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COVID-19 and science systems in Africa: an opportunity to build forward better

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Leveraging the Potential of Science and Technology to Mitigate Challenges Associated with Covid-19 Pandemic in Developing Countries



Presentation Outline

1. Research context and relevance
2. Aims & objectives
3. Research rationales and methodologies
4. Research findings
5. Discussion
6. Implications of our research
7. Conclusions
8. References
9. Acknowledgements

Relevance and Novelty of the Research

- The University of Rwanda – University College London Innovation Ecosystems Laboratory (IEL) is an offshoot of interdisciplinary research endeavours into science systems in Sub-Saharan Africa.
- The IEL research seeks to understand how technical, economic, social, political and institutional factors emerge and interact to influence science, technology and innovation ecosystems in developing country contexts.
- Besides interdisciplinarity, the IEL is a unique, real-time research space for:
 - Dialogue and visibility in many forums in Africa and Europe
 - Operationalization of researcher-driven collaboration
 - Capacity building and mentorship opportunities.

Background (1)

- Over the last 3 years, the UCL-UR IEL team has undertaken the following studies:
 - Science Granting Councils Initiative (SGCI) Training Effective Case Studies (STECS Project) (IDRC) – covering 9 African countries.
 - STECS-Plus Project (IDRC) – analysing and documenting the contribution of science-granting councils (SGCs) to Covid-19 responses in 9 African countries.
 - Africa Innovation Ecosystems (AIESyS) Project (funded by FCDO) – to analyse innovation ecosystem support interventions in 10 African countries.

Background (2)

Current project:

- SGCI Political Economy Analysis 3 (PEA 3) Project (IDRC)
- A 20-month project: June 2021 – Feb 2023
- Main aim: to inform SGCI programming through a nuanced analysis of national research and innovation ecosystems and the national, regional and international political economy contexts for SGCs
- Project encompasses more than 10 countries in Eastern, Western and Southern Africa
- Partnership also includes the University of Johannesburg

Aims and Objectives

- This presentation stems from the process and findings of the STECS-Plus Project (June 2020 – April 2021)

Context

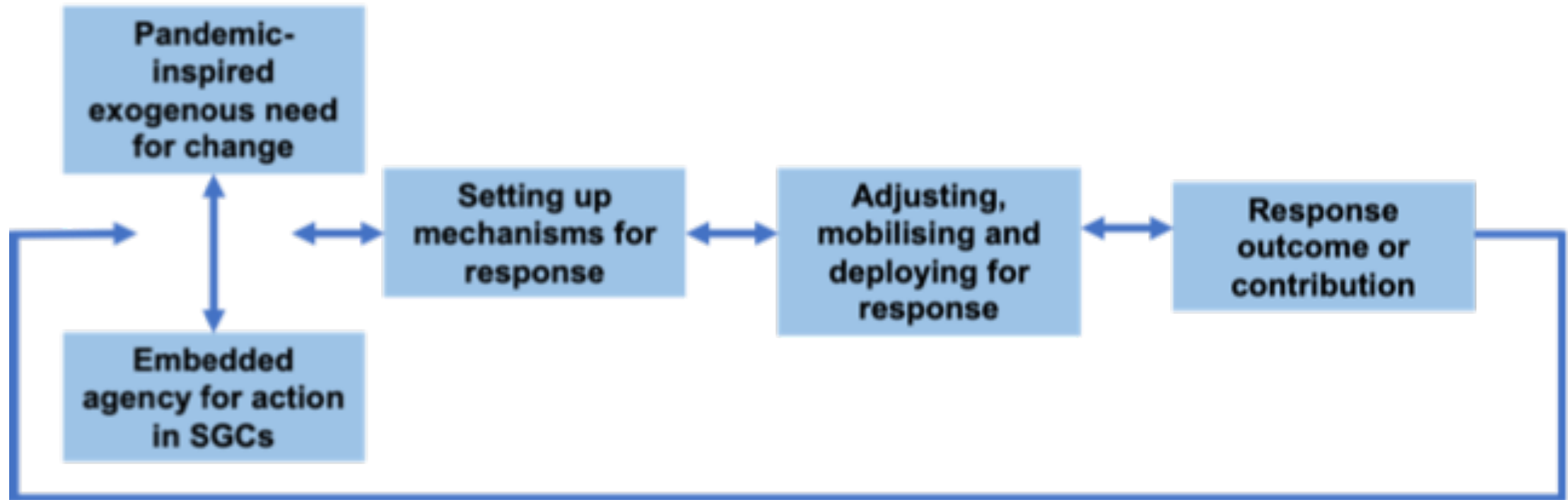
- Beyond health system frailties, the COVID-19 global pandemic exposed weaknesses in the policy architectures surrounding many aspects of society.

Overarching research question was:

‘Has the development of science, technology and innovation capacities in the councils enabled them to act more swiftly, more decisively or with greater impact in their response to the pandemic?’

Our hypothesis was that ‘pressure’ from the COVID-19 pandemic necessitates rethinking how science systems are configured, the levels of capacity in these systems, and their relevance and agility at points and times of need.

STECS-Plus Project Conceptual Framework



An exploration of the nexus of existing structures and required responses.

