THE ROLE OF PUBLIC PRIVATE PARTNERSHIPS IN HEALTH SYSTEMS: EXPERIENCES FROM SOUTHERN AFRICA

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POLICY BRIEF

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THE ROLE OF PUBLIC PRIVATE PARTNERSHIPS IN HEALTH SYSTEMS: EXPERIENCES FROM SOUTHERN AFRICA

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EXECUTIVE SUMMARY

This policy brief draws from a Scinnovent Centre commissioned study, a component of the broader African Science Granting Councils Initiative (SGCI) Theme 3.

This study demonstrates the role of private public partnerships (PPPs) in addressing global and local health inequity through market adjustment, and exemplifies the importance of local embedment of local pharmaceutical suppliers/ manufacturers among poor populations in low-middle income countries to drive sustainable social inclusion and local health security.

The study also unpacks the context-specific social, economic, political, geographic, and epidemiological factors that cannot be successfully examined without anchoring the lens on the sub-regional, regional and global political economies.

The study thus expands literature for the southern African region hitherto disproportionately focused on public-private engagement in South Africa with little known about the other countries, outside of Zimbabwe and Mozambique.

INTRODUCTION

Many sub-Sahara African health markets are trapped in a vicious cycle and perennial disconnect amongst potential supply, demand and investments dynamics that could concomitantly support local pharmaceutical technological upgrading whilst at the same time improving social inclusion, healthcare access and ultimately local health security.

As of 2019, Africa has: more than 50% of all health expenses paid out of pocket; more than 80% of the global burden of non-communicable diseases; more than 15% of the world's population; 47% of the global burden of communicable diseases; yet has less than 2% of global health expenditure (PAF, 2019). To compound this and the current burden for the health sector, the African continent will in the next few decades enter multiple transition phases that impact health security. These include demographic and disease transitions as populations' age and as infectious diseases begin to be overshadowed by non-communicable diseases, in addition to the impact of chronic infections on non-communicable diseases such as cancer.

The aforementioned are juxtaposed on technology/innovation transitions such as the fourth industrial revolution, big data, artificial intelligence, which will change curricula requirements and skills and further complicate rural-urban and transcontinental migration challenges.

In many instances, as a (semi-) public good, the healthcare and its allied industry complex requires government intervention through policy and practice. However, many African countries face challenges with especially limited state financial and technical capabilities as well as commensurate institutions.

The current health-industry complex (by which we mean the infrastructures, linkages, synergies and capabilities in place to manufacture, supply and deliver health products to the health system that addresses local health challenges) is not geared to adequately address current and more importantly complex emerging African health challenges.

The supply of medicines based on local manufacturing, procurement and distribution capabilities, and dispensing to patients in health facilities of different forms, is presently not matching demand, and will get more constrained with the challenges ushered in by the aforementioned multiple social and technological/innovation transitions. In response, African countries will need to accelerate local production of drugs, vaccines and other health technologies to cater for emerging and long-term health challenge.

The current health-industry complex architecture will not be able to rapidly achieve; invariably it means new and

innovative business and funding models, as well as organisational arrangements that engender competitiveness whilst at the same time promoting social inclusion and local health security are required.

Evidence is accumulating on the role and influence of public-private partnerships (PPPs) as innovative mechanisms for availing financing, capabilities and innovative business models and organisational architectures necessary for an agile health-industry complex critical for African socio-economic development.

PURPOSE OF THE BRIEF

The nexus between health and industrialization is under-studied in Africa and other most developing countries (Mackintosh et al, 2018). There is scant empirical research on how industrial change (or industrial development) can aid (transform) public health, particularly in terms of reducing the costs of local manufacturing of medicines and medical equipment.

This Policy Brief provides new empirical data and evidence on how PPPs contribute in the delivery of health and industrial policies and programmes for health and well-being. The commissioned study explored the role PPPs can play as innovative technological catch-up and investment financing mechanisms to build a competitive African health sector that is interlinked with a vibrant local pharmaceutical industry complex, capable of supplying drugs, vaccines and other health technologies that promote accelerated social inclusion and health security.

