Building Africa's Research Capacity in Innovation: Experiences from AfricaLics

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Outline

- Rethinking innovation?

- Why Research Capacity on Innovation ?

- Lessons from AfricaLics in building research capacity on innovation in Africa

What is innovation?

- **Innovation** speaks to the theme of this conference.
  - In that we want to think about policy from an innovation perspective
- Focus on innovation is a primary goal (goal 9) of the SDGs agenda- post 2015 development agenda.

However:

There is generally a narrow conceptualisation of innovation thinking that has shaped research and policy making and the mind set of academics & policy makers in Africa

What is innovation?

- There is a prevalent notion that :
  - Innovation is something that only takes place in advanced countries or in large multinational corporations and high tech sectors.
  - Innovation is associated with activities that take place at the technological frontier or what Schumpeter has called invention.
  - **Innovation is NOT INVENTION:** As opposed to the focus on novelty that is central to the concept of invention and a key criterion for patenting,
  - Innovation is often confused with research and measured in terms of scientific or technological outputs.

But innovation is a broader concept

Rethinking innovation

- We have evidence of success in African innovation and enterprise - examples include the mobile money-transfer service M-PESA for banking.

    But

- **there is limited broader understanding and recognition in Africa of what innovation is and how to promote it, both in business and in society.**

Rethinking innovation

- Innovation is neither research nor science and technology, but rather **the application of knowledge in production of goods or services**
    - This knowledge might be acquired through learning, research or experience, but until it is applied in the production of goods or services it cannot be considered innovation.
- Innovation is also about - knowing who has knowledge or expertise, and being able to access it; it is about making or encouraging the right connections
- Innovation also entails building capacity to manage a portfolio of partnerships, to form linkages and to learn through them.

Note: Much of Innovation in a developing country context includes **continuous improvement** in product design and quality.

There is hope: Academics/researchers and policymakers are now increasingly recognising the need to think more broadly about innovation.

In the light of innovation thinking, why build research capacity in innovation?

Recognize the different entry points (academic institutions, policy makers, civil society, development agencies, communities etc)

Focus under AfricaLics is academic institutions (e.g. universities)

- The perceived role of universities in innovation (**three missions**) include:
    i. producing **skilled human capital** by training people in different scientific fields
    ii. Conducting **research** hence generating new social and technological innovations and knowledge
    iii. **Pursuing exploitation & commercialization of research** that increase productivity and economic efficiency

But - Ultimate aim of academic research should be to **support inclusive innovation for social and economic development**

- There are challenges in achieving the above.

Introduction cont'd: some challenges faced by African Universities

The **numerous efforts** by universities to promote or become innovation nodes are acknowledged - creation of spin off companies, science parks, clusters, innovation hubs & technology transfer initiatives etc **but** there are many challenges e.g.

- University- government- industry linkages are absent; some are fragmented and weak; some actors lacking in the triple – helix (multiple helix recommended – including public and civil society).

- Problems related to quality and relevance (R & D versus meeting the societal needs), weak research and innovation capacities, inadequate resources for infrastructure development, and human development and retention.

- In the backdrop of the above; **then how can Universities play their generative and developmental roles (or innovation role?) to ensure social & economic development in Africa?**

BUILDING INNOVATION RESEARCH CAPACITY FOR DEVELOPMENT

Experience from AfricaLics

(African Network for the Economics of Learning, Innovation and Competence Building Systems)

The role of AfricaLics

- AfricaLics launched in March 2012 in Dar, Tanzania
- <u>Major objective:</u> To promote the development of science technology and Innovation (STI) research capacity in Africa with strong links to users
- <u>AfricaLics goal is to:</u> Enable African countries to develop the capacity to study, monitor and evaluate their innovation systems and to develop evidence-based policies for the betterment of society.
- <u>AfricaLics vision is to:</u> see African countries **developing and utilizing high quality research**, conducted by **African researchers**, to **enable more informed policy decisions to be made relating to the use of STI for economic and social development** by business practitioners, civil society and policymakers in the public sector.
- African Centre for Technology Studies (ACTS) hosts the AfricaLics Secretariat
  - ACTS is a knowledge think tank that seeks to accelerate Africa's Transition to Inclusive Knowledge and Green Economies through research, policy, capacity building and technology brokerage in key emerging technology areas and sustainable development challenges in Africa (visit www.acts-net.org)

AfricaLics guiding principles in research capacity building

- Research efforts must focus on understanding **how and why innovation should be promoted, analysed and evaluated** for economic and social development (*as opposed to focusing only on how it can be conducted*).
- Research needs to be a less isolating activity; **networking and self-organization** is key including across traditional disciplinary boundaries, organizations and nations.
- Researchers have a duty **to give back to society** both in the focus of their studies but also through their actions.

