

Research Funding and Building Functional Networks for Makerere

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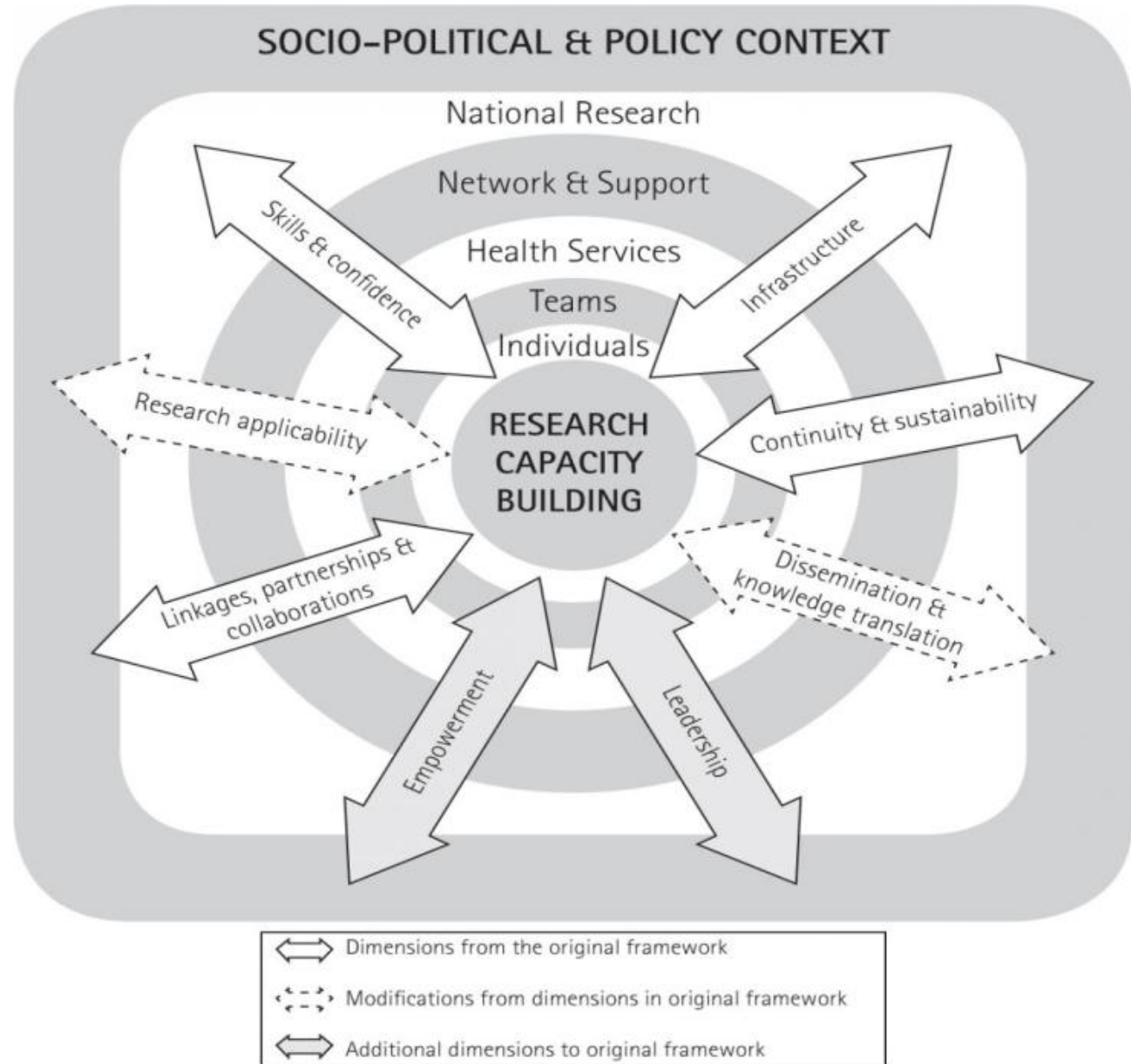


Introduction

- Universities have a key role to play in research & innovations: We have a concentration experts, facilities, ideas, mentors
- The knowledge economy has increased the economic value of knowledge: LMIC universities must tap into this
- In the old paradigm, developing countries centralized research to large, national level HEIs but liberalization has crowded the space: we must innovate (*Panday and Pattnaik, 2015*)
- *But funding is insufficient.....*