We use co-produced primary and secondary qualitative and quantitative evidence from five southern African countries, namely Botswana, Namibia, South Africa, Zambia and Zimbabwe to highlight and examine examples, opportunities, successes, failures of and lessons from PPPs in health-industry innovation and health system financing.

Health in Southern Africa

The five study countries are all members of the Southern African Development Community (SADC); a region with an estimated 337.1 million inhabitants (2017 estimate) facing high morbidity and mortality rates, low nutrition status, poor healthcare infrastructure and services, and poor living conditions as major challenges.

The region has for the past three decades faced a challenging and persistent HIV/AIDS pandemic, and it is not surprising that the pandemic permeates and influences most factors of development in the region. The SADC region accounts for one-third of all people living with HIV and AIDS worldwide; while eight SADC Member States are among those countries with the highest rates of tuberculosis; and 75% of the SADC population is at risk of contracting malaria. It is estimated that the loss of productivity attributable to tuberculosis is up to 7% of gross domestic product (GDP) for some countries, while the HIV/AIDS challenge depressed the GDP of most Sub-Saharan African countries by up to 20% in the decade 2001 to 2010 (WHO, 2013).

The health care systems of the five study countries, are continuously in need of strengthening due to challenges embedded in or transcending the systems (Mugwagwa, Banda and Chinyadza, 2017). The countries are all facing a number of similar challenges with respect to health delivery, presenting both objective and subjective reasons for inclusion in the study informing this Brief.

Pharmaceuticals

The African pharmaceutical market is thought to be around USD 40 – 60 billion annually by 2020, however most of these pharmaceutical products are imported with local production accounting for 10 to 30% depending on the country. For local production, active pharmaceutical ingredients (APIs) and excipients are imported and the bulk of activities are on generic drugs reformulation activities.

Biologicals are a very small component of the equation given that activity in vaccine and biologicals manufacture is limited to a few countries (South Africa, Senegal, Tunisia and Egypt) in most instances. Clearly the current trajectory will not provide the health security goals espoused in the African Union's Agenda 2063 "the Africa We Want"; and new and innovative organisational setups are required to develop and upgrade the pharmaceutical sector to be able to meet the needs of the continent now and more than fifty years into the future.

The SADC region has demonstrated an awareness to this challenge and realised that use of appropriate pharmaceuticals is central to disease treatment and prevention, and that access to affordable, safe, and quality-assured medicines is uneven in Southern Africa. A number of challenges work singly or collectively to impede access, and these range from lack of adequate production capabilities, inefficient supply chains, an uncoordinated regulatory terrain, to lack of standardised legislation for pharmaceutical, and unreliable water, energy and transport infrastructure to health systems' usage and disparate treatments for diseases.

Among the five case study countries, there is a challenge of high cost of medicines due to factors related to, among others, logistical challenges, diminishing capacities of local pharmaceutical manufacturers, leading to reliance on imported medicines, particularly for Botswana, Namibia, Zambia and Zimbabwe (Mugwagwa, 2019). South Africa has accumulated industrial capabilities (or potential) for manufacturing medicines and a wide range of medical technologies. Its pharmaceutical industry (large multinational corporates and a few local firms) is relatively well established when compared to the other SADC

countries. Zimbabwe's pharmaceutical manufacturing capabilities have shrunk considerably in the last two decades due to skills and capital flights in the backdrop of economic and political challenges (Banda, 2016).

APPROACHES

The original idea of the health-industry complex by Mackintosh et al (2016) conceptualised the relationship between pharmaceutical industry and the public health sector and the potential synergistic relationships that can be capitalised for innovation, industry development and health security simultaneously.

We are cognisant of the arguments surrounding PPPs, and we focus on the positive they can deliver in difficult circumstances where solely public or private investment may not yield much when the funding magnitude, risks inherent and the gestation period as well as policy terrain are insurmountable.

