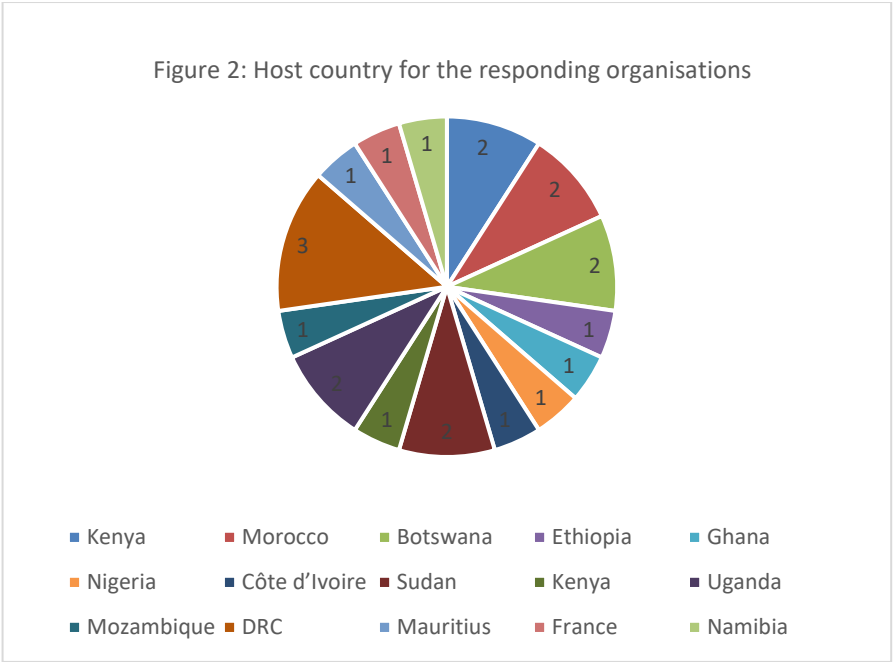


Figure 3: Main Sources of Funding

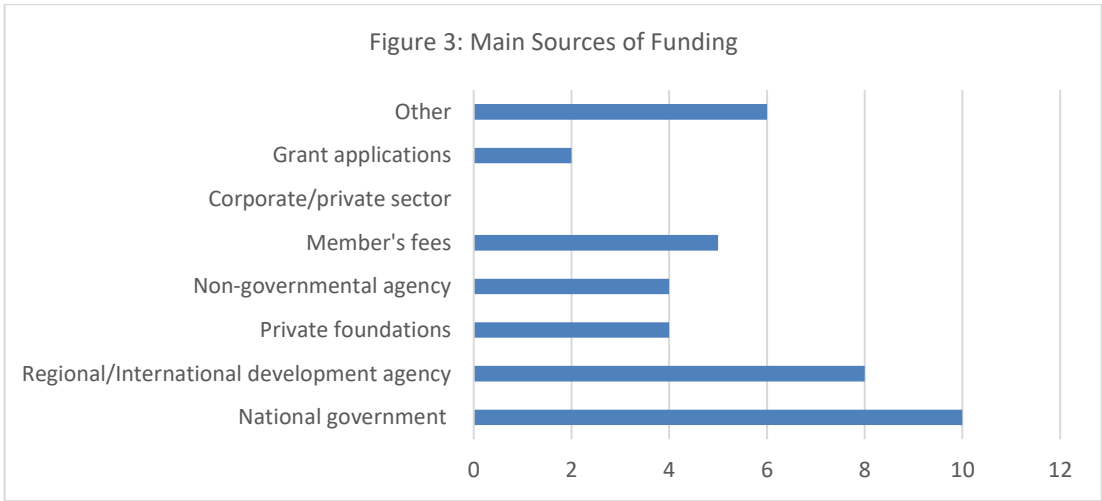
