COVID-19 and SDGs in Africa: new frontiers and directions for STI policy

This session moderated by **Dr Chux Daniels** from the Science Policy Research Unit (SPRU), University of Sussex Business School, brought together policymakers, researchers and country representatives to explore a range of questions that are pertinent to COVID-19, the SDGs and for Science, Technology, and Innovation (STI) research and policy agendas. The discussions centred on new frontiers and directions for STI policy, the complexity generated during the time of COVID-19, with further exploration of new approaches, and solutions that embrace rather than reduce uncertainty. The implications of COVID-19 on competing priorities and trade-offs between STI and the SDGs at local, national, and sub-regional levels, with a focus on Africa were briefly outlined. The key messages for policymakers and other stakeholders, from the four topics discussed, are summarised below.

Embracing complexity in an uncertain world: STI policies and COVID-19 – Dr Blanche Ting (University of Johannesburg and SPRU)

During times of crises, there are attempts to reduce uncertainty to predictable and manageable risk. This results in a tendency to privilege prediction and technocratic solutions over other possibilities. The complexities and uncertainties often lead to short-sighted policy approaches because risks are difficult to assess or understand and could leave the system susceptible to future disruptions.

Key messages and recommendations: Policymakers need to,

- Engage, and appreciate the complexity presented not only during the time of COVID-19 but other systemic threats such as climate change. This will require new approaches to STI policy and solutions that embrace rather than reduce uncertainty.
- Embrace complexity and experimentation. Failing to embrace an inherently complex and uncertain world reduces responses to only those that address calculable risks.
- Consider resilience base approach, where system weaknesses are identified, and the capabilities to absorb, recover and adapt to future system threats. In this way, the approach is 'threat agnostic', in that threats are inherent to the properties of a system.
- Employ transformative and adaptive STI policy approaches. Conventional policy development, is inflexible, and rigid, infers a static approach that may limit the ability to incorporate complexity and uncertainty at the scale of systemic shocks (e.g. COVID-19).
- Reorientate policy goals towards sustainability, inclusiveness, and resilience during the recovery period.
- Use policies to trigger systems change. This will require new forms of policy frameworks and practices (e.g. the transformative innovation policy approach to policymaking).

Measuring STI in African countries in relation to development and SDG priorities – Dr Tommaso Ciarli (UNU-MERIT, Maastricht and SPRU)

The current STI indicators only partially cover the complexity of STI systems. Challenges include the collection and measurement of data in informal knowledge production and use, standards for the collection and classification of data, differential funding levels for individual SDGs, and inadequate capabilities to develop new, relevant, and alternative indicators where necessary and applicable, as well as using novel data resources.

Key messages and recommendations: Policymakers and relevant stakeholders need to,

- Enhance human capabilities in the construction and interpretation of STI indicators and their use in policymaking.

- Provide resources for and develop indicators for innovation in the informal economy.
- Incorporate sustainability and STISA-2024 and other policy priorities in the scoreboards.
- Develop internally comparable indicators that conform to agreed standards of assessments.
- Integrate new forms of knowledge creation (e.g indigenous knowledge, incremental innovation) into mainstream innovation and knowledge systems and approaches.
- Enhance the demand for indicators from policymakers and foster evidence-based policies.

Unpacking technologies and partnerships in Africa's COVID-19 response – Vusumuzi Ncube (SPRU)

COVID-19 accentuated well-recognised fault lines in health systems, which have been fragmented, poorly functioning, chronically underfunded, and path-dependent on vertical modes of delivery that focus on high profile diseases. The global public health crisis with tremendous economic and social costs, has helped to remined the world of the importance of STI, partnerships and achieving the SDGs.

Key messages and recommendations:

- Focus on diagonal approaches. Repurpose diagnostics infrastructures for example, in HIV testing, and re-deploy unutilised capacities for COVID-19 testing, thereby enhancing scalability and deliverability. Where necessary, reconfigure existing platforms and re-orientate institutions and supply chains. For examples, High throughput Gene-Xpert devices for molecular HIV testing may be modified to include COVID-19 testing across Africa.
- Build new and strengthen partnerships that help ensure effective implementation of health and related policies and programmes**.** Partnerships are essential for effective engagements that foster incremental innovation, collective action and coordination of heath programmes and initiatives with transformative potentials. And for realising innovative programmes such as the Africa Medical Supplies Platform (AMSP) financed by the Afriexim Bank, or the AFRICA CDC-led Africa Pathogen Genomics initiative launched in October 2020.
- Recognise and exploit latent innovative capacity of individuals, communities and institutions revealed by the pandemic. African governments must establish mechanisms to harness and build relevant capabilities within and beyond health sector to attain the health-focused SDG3.
- Rethink the regional hub model. Innovative missions in COVID-19 response must be contextually relevant, sustainable, accessible and scalable in cognisance of health system complexities, resource and infrastructural constraints and opportunities.

Highlighting financial innovations in support of the COVID-19 response – Dr Chantal Naidoo (University of Stellenbosch, SPRU, and Rabia Transitions Initiative)

Specific qualities of financing for innovation to support the SDGs, climate change and COVID-19 response are necessary, not for building back better but rather for leaping forward faster. At least $500bn in economic costs are estimated across the African region, due to COVID-19 related impacts. This means financial innovation is essential, not only to mobilise new resources, but also to capture resources that are being leaked, and to reflect the contextual realities of the region.

Key messages and recommendations to African governments and policymakers:

- Reduce sovereign debt across Africa, recognising that there is no more capacity for additional debt – given that $400bn in interest payments leaves Africa annually.
- Stem illicit finance flows (IFFs). $88.6 billion leaves the continent each year due to IFFs.
- Harness innovation and capabilities from the informal economy, which generates 70% of employment across Sub-Saharan Africa and 62% in North Africa.
- Align social bonds and response facilities with development goals and innovative outcomes, to enable a just and thriving region.

- Introduce and experiment with other regional and domestic forms of finance (e.g. crowdfunding, municipal bonds, tax reforms, targeted support for SMEs)
- Focus support on the SDGS, especially, climate action, youth employment and gender equality (using e.g. African Development Bank innovations around Youth Entrepreneurship Investment Banks, $5bn fund for women entrepreneurs).