Using mixed methods, we assessed the dynamics of PPPs as a viable financing mechanism for investment in the pharmaceutical sector (drugs and vaccines) that leads to better social inclusion in health (medicines access, affordability and security) through the health and industrialisation complex.

FINDINGS AND IMPLICATIONS

Despite an increase in research investigating the roles of PPPs globally and elsewhere in Africa, there is limited understanding on the distribution and make up of health PPPs in Southern African countries. To contribute towards filling this gap, we obtained empirical evidence from five countries Botswana, Namibia, South Africa, Zambia and Zimbabwe and explored potential avenues on how health PPPs can be deployed to leverage private sector resources and expertise to drive government goals of optimising the efficiency and cost-effectiveness of the PPP model in health service delivery. Southern African countries, previously viewed as the epicentre of HIV/AIDS are an important source of insights, experiences and lessons for global health researchers and policymakers on the role of PPPs in building competitive health-industry complexes in the study countries and other LMICs.

The policy environment is ready

This study established that while the core provision of healthcare services is primarily viewed as the responsibility of governments, policymakers increasingly recognise that in evolving health contexts, private actors' capital and expertise can be a central driver for improving both cost-efficiency and overall health system effectiveness, through enhanced access to services and the introduction of innovative technologies and service delivery modes.

In the last two decades, in all the study countries, governments have taken a centre stage in attaining and sustaining the appropriate balance between public and private sector resources both for financing and managing health services. PPPs have thus been viewed as a viable mechanism for ensuring optimal deployment of scarce resources to advance public health goals, across the dimensions of equity, access, cost-effectiveness and quality of healthcare provision.

PPPs in healthcare have been mechanisms for governments to leverage private sector resources and expertise to deliver public health objectives whilst balancing and maximising private sector's strengths in rapid decision making, better skills base, flexible human resource practices and quick resource acquisition and appropriation.

Shared language and understanding

This study also established that across the target countries, there is no common definition for PPPs nor is the terminology necessarily universally applicable, as other authors have also noted. The authors though agree that dominant notion underpinning PPPs is about '… working arrangements based on a mutual commitment (over and above that implied in any contract) between a public-sector organisation with any organisation outside of the public sector (Bovard, 2004)'.

This broad conceptualisation allowed us to capture different configurations associated with the PPP model recognising that PPP actors cut across a range of sectors and roles including, pharmaceutical manufacturing, policy design, implementation, activism, procurement and supply chain and policy monitoring and evaluation (see Table 1).

Key drivers and success factors

Policymakers and governments, burdened by economic constraints and difficult geographies, still have to contend with the complexity and uncertainty of global health challenges whilst trying to solve intractable local health challenges in many instances burdened by neglected diseases.

Consequently key drivers for PPPs established by this study to address the aforementioned include but are not limited to the following:

- PPPs are better placed to address market deficiencies, through risk sharing, across multiple stakeholders and projects. This is relevant in contexts of emerging technologies and innovations where associated 'high technical risks' may be viewed by traditional funders as outweighing the short term visible economic benefits, and governments may be balancing a number of development and social initiatives.
- PPPs aid economies of scale, particularly of procurement, service provision but also research and development and manufacturing.
- PPPs can be 'system integrators' where knowledge and ideas are leveraged across sectors, for instance across industry, academia and government as seen in PPPs