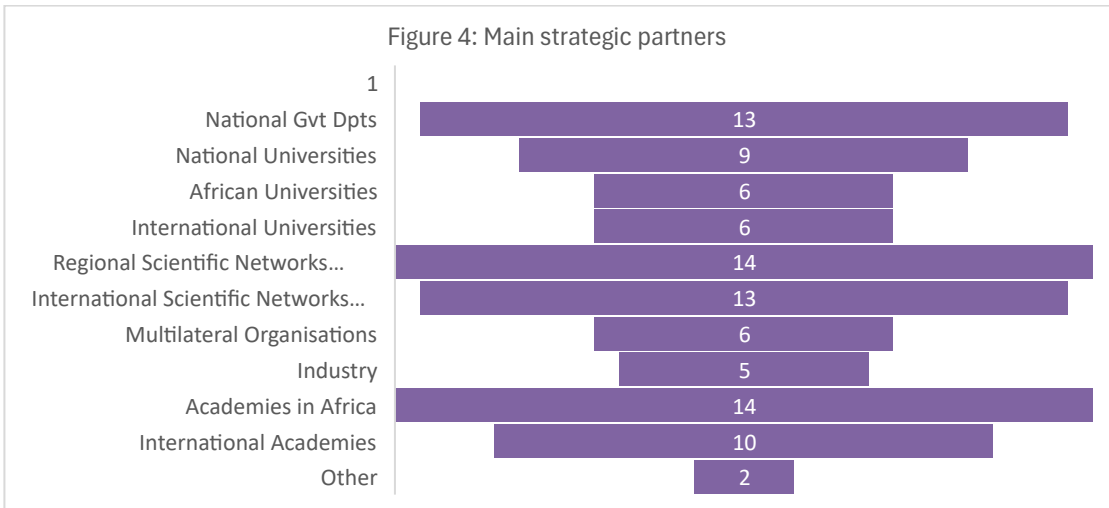
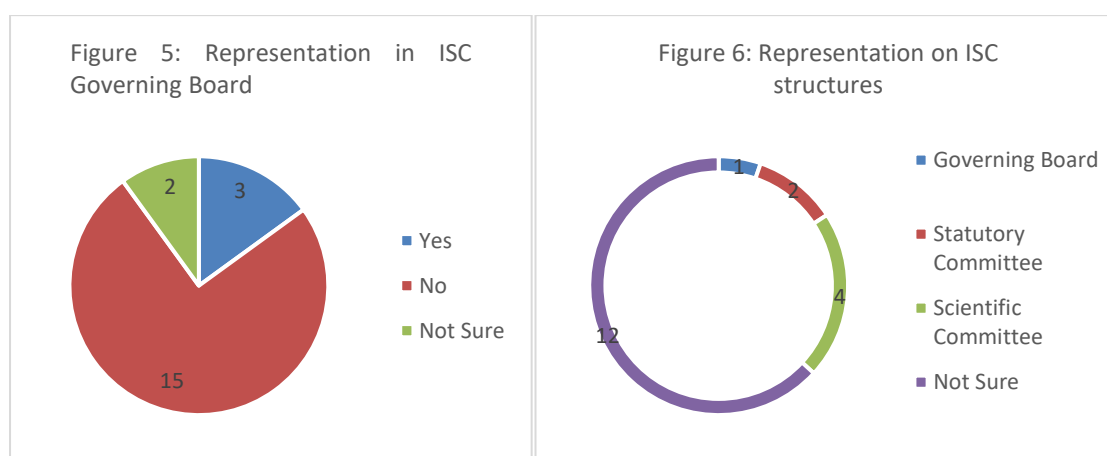