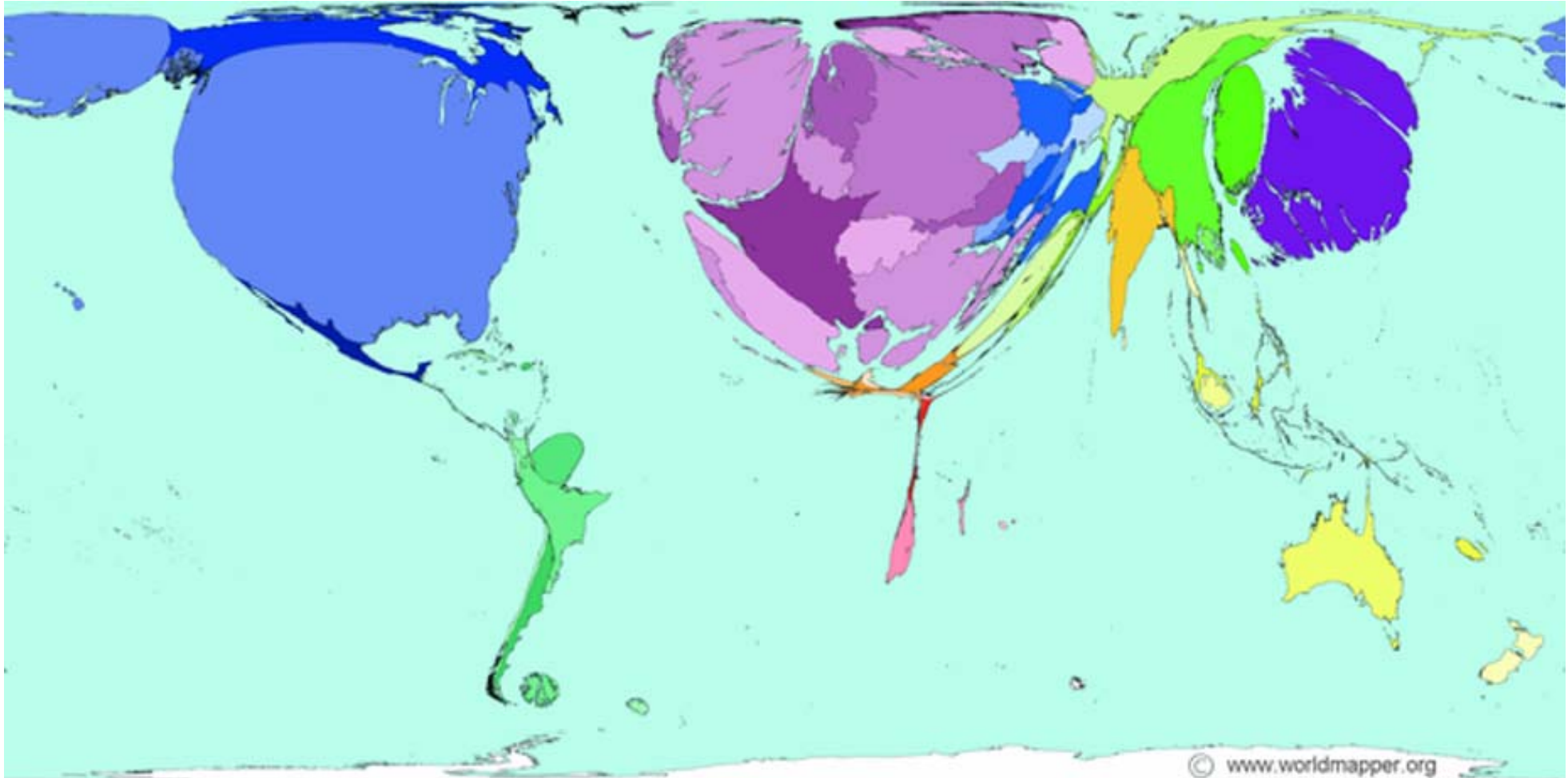


- The consequences:
Several areas of research capacity affected by insufficient funding
(*The Cook Framework*)



Consequences of inadequate research funding

Map of the world's research output (www.worldmapper.org)



Strategic areas of the university research ecosystem: Funding central

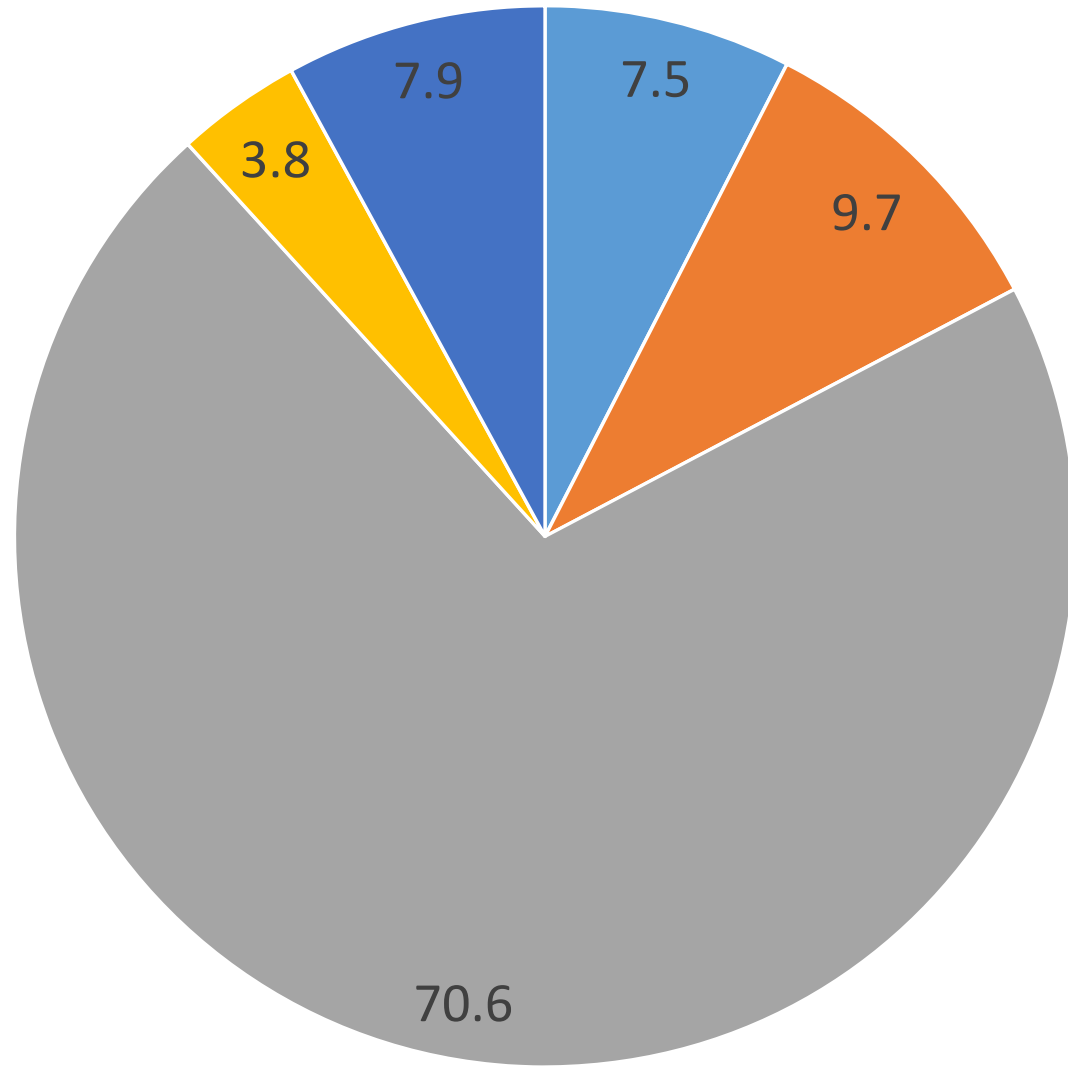
	Strategic area	Content
A	Strategic framework	1. Research strategies & policies
B	Implementation capacity	2. Institutional support services & infrastructure
		3. Research project management, control & leadership
		4. Human resources for research
C	Sustainability	5. Funding, Continuity, sustainability, collaborations, linkages & partnerships
D	Impact	6. Dissemination, translation & research applicability