Table 1: Southern African examples of PPPs in the health-industry complex

COUNTRY	SELECTED HEALTH PPP EXAMPLES
Zimbabwe	• Government and local pharma partnership in manufacturing of ARVs (Gov. of Zimbabwe-NATPHARM-Local manufacturers) • International agency, government and local pharma partnership for procurement of essential medicines (European Union-Gov. of Zimbabwe-NATPHARM-local manufacturers) • Government, non-profit and private sector partnerships in health service delivery (Gov. of Zimbabwe-private hospitals and mission hospitals) • Public-private co-location health delivery models (e.g. private wards in public hospitals such as Parirenyatwa Hospital)
South Africa	• Public-private co-location in clinical care management Universitas and Pelanomi Hospital in Free State Province; Humansdorp District Hospitals in the Eastern Cape Province • Public-private asset financing and maintenance and management partnership, e.g. The Inkosi Albert Luthuli Central Hospital in KwaZulu Natal Province • Public-private equity partnership for vaccine and sera manufacture, e.g. Biovac Institute and Govt. of South Africa
Botswana	• Public-private research and innovation generation partnership, e.g. Botswana Harvard HIV/AIDS vaccine partnership between Botswana Government and Harvard University • Public-private infrastructure design and development partnership, e.g. BOTUSA project (Botswana Ministry of Health, the US centre for disease control and the Global AIDS programme) on Prevention of Mother to child transmission (PMTCT) now integrated into national HIV programme. • Public-private partnership for research into and manufacture of vaccines for livestock, e.g. Botswana Vaccine Institute, a partnership between a private Livestock Pharma Company (Merial – Sanofi) and Govt. of Botswana
Namibia	• Public-private partnership in research and innovation generation, e.g. Equip Health and Ministry of Health for an experimental clinical trial on pre-exposure prophylaxis (PrEP) using Gilead's Truvada • Public-private partnership in infrastructure design and development between ACHAP and Ministry of Health for infrastructural development of clinics and HIV health-facilities • Public-private partnership in health service delivery, e.g. diagnostics access and screening services partnership between Pharmaccess, MOHSS, NABCOA and Namibia Institute of Pathology
Zambia	• Public-private partnership in research and innovation generation, e.g. Global Alliance for Vaccines initiative (GAVI) partnership with Ministry of Health to drive the roll out of the pneumococcal vaccine • Public-private partnerships in infrastructure design and development, e.g. construction of supply chain and distribution regional hubs in Chipata, Mpika, Mansa, and Choma, a partnership between Medical Stores Limited (supported by Global Fund, USAID and European Union). • Public-non-profit partnerships in training, diagnostics, preventative, curative and palliative services, e.g. partnership between Churches Health Association of Zambia (CHAZ) and the Govt. of Zambia

in health financing, access to antiretroviral (ARV) drugs for HIV, and market access for diagnostics and treatments for care for HIV, TB and Malaria.

As illustrated in Table 1, this study established the presence of various PPP configurations. These include partnerships where partners are drawn from non-governmental organisations (NGOs), donor agencies, industry, and other for-profit and non-profit enterprises, academia and social enterprises which link with governments to address specific maladies, intra-system issues, as a route to achieving better and a more responsive and resilient health system.

This study contributes literature on the roles of PPPs in addressing global health inequity through market adjustment, connection of pharmaceutical suppliers with poor populations in low-middle income countries to drive overall health (social) inclusion, unpacking an array of context-specific social, economic, political, geographic, and epidemiological factors which cannot be successfully examined if the lens is not anchored on the sub-regional, regional and global political economies.

The study has thus expanded literature for the southern African region which hitherto disproportionately focused on public-private engagement in South Africa, with very little known about the other countries, outside of Zimbabwe and Mozambique, in which narratives on the health-industry complex from the perspectives of pharmaceutical manufacturing have only been recently captured (Mackintosh et al., 2016).

CONCLUSIONS

1. ***PPPs are prevalent and present innovative financing mechanisms which drive social inclusion.***
   The case studies presented showcased how the potential avenues for advancing government's efficiency in health spending, deploying and leveraging the private sector (profit and non-profit) resources and human resources and skills, the effectiveness of private and public-sector engagements, can be maximised.

2. ***The peculiar contextual realities of PPPs remain markedly under-researched.***
   PPPs in health are distinct from typical infrastructure projects PPPs. Apart from the transient and predominantly philanthropy driven nature of PPPs in some of the study countries, this study also established cases where health PPPs do not fit into the conventional models of PPPs (e.g. BOT or BOOT), yet still being within the conventional reasons why PPPs are initiated, e.g. to fill gaps in supply.

