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Design of a framework to measure innovation and inclusive development: from Africa to Europe?

Special session 2.3 Transformative innovation for creative reconstruction of the Africa-Europe relation for mutual benefit

Glenda Kruss | GLOBELICS CONFERENCE | 13-15 October 2017, Athens

Standard measures in (South) Africa?



CeSTII mandated to gather data for STI indicators used to monitor the national system of innovation, and inform development of policy



Internationally comparable data on patterns of innovation in the formal mining, manufacturing and services sectors, using CIS / Oslo methodology



African continent over recent decades: establish innovation measurement capacity using conventional Europe-oriented measures (NEPAD, ASTII)

Research and policy gaps in SA?

1. How do firms innovate without doing R&D?

- Incremental innovation? Borrowing of technology? More research needed.
- Acquisition of machinery: how do we assess whether learning is taking place?

2. Is government supporting innovation holistically?

- Temptation for government to support innovation through R&D: dominant linear paradigm/model
- For firms that do innovate but are not doing R&D, what support do they require?

Standard measures in (South) Africa?



How well can empirical evidence elicited by standard surveys inform our understanding of determinants of innovation in African contexts, to promote inclusive development and transformation?

Growing critique from emerging economies



Process of innovation not measured – takes very different forms (informal) (eg Marins 2015)

Diffusion, adaptation to local requirements requires **technological capabilities and learning** to be measured (eg Lorentzen 2011, Bogota)



Innovation **beyond firms**: poverty reduction, livelihoods, households, communities, well being: “food on the table and disease at the door” (Lorentzen 2011)

Do we know enough, theoretically and empirically, about the nature of innovation in such settings to be able to create measures and indicators?



An emerging vision for a new STI policy



SA new STI policy: measure of success will be how helps to transform the lives of people and communities



Innovation for inclusive development as core strategy

“innovation that addresses the triple challenge of inequality, poverty and unemployment and enables all sectors of society, particularly the **marginalised poor, informal sector actors and indigenous knowledge holders** to participate in creating, actualizing innovation opportunities as well as equitably sharing in the benefits of development”

DST, Draft White Paper on STI, May 2017

Questioning dominant definition of innovation



...the **implementation** of a new or significantly **improved** product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations (OECD/Eurostat 2005, para 146)

A common feature of an innovation is that it must have been implemented. A new or improved product is implemented when it is introduced **on the market**. New processes, marketing methods or organisational methods are implemented when they are brought into actual use in the firm's operations (OECD/Eurostat 2005, para 150).



A broader definition?



An *innovation* is the implementation of a new or significantly **changed** product or process. A product is a good or a service. Process includes production or delivery, organisation, or marketing processes.

Fred Gault, Tshwane University of Technology / UNU-MERIT

A new or significantly changed product is *implemented* when it is made available to **potential users**. New or significantly changed processes are implemented when they are brought into actual use in the operation of the institutional unit, as part of making product available to **potential users**.



Mapping innovation domains: STISA-2024 priorities and SDGs

DEVELOPMENT PRIORITY	RESEARCH AND INNOVATION AREAS	SDGs
1. ERADICATE HUNGER AND ENSURE FOOD AND NUTRITION SECURITY	<ul style="list-style-type: none"> • Agriculture in terms of cultivation technique, seeds, soil and climate • Industrial chain in terms of conservation and/or transformation and distribution infrastructure and techniques 	1, 2,
2. PREVENT, CONTROL DISEASES, ENSURE WELL-BEING	<ul style="list-style-type: none"> • Better understanding of endemic diseases • (HIV/AIDS, Malaria) Maternal and Child Health • Traditional Medicine 	3, 6,
3. COMMUNICATION (PHYSICAL & INTELLECTUAL MOBILITY)	<ul style="list-style-type: none"> • Physical communication in terms of land, air, river and maritime routes, equipment, infrastructure • Promoting local materials • Communications in terms of ICT 	9*
4. PROTECT OUR SPACE	<ul style="list-style-type: none"> • Environmental protection including climate change studies • Biodiversity and Atmospheric Physics • Space technologies, maritime and sub-maritime exploration • Knowledge of water cycle and river systems as well as management 	13, 14, 15,
5. LIVE TOGETHER – BUILD THE SOCIETY	<ul style="list-style-type: none"> • Citizenship, History and Shared values • Pan Africanism and regional integration • Governance and democracy • City Management, Mobility • Urban waste management 	10, 11, 16, 17
6. CREATE WEALTH	<ul style="list-style-type: none"> • Education and Human Resource Development • Exploitation and management of mineral resources, forests, aquatics, etc • Informal economy and livelihoods • Rural and local economic development 	4, 5, 7, 8, 9*, 12,

How do we measure innovation in relation to these African developmental priorities?

The challenge? To measure how science, technology and innovation are being harnessed in **all** priority developmental areas, to be available to potential users at no cost, for the provision of public goods, and not only in relation to the priority of creating wealth for firms in the formal sector...

Public
funding for
innovation

Social and
economic
impact

Innovation
by govt
actors in
the public
sector

Types of
innovation
by actors
in the
informal
economy

Constraints and
facilitators for
creating
innovation-
oriented networks
- business, govt,
knowledge actors,
social enterprises
that support
employment and
livelihood creating
investments

Innovation
for health
'prevent
and
control
diseases
and
ensure
well-being'

Organis-
ational
innovation
for well-
being and
human
develop-
ment.

Out of Africa : new standard measures?



How can new measures
of innovation and indicators for
inclusive development that originate
in African contexts
inform new standard measures globally
/ in a Europe characterised by growing
inequality, threats to sustainability
and lack of social cohesion?

Thank you

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