Research Funding

- Many low-income countries have not prioritised investments in research leading to weak research infrastructure and heavy reliance on grants
- The politics in many developing countries leads to “sensitive topics” and research cannot be de-linked from politics
- Concentration of funding on certain areas, especially agriculture/health
- Transitioning countries doing better: Brazil (1% of GDP); India (0.7%)
South Africa (0.5%)

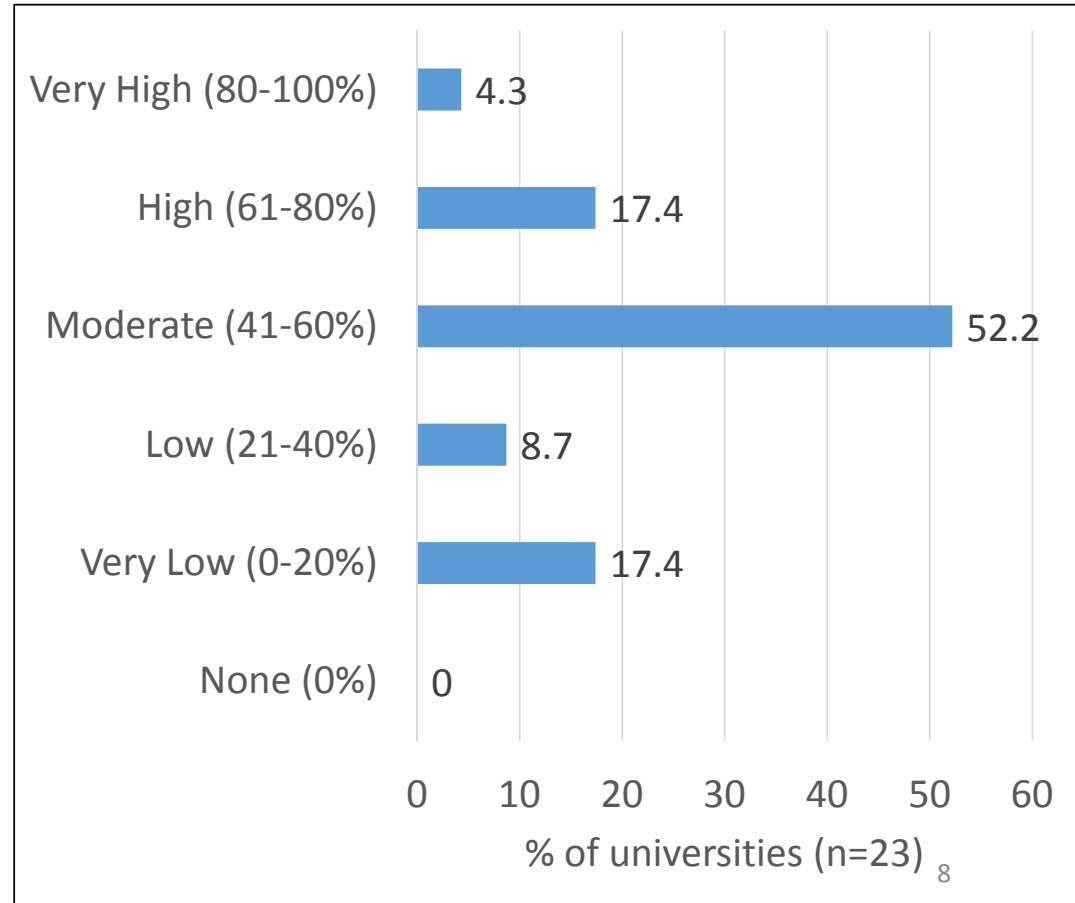
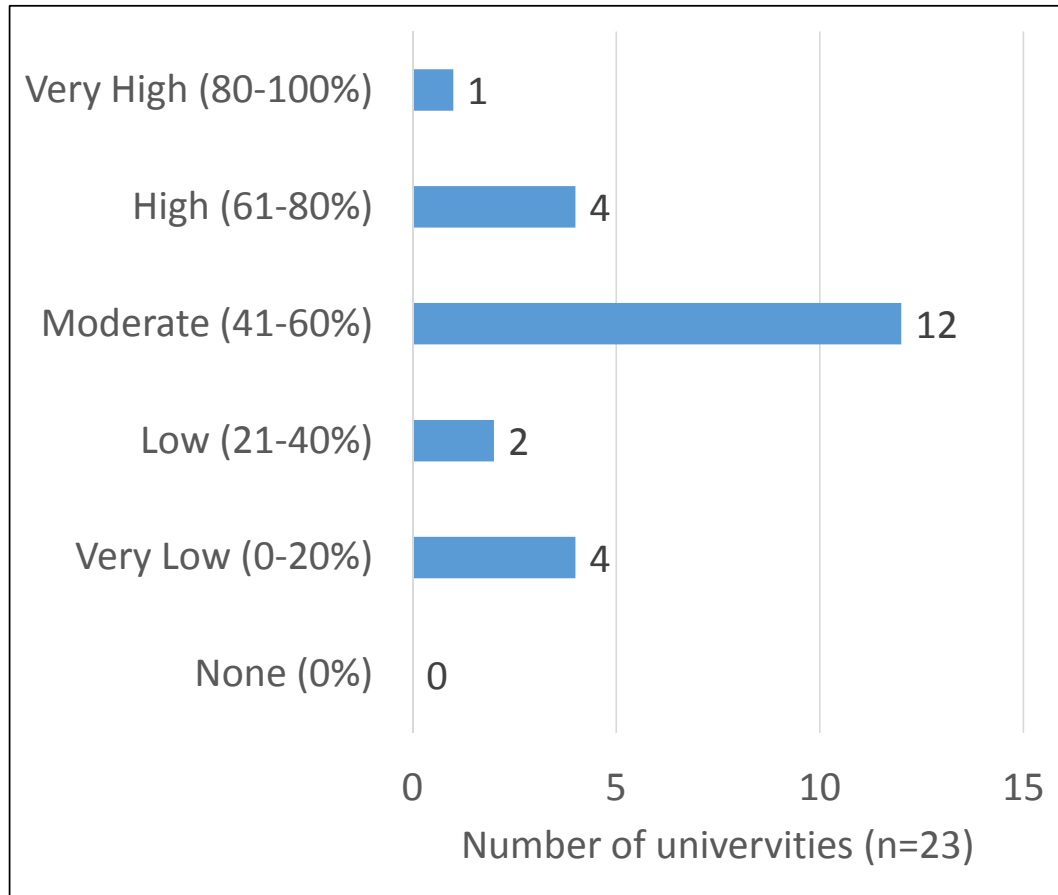
Distribution of funding sources for research in HEIs in Africa