   We demonstrated in the case studies that some PPPs motivations go beyond this in their design and/or in their operations. What stands out for health PPPs is that primarily, private financial contribution is usually low, and as a result, these projects require a large and ongoing payment from government procurement. In addition, the ongoing expenses of operating a hospital or other medical facility represent the vast majority of project costs, as opposed to a typical infrastructure project in which capital expenditures (capex) are the main cost element.

3. ***Factors limiting the effectiveness of governance, incentive and policy frameworks***
   This paper established the existence of different mechanisms for governing and incentivising PPPs. We also established that governments assume multiple roles as regulators, facilitators, funders of innovation and as well as investors in PPPs. These multiple roles could be leveraged for identification and deployment of needed political champions for PPPs in the study countries.

   Further, we noted the catalytic role that PPPs play, and how they serve as sources of collateral capacities for new partnerships and for other sectors of the economy. Successful PPPs such as Biovac in South Africa have shown ability to collaborate with both private and philanthropic actors in pursuing technology transfer and technological learning.

   The government as in the case of Biovac can, through departments such as Department for Science and Technology, act as both brokers and integrators actively supporting the creation of an innovation ecosystem in the local production of pharmaceuticals. Such pervasive impact and potential should be harnessed for structuring incentive structures and governance mechanisms which are responsive and able to enhance the relevance and contributions of PPPs to health system strengthening.