Figure 4: Main strategic partners

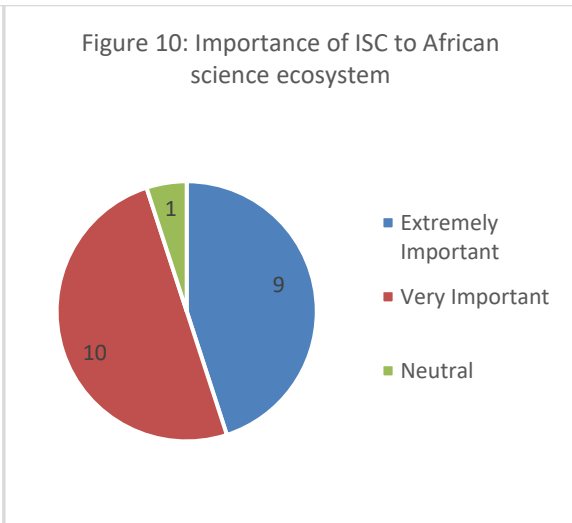
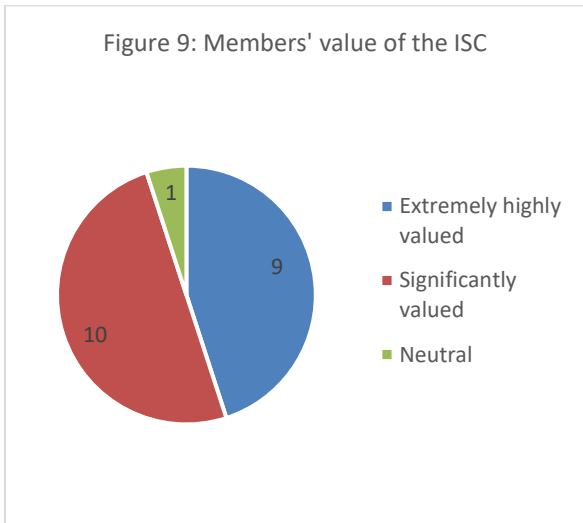
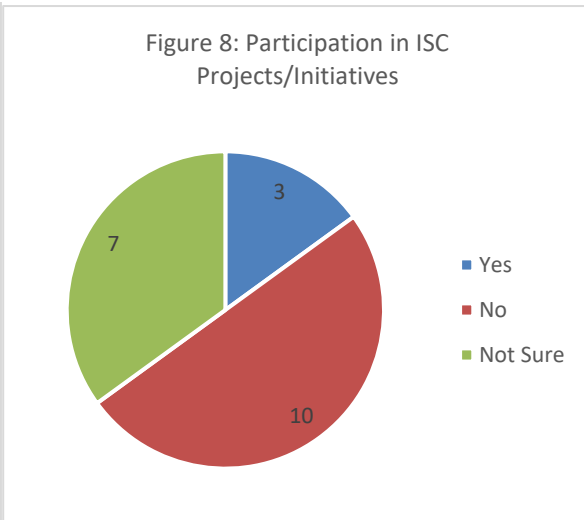
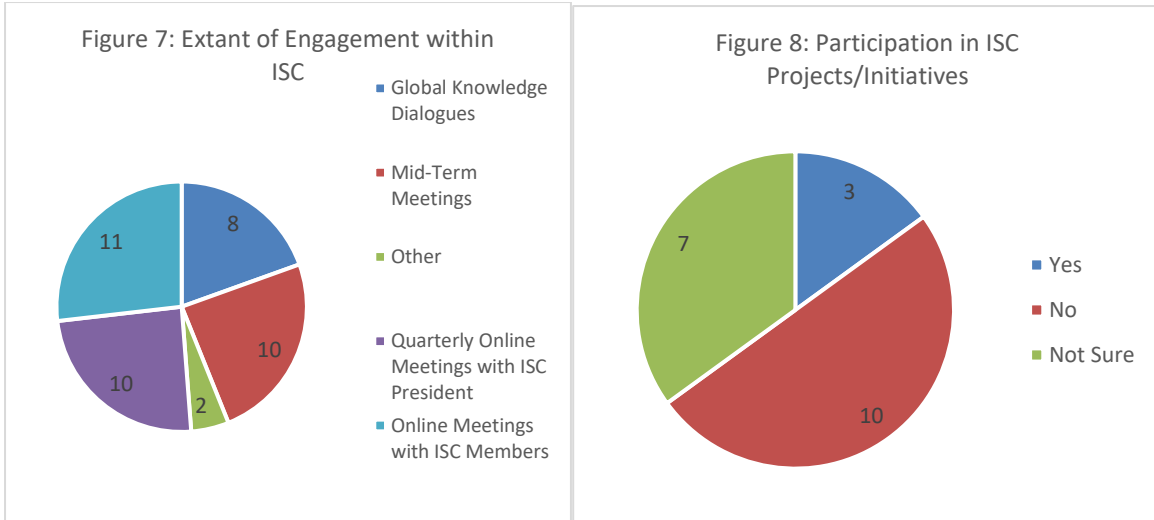