AfricaLics approach to RCB

Activities under the Sida funded project have been advanced through an approach that is characterised by the following:

- A low-cost model (students & academics are only away from home institutions for a short period); drawing on partnerships, synergies etc
- A specific focus on the analysis of innovation activities

Some achievements

Activity	Outputs and outcomes
PhD Academies	• 3 academies held (Nairobi, Algiers, Mombasa) and 77 students trained • A further Academy (Tunis) to be held in March 2016 involving approximately 25 students • Students self-organised post academies activities (e.g. social media platform)
PhD supervision training	• 3 experience sharing sessions held with a total of 41 PhD supervisors • Handbook on PhD supervision for both students and supervisors available on AfricaLics website
PhD visiting fellows scheme	• 6 students selected and participated in the first round in 2015. 5 more will visit Denmark in 2016. • One PhD student has completed early as a result of the trip. Two others have submitted international journal papers. • One student has been offered to finalise his PhD as a joint degree with Aalborg University • Two students now involved in development of a networked post-doc capacity building research project between Aalborg University, their universities and others in Africa
Research conferences	• 2 conferences held (Mozambique, 2013 and Kigali, 2015) • First conference resulted in 8 research networks being set up • Second conference drew 220+ participants; 57 papers presented; 9 posters; 28 other speakers.
Research grants	• 19 initial applications. Eight proposals approved for funding. Six received funding ranging from US$10,000 to US$ 35,000. • All six projects have created networks of researchers who continue to work with each other. • 3 special journal issues and one published study report.
Networking	• Over 1million website hits, • AfricaLics YouTube channel set up to enable all videoed presentations and seminars to be available for view live or post-event.
Teaching material development	• One semester length module on innovation and development developed and available open access; the elements being used in at least 2 universities • One model 'Innovation and Development' MSc programme outline developed and made available through open access

Training Materials on I & D: of specific interest to Universities

- **Masters level module in 'innovation and development'**
  - Available online for anyone to download and customise - available at http://africalics.org/model-masters-module
  - Aims to introduce students to the role that innovation activities have on, and how they are impacted by, economic and social development.
  - In so doing, the module will create reflexive practitioners who understand the importance of creating social value as well as business added value.
  - The module content can be modified to satisfy the requirements of particular contextual environments within which students are studying.

- Handbook on PhD supervision for both students and supervisors – Title "**PhD supervision - A good practice guide for students and supervisors working in innovation and development** "– available at http://africalics.org/images/docs/AfricaLics-GoodPracticePhDSupervisionGuide-Dec15.pdf

Past AfricaLics events

2nd international AfricaLics conference – Kigali, Rwanda, November 2015

Lessons for a holistic academic research capacity building approach/initiative

- Rethinking traditional full PhD and Masters training activities
  - AfricaLics focuses on **augmenting the skills and opportunities for students through provision of additional support that is lacking in the students' home universities**
- Emphasis on **institutional capacity building and buy-in** which are key to successful individual capacity building
  - Emphasis has been on capacity building of individual PhD students with some capacity building at institutional level (partner universities);
  - Major emphasis on strengthening networks of partnerships between Africa; and between North and South.

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Lessons continued

- Focus on **strengthening networks of researchers across universities and countries**
  - AfricaLics highlights the importance of **more general networking activities** that enable researchers to **interact informally** and lead to spontaneous as well as more channelled networking activities
- Focus on building an African 'innovation and development' research community
  - Focus is i) **Africa** and ii) **analysis of innovation activities** and how they meet the economic and social development needs of African nations

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For more about AfricaLics please visit
www.africalics.org
www.globelics.org