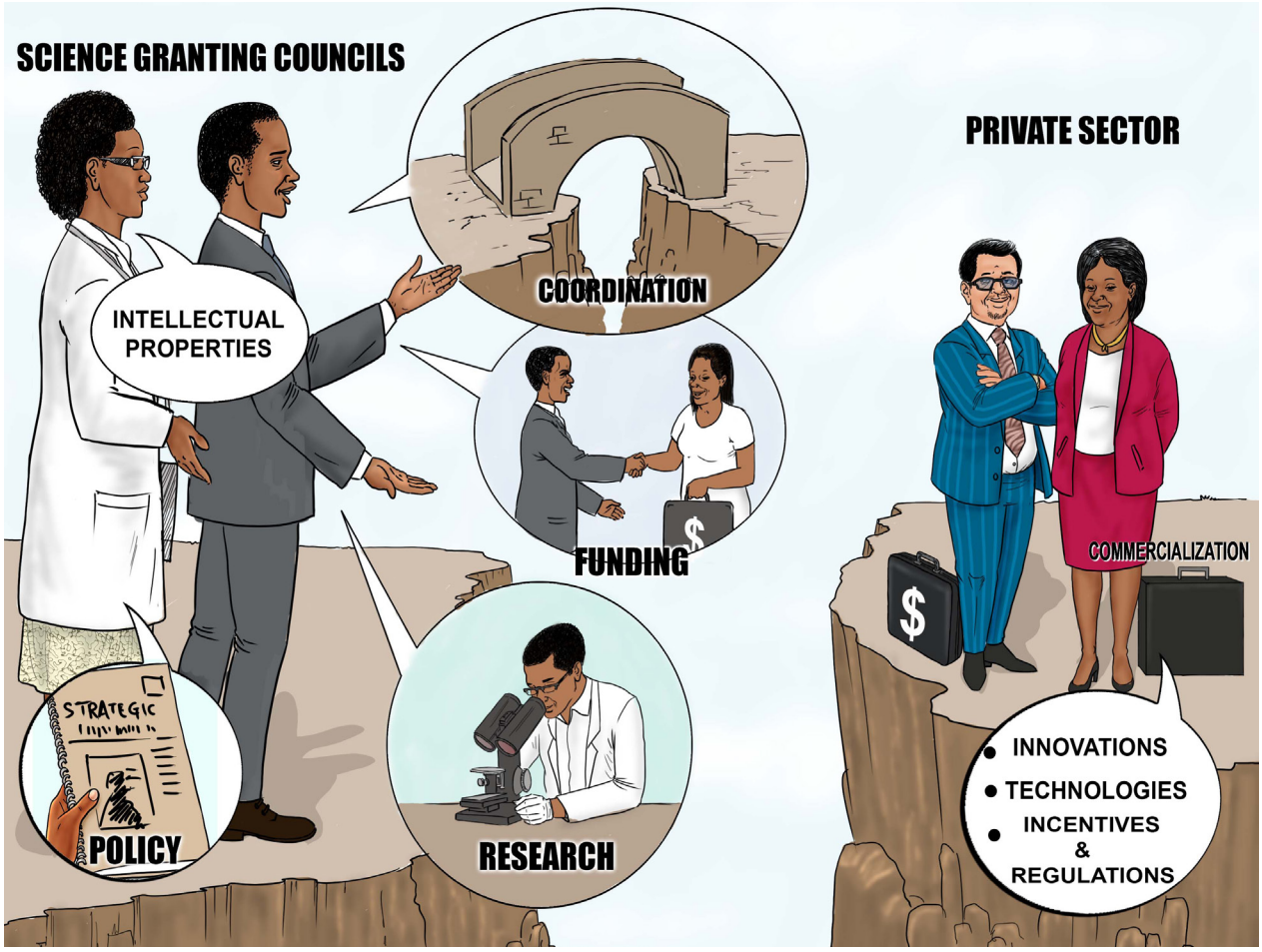
RECOMMENDATIONS

1. We recommend continuous appraisal and documentation of the role and contributions of different actors to PPPs, for example, how government can support local pharmaceutical production through:
   - Innovative procurement by assuring markets for products;
   - Public funding of research in universities and institutes de-risks the early stages of innovation and technology development.
   - Invest in capabilities and resources for coordination in order for the broad range of benefits from partnerships to be realised.

Whilst the argument underpinning the need for metrics is self-evident, it is perhaps more prudent to ask how the technological, intellectual, industrial, and research-driven insights drawn from the PPP model can be effectively mobilised to tackle current and future health demands. In so doing, important contributions will be made towards nuanced context-specific narratives, rather than predominantly quantitative ideological argumentations critiquing the PPP model in health delivery.

2. We recommend a Partnership Impact Index which SGCI and SADC could develop to offer annual awards for impactful partnerships in some of the pressing and persistent health challenge areas, e.g. HIV/AIDS. This could also potentially include a proactive dimension identifying, nurturing and rewarding innovative partnerships that are helping countries to cope with NCDs.