2. Role of the ISC Secretariat

The survey results seem to show a mixed picture on the role of the ISC on the continent. As outlined in figure 5 and 6 it seems a significant number of respondents are not aware or not involved in ISC decision making structures. More than 70% of the respondents indicated that they are not aware or not represented on the ISC governing board or other ISC structures such as statutory or scientific committees. Considering that the respondents of the survey are office bearers or executives of their organisations it is surprising that many of them are not aware if they have had any representation in ISC structures. This could be a result of continuous changes in office bearers resulting in individuals with the institutional knowledge leaving the organisation. Furthermore, it was noted by one of the respondents that the “ISC has not adequately incorporated the African priorities or needs in its framework of activities hence limited interest”. Whilst these comments and sentiments cant generalised as yet and can be further explored, it is important to consider them because they has significant implications (perceived or real) on the African members’ role in agenda setting in the ISC. In relation to this point, it was also argued that most ISC member institutions from Africa are quite detached from mainstream government operations (see figure 11 and 12 on these weak of science-policy interactions), and may hence not be able to bring on-board key issues affecting African scientists into the ISC.



Despite the above circumstances it seems many of the respondents have participated in ISC events, projects or initiatives (figure 7 and 8). Furthermore, more than 95% of the respondents recognise the ISC as considerably valuable to both the members and the African science ecosystem (figure 9 and 10). Within this context, a considerable number of respondents requested for increased support from the ISC for collaborative research and programmatic activities. This suggests that there is justification for a continued institutional presence of the ISC on the continent, albeit with a varied framework of engagement which allows African members to have more influence in agenda setting and the direction of the ISC whilst increasing and deepening the ISC’s insights and engagement with science systems development on the continent. Determining a mechanism which provides such a balanced approach is important.



3. State of African Science Systems

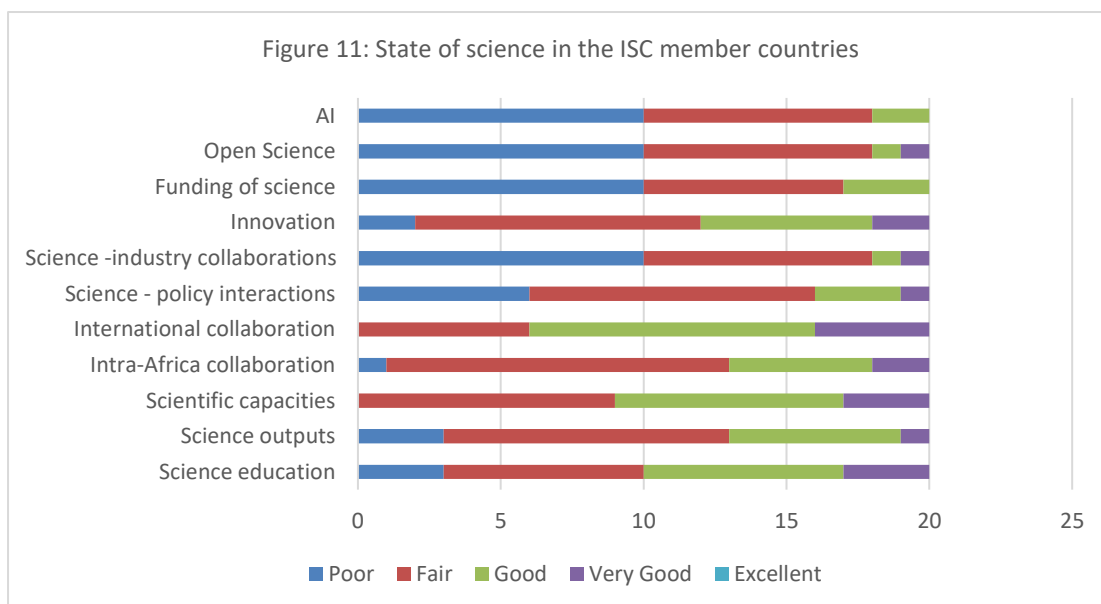
The respondents were requested to assess the state and perceived future direction of science in their host countries and generally across the continent. Of all the indicators measured, none were scored as excellent by the respondents. Instead, most indicators received a score of “poor” or “fair”, in particular those related to the ability to adapt AI, open science, science-policy interactions, science-industry collaborations, and intra-Africa collaborations. This generally points to a weak science ecosystem. A review of additional comments from the respondents indicate that many of these challenges are rooted and linked to the funding challenges facing the science and research institutions on the continent which undermine their capabilities to adapt AI technologies, contribute to innovation and the broader policy landscape. For example, one respondent noted that *“without investment in scientific research we cant support industry in their innovation needs”* and another revealed that *“the country’s budget for scientific research is poor”*. There is also a recognition of the complex socio-political landscape on the continent, including conflicts and unstable political environments which undermine science development and its governance.