(LASER-RAN Assessment of 27 universities in Africa, 2019)

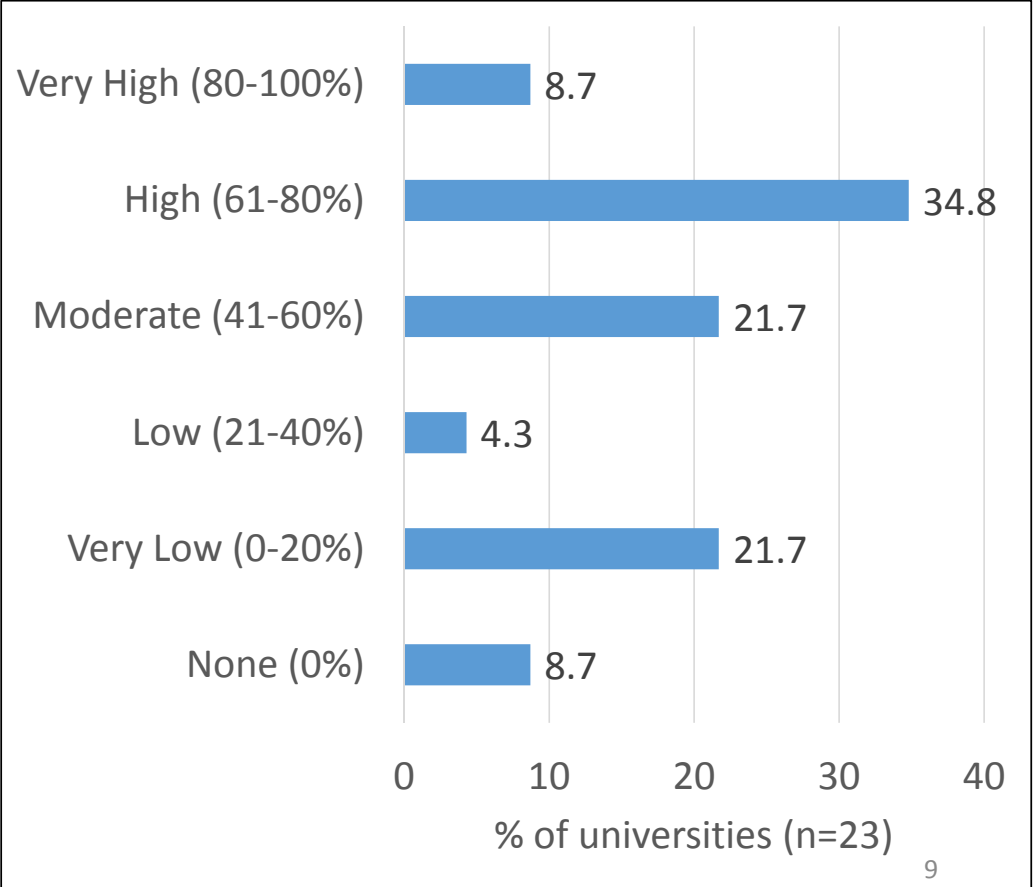
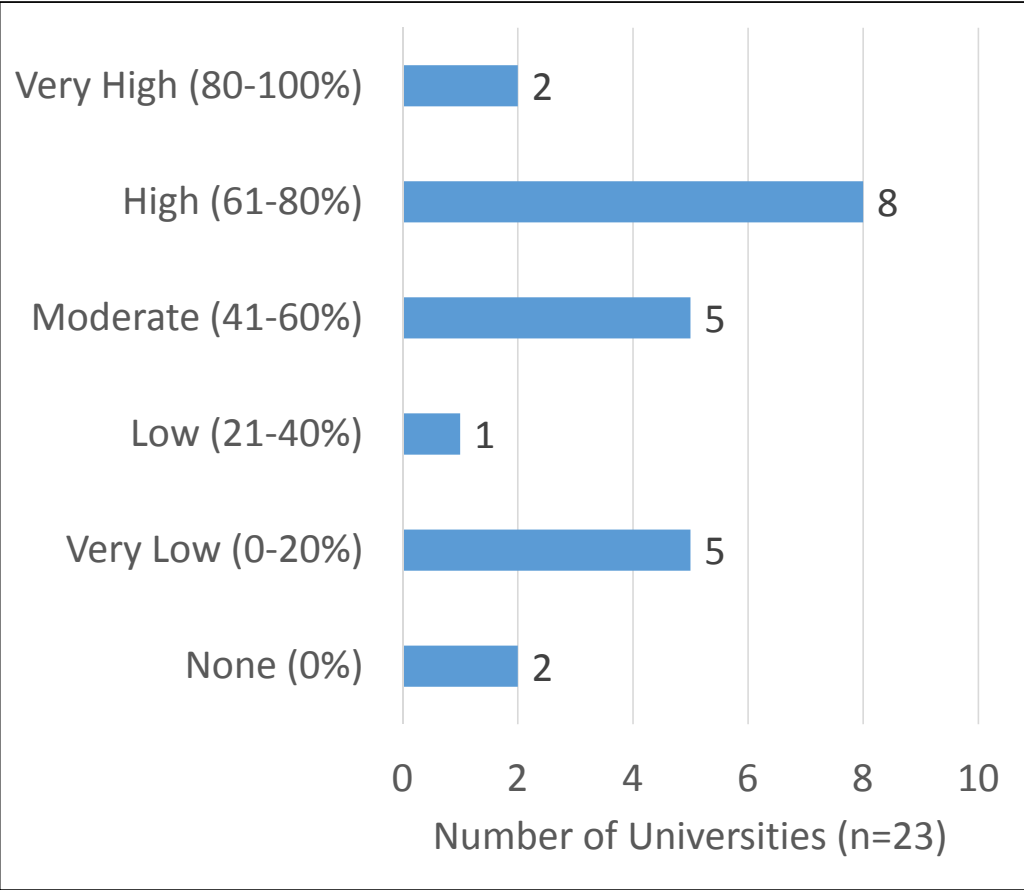