   A related idea would be the development of partnership/ partner relevance indexes which would be deployed to assess the relevance and salience of partnerships/partners.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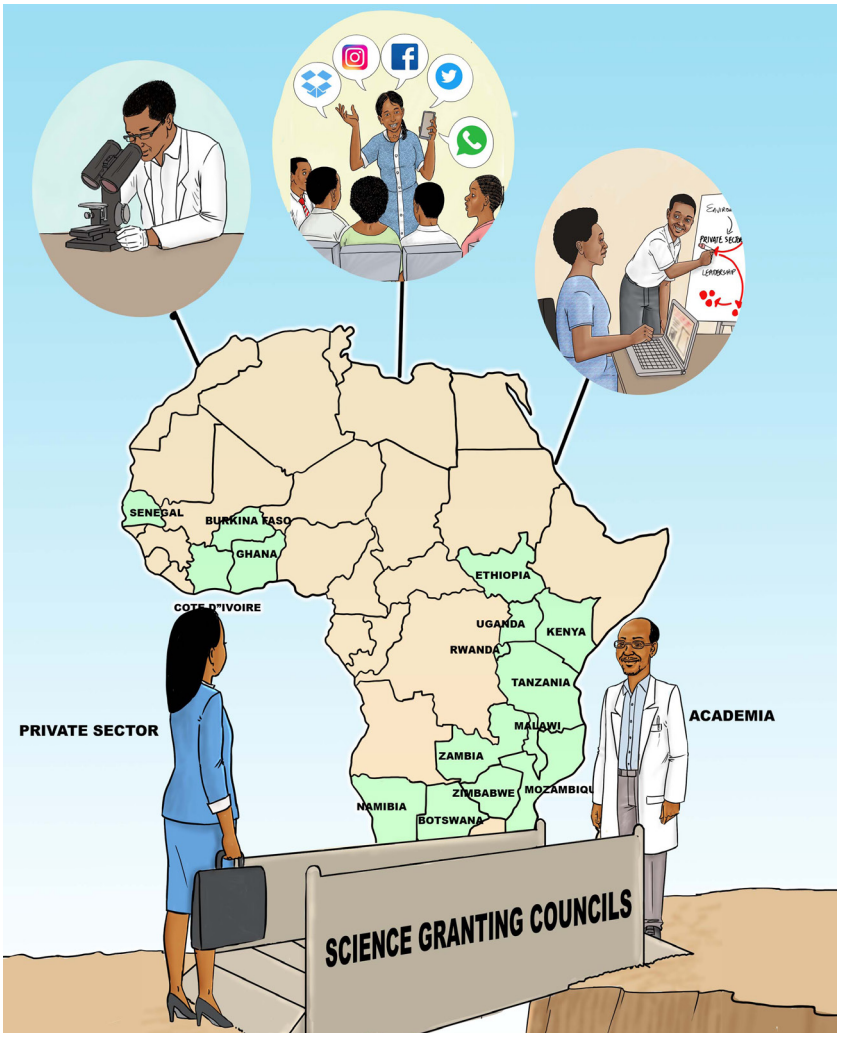
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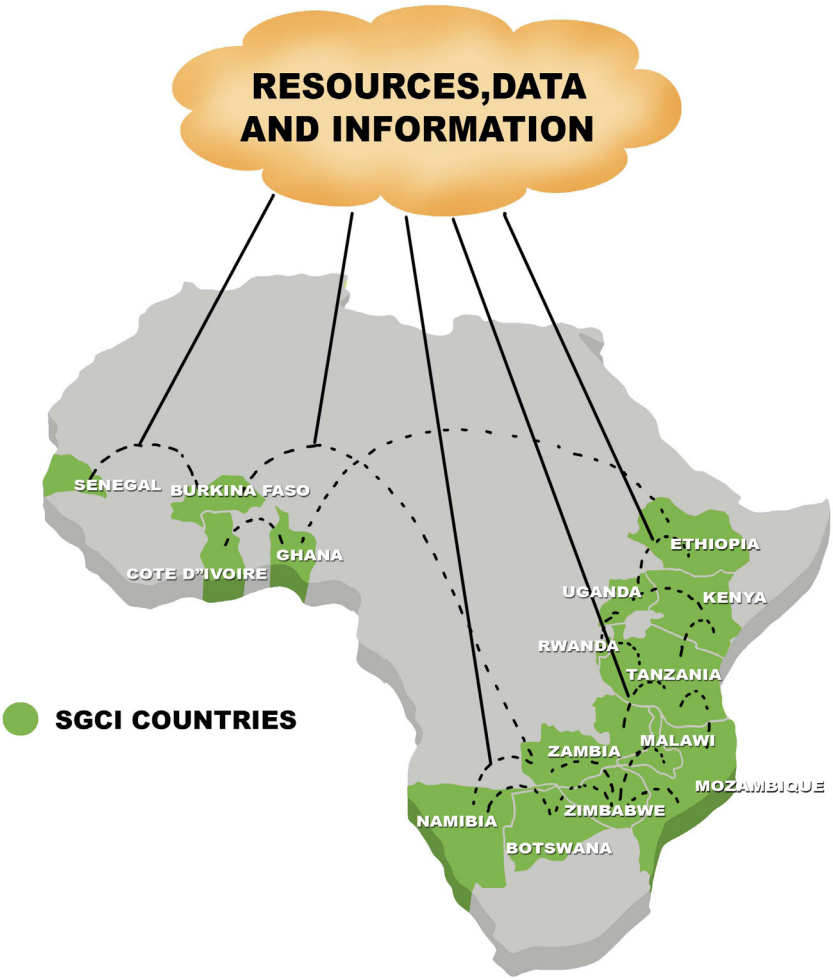

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