The following challenges were also noted to be undermining science systems development on the

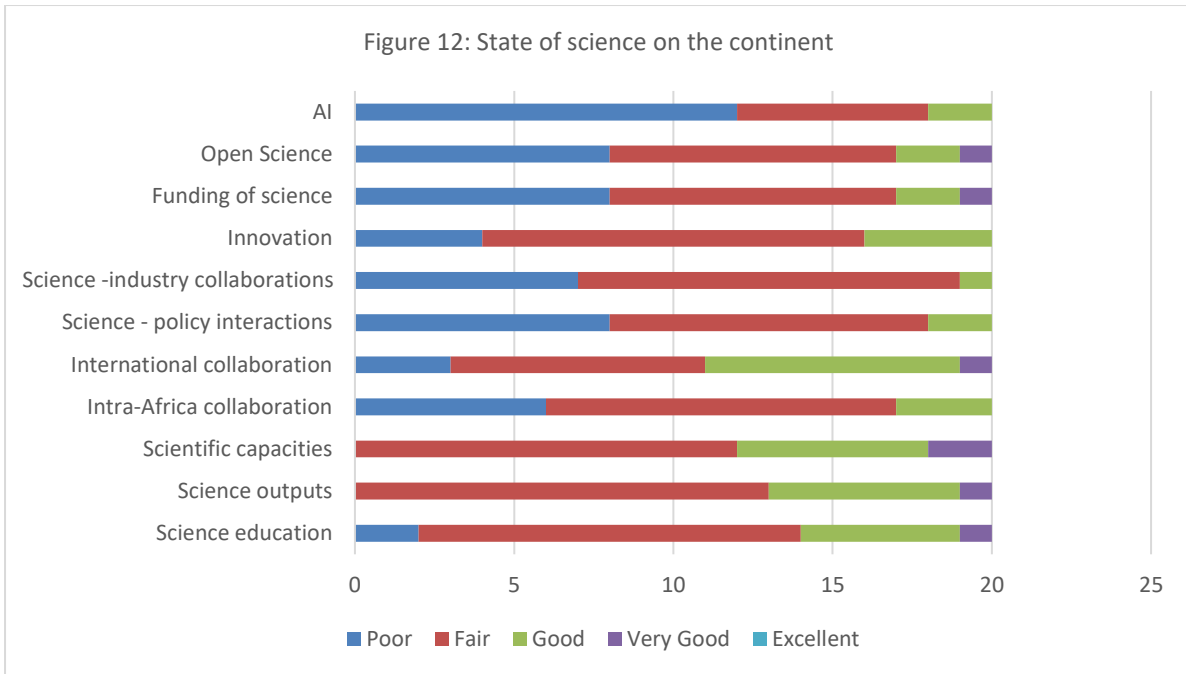
continent:

- The lack of trust in scientific outcomes or advisories by society at large
- Lack of integration of Indigenous Knowledge Systems (IKS)
- Limited private sector engagement (an indicator which received a low score in the survey)
- Limited intra-Africa collaboration (an indicator which received a low score in the survey). Besides the scientific unions such as NASAC, and regional policy institutions such as the AUC and SADC there is very limited intra-Africa collaboration, with most African organisations developing more partnerships with global north institutions.