■ Institutional ■ Government ■ Donors ■ Private Sector ■ Consultancies

Extent to which the Research support offices receive adequate funding to undertake their activities



The institution has a functional provision to fund research from within its own local funds in addition to external funding



But also....

Universities need to understand the behaviour and needs of stakeholders.....

- Government:

- Research that leads to rapid tangible outcomes (e.g. improved agriculture, low cost production and value addition, resilient production, elimination of disease), political appeal, massive reach and equity, scalability, public goods/services

		OUTCOMES (Lives Improved)	
		LOW	HIGH
RISK	LOW	YES	YES
	HIGH	NO	YES

- Universities

- High-tech research often times not accompanied by a clear path to translation, slow results, long-term projects, apolitical

Stakeholder interests and behaviour: Learning

- Donors

- Research that contributes to global development priorities or clarifies funding priorities; clear link to scale; illuminates the funding context (*e.g. political economy analysis*), super-credible researchers, need sound grants management, need co-funding, guidelines for replicability

		OUTCOMES (Lives Saved)	
		LOW	HIGH
RISK	LOW	NO	YES
	HIGH	NO	YES

- Universities

- Research with no clear path to translation, disconnect with development priorities, Inadequate grants writing capacity, few super-experienced researchers, financial management capacity, bureaucracy

Stakeholder interests and behaviour: Learning

- Development Practitioners

- Rapid operations research with clear scalable recommendations, full-time intensive engagement for short periods, some view universities as 'out of touch'; for very local development issues (deeply attached to their communities), do not know 'which expert is available where'

		OUTCOMES (Lives Saved)	
		LOW	HIGH
RISK	LOW	YES	YES
	HIGH	MAY-BE	YES

- Universities

- Struggling with how to deliver in ultra-short time while ensuring quality; rapid vs. rigorous academic research methods, struggling with the language of dissemination (p-values), academic publications, researchers balancing individual vs. institutional interest, implementation experience lacking ('Boil all drinking water')

Vignette 6: Stakeholder interests and behaviour

- Private Sector

- Research that promotes product improvement/visibility; leads to improved production efficiency, new products with clear path to markets, investment recovery, Lower risk-High returns; CSR

		OUTCOMES (PROFIT)	
		LOW	HIGH
RISK	LOW	NO	YES (Equity)
	HIGH	NO-NO	YES (Venture)

- Universities

- Observational/basic research/RCTs with no clear path to commercialization, private sector not included in agenda setting, lack of incubators and venture funds (valley of death), lack of innovation skills

Young researchers

Malawi Med J. 2017 Mar; 29(1): 1–4.