Methodology (multi-sited case study)

Country case studies:

- 9 countries, namely Burkina Faso, Kenya, Malawi, Mozambique, Namibia, Rwanda, Senegal, Uganda & Zambia.

Data collection methods:

- Desk research (secondary data).
- Questionnaire-led semi-structured interviews with SGCs, CTAs and the SGC IMT – more than 25 interviewees

Data analysis:

- Thematic analysis (qualitative data).
- Tabulation and statistical analysis (quantitative data).

Research Findings

1. Being skilled in **research management** in a robust and broad-based way allowed SGCs to be **active in their national science ecosystems**, which placed them in a good position to contribute to responses to the pandemic in the study countries.

2. Regarding **research funding** activities for Covid-19, SGCs were involved in:

- engaging significantly in **funding mechanisms** for responsive research.
- **lobbying** for more government funding for science, in partnership with other science system actors.
- **issuing, managing and evaluating** calls for research proposals.
- soliciting **external funding** for research.

Research Findings

3. SGCs clearly **leveraged inter-SGC networking and partnership** opportunities facilitated through SGCI, and especially through the **Covid-19 Africa Rapid Grant Fund**.

4. SGCs were also able to **influence national responses** either directly as members of **national COVID-19 response taskforces** or through feeding **ideas, evidence and advice** from a range of different contexts into designated response mechanisms.



Research Findings – Rwanda's Case

5. NCST's influence in national response to Covid-19 pandemic

- Feeding ideas, evidence and advice.

6. NCST's role in funding R&I in response to pandemic

- One call funded by the national government.
- One call through a collaboration with South Africa's NRF under Covid-19 Africa Rapid Grant Fund.



Discussion

While SGCs played roles in decisions and actions in response to the pandemic, issues such as

- Adequacy
- Relevance
- Timeliness
- Trust

... of tools, resources, decisions and capacities remained a challenge

For example,

- Peer reviews for calls were lengthy and in some cases there were no sufficient reviewers for complex, interdisciplinary calls.

Traditional external sources of knowledge and financial capital were also constrained, raising the importance of depending on, leveraging and trusting local sources and resources.

Implications

- The pandemic revealed the **importance of functional, embedded capabilities** for different functions in the science systems – from advocacy and funding, to peer review and decision-making.
- Practice makes perfect/enhances response preparedness – there is **need for co-working spaces where theory meets practice for experience and trust-building**.
- Synergy and coordination of capabilities are also key.
- There is need for **agency and institutional entrepreneurship** among both centre and periphery actors in science systems.
- **Dominance of and investment only in traditional science disciplines is no longer appropriate** - urgent need for inter-, multi-and cross-disciplinary working arrangements which de-centre privileged ways of knowing and doing.



Conclusion – it cannot be science as usual beyond Covid-19

Rethink, reconfigure, retool

For science systems, as sources of tools and knowledge for responding to societal challenges, the pandemic has revealed the need for rethinking how these systems are configured, the levels of capacity in these systems, and their relevance and agility at points and times of need.

Building forward better - the pandemic is a key moment for new choices and actions regarding the science-technology-society nexus.

But

- Will the needed science system adjustments be **feasible, quick enough and sustainable**?
- Is there **institutional and collective will** to make and accommodate adjustments?

References

Mugwagwa, J., Washbourne, C. L., Kagwesage, A. M., & Twiringiyimana, R. (forthcoming 2021). STECS Plus: An analysis of contributions to COVID-19 responses by science granting councils in selected African countries. University College London [PDF]

University of Rwanda – UCL Seminar. September 2021. ‘UCL-UR Collaboration on Science Systems and Development in Africa – Work-in-Progress Seminar’ Mugwagwa, J., Washbourne, C. L., Kagwesage, A. M., & Twiringiyimana, R. (presenting)

Development Studies Association Conference 2021. July 2021. Panel: ‘Science as (un)usual: COVID-19, science, innovation and societal recovery in Sub-Saharan Africa.’ Mugwagwa, J., Washbourne, C. L., Kagwesage, A. M., & Twiringiyimana, R.

Mugwagwa, J., Washbourne, C. L., Kagwesage, A. M., & Twiringiyimana, R. (2020). Case studies on the effectiveness of capacity strengthening activities of the science granting councils initiative in Sub-Saharan Africa. Final Technical Report / Rapport Technique Final. University College London

UCL STEaPP Lunch and Learn. April 2020. ‘STECS Final Report’ Mugwagwa, J., Washbourne, C. L., Kagwesage, A. M., & Twiringiyimana, R.

SGCI Phase 1 Close Out workshop, Dakar, Senegal. February 2020. ‘Preliminary Findings of Science Granting Councils Initiative in sub-Saharan Africa Training Effectiveness Case Studies Project’ Twiringiyimana, R.

SGCI Forum 2019, Dar es Salaam, Tanzania. November 2019. ‘Science Granting Councils Initiative in sub-Saharan Africa Training Effectiveness Case Studies Project’ Mugwagwa, J., Washbourne, C. L., Kagwesage, A. M., & Twiringiyimana, R.

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Thank you!