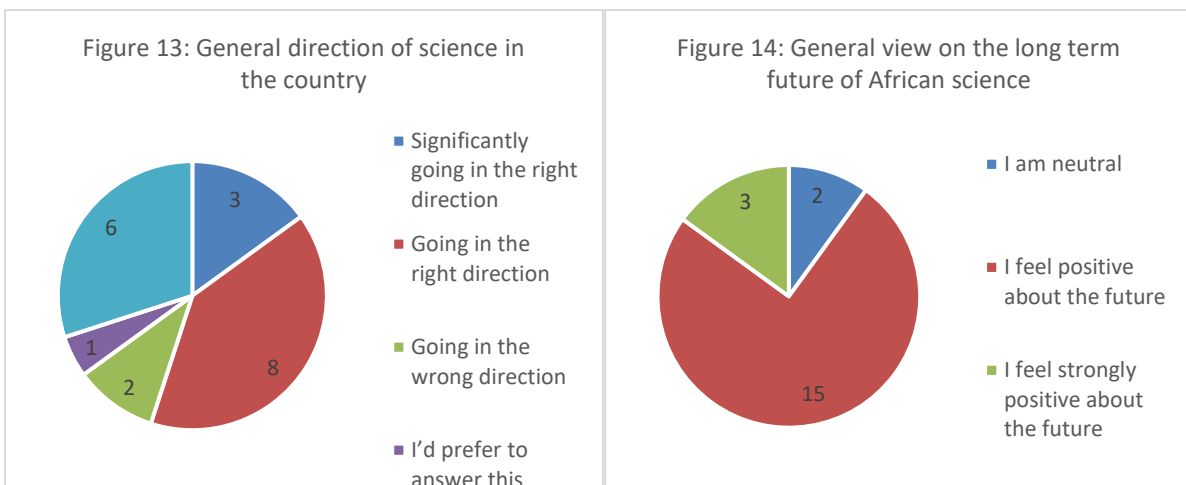
Despite these challenges, there are signs of improvement in other areas such as international collaboration, science outputs, science capacities and science education which received “good” scores. The strong international collaboration reflects the increased interest in collaborating with Africa and growing funding for science on the continent, particularly to strengthen African science capacities. This positive trajectory is evident in improvements in research outputs across the continent in the past decade². Furthermore, there is evidence from the responses that certain African national governments are recognising the importance of science to societal development and as such it's a policy imperative. For example, one respondent noted that the national government had established a “*Presidential Advisory Council on Science and Technology, as well as appointed a Special Envoy on Technology*”.



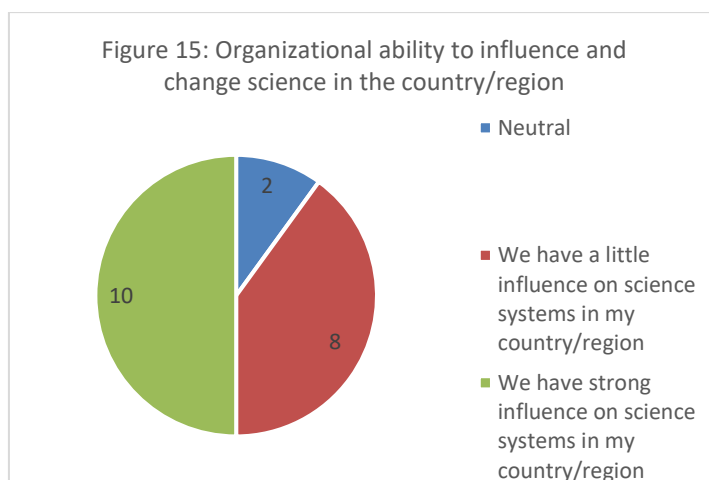
² <https://link.springer.com/article/10.1007/s11192-018-2675-0>



The results also reveal a general positive view on the direction of science in different countries and across the continent. This is primarily because the respondents believe that the policy makers are starting to recognise the importance of science. As a result, this positive disposition would be followed by more actionable efforts to address the challenges in science that the respondents identified. To illustrate this, one respondent noted that *“I feel positive about the future of science systems in Africa because we now have good policies in place that require implementation”*. The positive view on the direction of African science can also be attributed to improved capacities – both at the individual researcher level and institutional level. This is reflected in the improved Phd enrolment and graduations on the continent. Some of the respondents also noted the advantages that Africa possesses linked to the youth dividend and the African diaspora, which if adequately harnessed could play a critical role in advancing African science. The importance of the youth is illustrated by this comment: *“It is encouraging to hear about the determination and excellence of African youth in the realm of science and research. Despite facing numerous challenges, including underdevelopment and political instability in some regions, the resilience and talent of young African scientists are driving positive change and progress”*. Many respondents also noted the value of African indigenous knowledge systems which have greater potential to be harnessed to further develop a unique value proposition for African science globally.