PMCID: PMC5442483

PMID: [28567188](#)

Challenges facing young African scientists in their research careers: A qualitative exploratory study

[Save Kumwenda](#),^{1,2} [El Hadji A Niang](#),³ [Pauline W Orondo](#),⁴ [Pote William](#),⁵ [Lateefah Oyinlola](#),⁶
[Gedeon N Bongo](#),^{7,8} and [Bernadette Chiwona](#)⁹

- A lack of mentorship
- A lack of research funds e.g. very few grants supporting PhD education, which can be costly
- Have to make ends meet
- A lack of research and writing skills
- Lack of experience
- Lack of interest in research by policymakers
- Lack of motivation by peers,
- Heavy workload (leaving little time for research)

What needs to be done

- Increase grants writing and management capacity at operating units
 - Create a large number of researchers with grants writing skills
 - Strengthen in-house grants management
 - Grants-man-ship and culture
- Lobby for an increase government investments in research
 - Lobby governments
 - Develop research agendas that speak to specific needs of government and be flexible
 - Alliances with sector technical working groups
- Develop research agendas in consultation with government, practitioners and donors
 - Ask them for their problems
 - Scan for priority issues
- Increase University Research skills
 - PhD training
 - Research methods training: Basic, advanced, operations research
 - Address gender barriers
- Increase local private sector engagement
 - Develop mechanisms for the private sector to input into the research agenda
 - Develop mechanisms to support commercialization of research

What needs to be done

- Increase support to young researchers
 - Grants specifically targeting young scientists
 - Frequent research trainings/mentorship programmes
 - Support publication and career paths for non-teaching research support staff
- Increase internal cross-disciplinary networks
 - Cross-disciplinary Research Groups
 - Cross-disciplinary training opportunities/courses/programs
- Improve the research-to-translation chain
 - Research translation support
 - Incentivize policy impact
- Improve research support infrastructure
 - Labs, innovation spaces, PhD coordination support
 - Libraries, journal access, internet
 - Large portfolio departments mentor small portfolio departments
- Improve research support human resource
 - Research admin staff
 - Research based positions in academic hierarchy

Existing and opportunities

- A diverse range of RFPs
- Shorter application processes
 - APS
 - Grand challenges
 - DIV
 - NIH R21
- Young researcher awards
- Two step applications
- Researcher networks and 'buy-in' approaches
 - RTAC
 - LASER
 - PEER
- Funders increasingly interested in 'Centres of Excellence' model
- Donor Missions have learning agendas

- A variety of funding sources
 - USAID
 - NIH
 - Wellcome Trust
 - EU
 - EU Partner states
 - US State Department
 - Gates Foundation
 - DfID
 - Smaller grants for upcoming researchers
 - WHO
 - GSK

Research & Innovation Funds/Hubs

- Faced with donor fatigue and declining public funding, universities across Sub-Saharan Africa should search for new models of financing specific initiatives such as hubs/Funds for research and innovation.
 - Lobbying government
 - Using local resources to fund small projects
 - One proposal is to tap Africa's growing number of billionaires

“The time had come for Africa to raise money locally and not just look to foreign donors”.

“Some of Africa's billionaires have been funding projects in several leading universities in North America and Western Europe, but we have not approached them for assistance”

- Dr Omotade Akin Aina, ED
Partnership for African Social & Governance Research

Some debates:

- Experts are sharply divided as to whether universities in Sub-Saharan Africa should entrench an entrepreneurial model, continuing to shift access to higher education, and education services and research according to shifting demands of society, or should stick to the traditional missions of knowledge generation and transmission in specific disciplines.
- There were fears around the increased commercialisation of higher education
- <https://www.universityworldnews.com/post.php?story=20160415135012268>

Effective Research Networks

Network:

- A complex, interconnected group of people or entities who share similar interests and concerns towards a topical goal and engage in permanent, formal, as well as informal, collaboration with each other in order to address the purpose and achieve the mission of the network (Lave and Wenger, 1991)
 - Formal networks have to be goal-directed

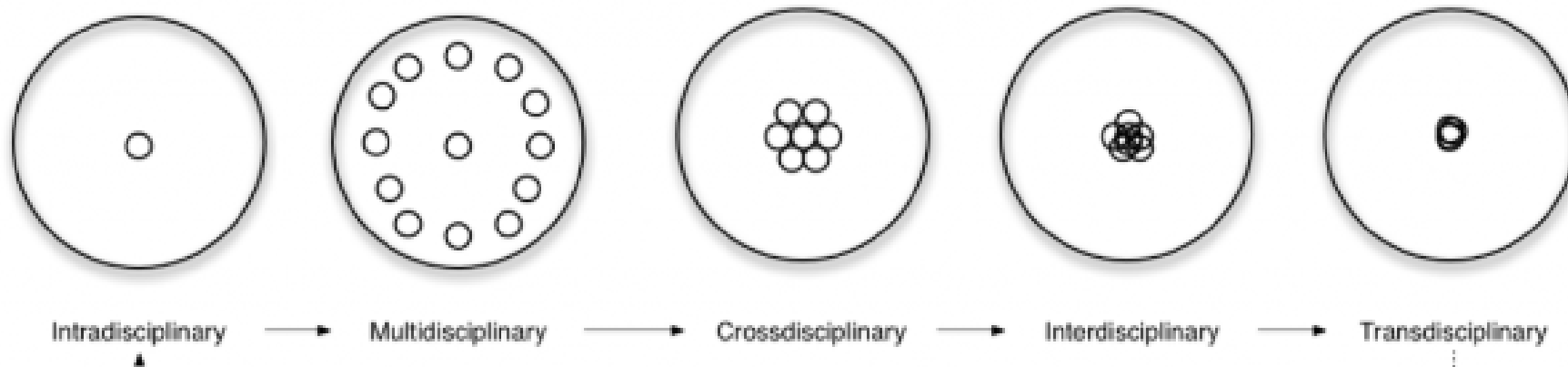
Siloed work.....



- A moment of reflection – to what other types of researchers is our work connected?

'Disciplinarity' (Zeigler, 1990)

- **Intra**-disciplinary: working within a single discipline
- **Multi**-disciplinary: viewing one discipline from the perspective of others.
- **Cross**-disciplinary: people from different disciplines working together
- **Inter**-disciplinary: integrating knowledge and methods from different disciplines into hybrid approaches
- **Trans**-disciplinary: creating a unity of knowledge frameworks beyond disciplinary perspectives



Consequences of insufficient networking among LMIC universities: Map of global research collaborations



Example of a catalytic network ecosystem

Public Health Schools Without Walls (PHS-WOW)

WHO, UNFPA, CDC, Local Ministries of Health

The Leadership Initiative for Public Health in East Africa (LIPHEA)

African Field Epidemiology Network

The Leadership Capacity Building Program

The Health Emergencies Management Program

The Strengthening Leadership in Disaster Resilience Program

Rockefeller Foundation, USAID-HED

Rockefeller Foundation

The One Health East & Central Africa Network

South East Asia One Health Network

Gates Foundation, World Bank

USAID (\$25m)

ResilientAfrica Network (RAN)

The LASER/PULSE Network

Coming soon...

Uganda Local University Research Network

Research Network on Human Trafficking

Innovation Investment Fund

RAN 2.0

Several USAIDs Bureaus (Centre of Development Research, Food Security, Digital Development, Energy, Development Innovation Ventures, MERL etc.), USAID (Uganda), UN Women, Uganda Development Bank, Ministry of ICT Uganda, US State Department, Johnson & Johnson, Big Ideas@UCBerkeley, Grand Challenges - Gates Foundation

Importance of research networks

- Science is most effective when researchers with expert knowledge in different areas collaborate on a project of overlapping interest (*Donald T. Campbell, 1969*)
- Collaborative relationships have many benefits to offer:
 - Fostering cross-disciplinarity
 - More expertise, experience, creativity
 - Creates strong platforms to apply for larger grants e.g. US\$ 20 million; easier to get funded with a multi-stakeholder network
 - Deeper research, more research/innovation outputs, higher likelihood of unexpected findings, hence higher impact of publications
 - Decentralization of work hence more local reach to otherwise difficult to reach areas (Human Trafficking)
 - Cross-site learning (SMART2D)
 - Inherently fun
 - Reduced risk of total failure

Enabling factors and challenges of research networks

- Shared goals among network members
- Clear governance structures and strong leadership/champions
- Sustained resources (5 capitals: Human/Governance/Physical/Intellectual/Financial)
- Effective communications
- Network sustainability
- Trust with members, funders, consumers
- Lack of institutional and individual commitment
- Lack of a common goal/results framework
- Lack of joint activities among members
- Lack of alignment between funding and network cycles
- Lack of donor interest

Maintenance of the network: Ingredients for success (Lego Foundation)

Membership

Drivers and
incentives
for active member
participation

Structuring
membership

Governance*

Balancing a
strong
initiator role
with self-
organization

Ownership
and
funding

Key
activities
and
processes

Ingredients for success: Membership

- Compelling vision/mission and goals defined together and aligned with founder interests
- Mechanisms for peer engagement
- Highly visible network results
- Structuring Membership: Hierarchies?
- Creating Local Communities and topical sub-Communities
- Wise selection of heterogeneous founding members and new members over time

Ingredients for success: Governance

- Convenor: Who pulls the network together (Secretariat)
- Balancing Network Organization with Self-Organization of Members:
 - Networks are collaborative, participatory arrangements. This does not mean that they would work without any formal mechanism of control
 - Support of “shared governance” models by a central administrative body and a governance structure
 - Stability at the core and flexibility at the periphery
- Allow for changes in governance according to members’ needs

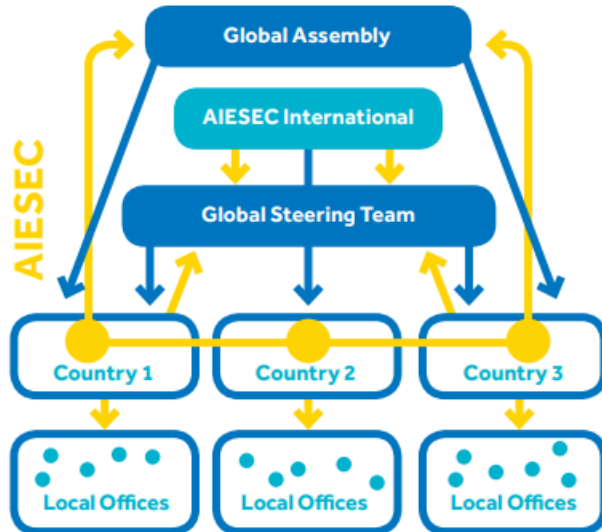
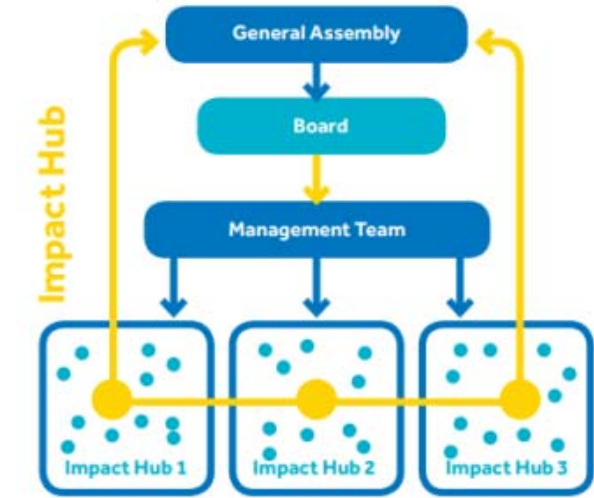
Ingredients for success: Ownership and Funding

- Who owns the network?
 - Balanced ownership structure
 - Relationship with university?
- Multiple funding streams
 - Reasonable flexibility to attract funding for sustainability
 - Pivoting, innovation
 - Local funding options