As illustrated in figure 15 below, the capacity of the responding ISC members to influence and change the systems in their countries or the region is varied – with 40% indicating that they have limited capacity, whilst 50% indicated that they have strong capacity, and 10% neutral. Based on the follow-up comments to this question, it seems that this variation is dependant on the type and role of the organisation in their country and region, which is often linked to accessing resources and a greater sphere of influence in the policy space. For example, NACOSTI in Kenya, as a regulator of STI in the country and national focal point to a number of Kenya’s international STI obligations have more capacity which enables them to coordinate STI initiatives across national government departments. The same applies to the National Research Foundation (NRF) in South Africa which is funded by national government and has extensive bilateral and trilateral collaborations which provide them platforms to influence science development in South Africa and across the continent. On the other hand, there are organisations such as the Congolese Academy of Sciences which are relatively new and small and in the institutional building process and significantly rely on external funding for their activities.



4. Possible next collaborative steps

To collectively address many of the challenges and leverage on the opportunities highlighted above, the respondents were asked for their thoughts on the idea of a collaborative pan-African platform or forum. To a large extent, there is support for the idea. For such a platform to succeed and have the legitimacy on the continent many respondents highlighted that the process to establish the platform should be consultative, inclusive, and complementary of the existing national and regional STI institutions, initiatives and platforms across the continent. This is to ensure that it is aligned with the needs and priorities of African scientists. Furthermore, the establishment of a pan-African platform or forum dedicated to African science was considered to “*present an opportunity to unify fragmented efforts across the continent by coordinating scientific initiatives, pooling resources, fostering collaboration, advocating for supportive policies, supporting capacity building, and promoting equity and inclusion*”. By serving as a central hub for coordination, knowledge sharing, and collective action, this platform could amplify the impact of individual institutions and initiatives, accelerate scientific progress, and empower African scientists to address priority challenges. In addition to ensuring impact, it was noted that the platform would be valuable in avoiding duplication of efforts. To further build on these guiding principles it would be important to engage

the stakeholders on the organisational framework to operationalise such a platform or forum. This is to further investigate anecdotal comments such as *“separating the platform from the AU to bring change”*.

Whilst the responses for the establishment of a pan-African platform were mostly positive there were comments from other respondents which are important to consider. In particular, concerns were raised of previous experiences from existing platforms which have low profile and don't resonate across the continent with the science community. This weakness was noted to be partly because the pan-African platforms were *“controlled by one country”* and due to *“political interferences”*. Due to these concerns some respondents noted that there is no need to establish a new platform. Instead, what was needed was connect the existing platforms for synergy utilising existing networks such as NASAC, AAS, WANNAS FANUS, FARA and RUFORUM.

To establish a robust ISC institutional presence on the continent – an issue somewhat different but related to the reframing the value proposition of African science, some respondents proposed the establishment of ISC regional offices/hubs in Africa. They noted that such hubs should be *“strategically located to facilitate engagement with diverse stakeholders across the continent and should serve as focal points for coordinating activities, building partnerships, & providing support to African scientists and organizations”*. It was proposed that such regional hubs would facilitate partnership with African institutions such as universities, and research centers and engagement in African science policy platforms. Other activities could involve capacity building and mentorship programmes tailored to the needs of African scientists, particularly early-career researchers and women in science. A selected number of respondents were part of the foundation of the ICSU Regional Office for Africa and noted that the *“Science Plans were designed to be transversal instruments to address priorities on the continent but the funding was very weak and the results were not as expected because of funding”*. Therefore, future ISC institutional presence on the continent should be accompanied by substantive funding to support the activities.