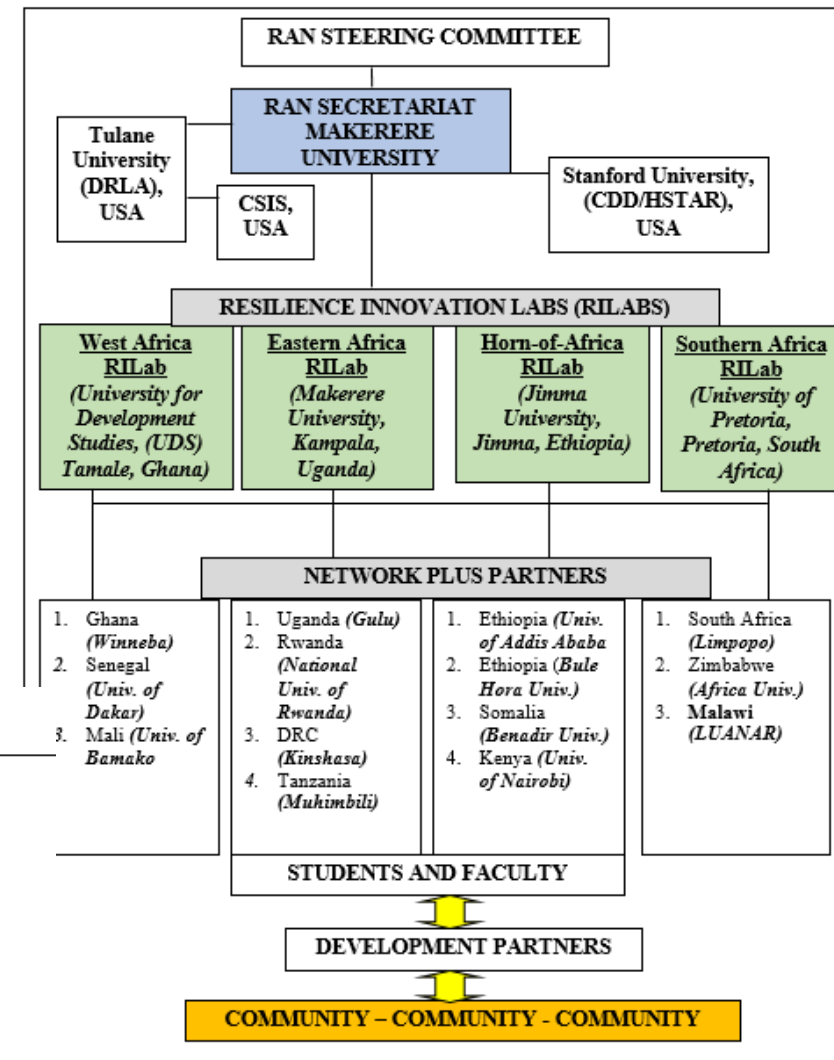
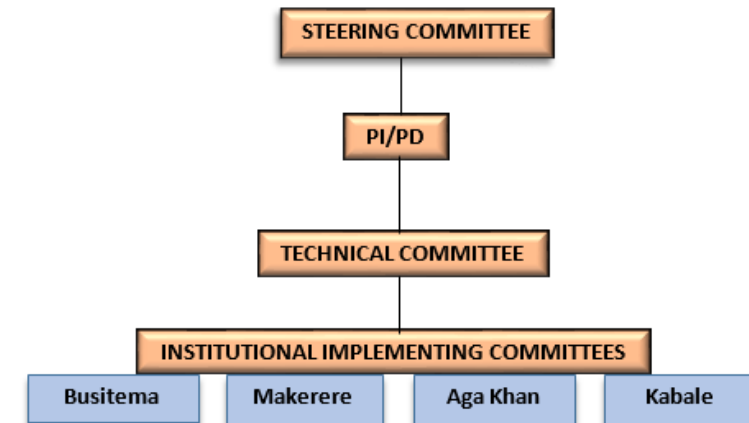
Ingredients for success: Key Activities and Processes

- Values and Norms Contributing to Network Goals
- Research topics are defined, selected and prioritized by members
- Self-organizing activities (flexibility, soft rules, involving ordinary members, academic freedom)
- Means of communication: online and offline meetings
- Strategic network activities: Especially EVENTS
- Bi-directional projects: Involve both researchers and practitioners
- Use a variety of dissemination channels
- Create connections to non-members
- Impact measurement beyond network activities: Ecosystem effects
- Mechanisms for research translation

Different structures



HEPI Program Organogram



Important values and norms in a network



What was happening alongside the case-study?

- Finding the gaps? (*What are the global/regional priorities, buzz words*)
- Engagement (*Who is interested; what can we do together? Who have we already interacted with? Who else do we need? Who can connect us?*)
- Grants writing (*What opportunities exist? What are the low hanging fruits? writing skills*)
- Intelligence (*What are the funding priorities? Who is who? What are the content must-haves/deal-breakers*)
- Grants-man-ship (*Who is known in this area? Can we partner? Can we sub-partner? Are we exclusive? Negotiations*)
- Delivery (*How do we maximize interaction, outputs and impacts?*)
- Learning (*What did we do best? What did we not do well*)
- Pivoting (*What are the new global issues?*)
- Sustainability (*How do we sustain the network? Strategic engagements; new offerings; diversifying funding sources; transition to a platform*)

Windows of opportunity: Engaging at scale

		Solution	
		<i>Familiar</i>	<i>Unfamiliar</i>
Partnership Opportunity	<i>Familiar</i>	Deepen collaboration	What can we do together?
	<i>Un-familiar</i>	Engage potential partners	What are the global priorities

End!