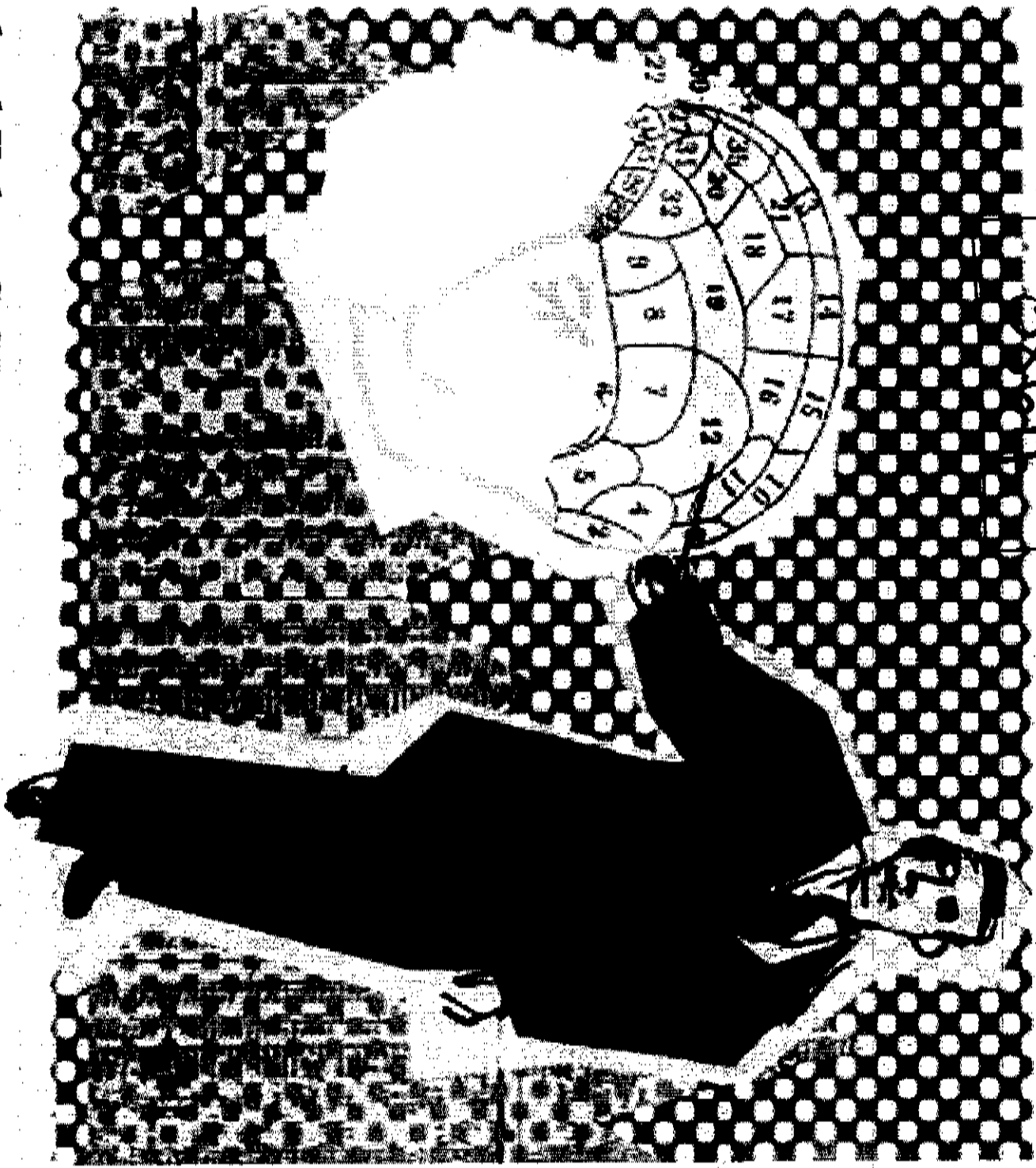


MEASURING AND MAPPING INNOVATION SYSTEMS IN AFRICA

Michael Kahn, CeSTII, HSRC at Globelics 2005



HSRC RESEARCH OUTPUTS

381011

Mama Africa

Cradle of Humankind

Spans nearly 60 degrees of latitude

750 million people; 54 States

Huge burden of disease:

slavery

colonialism

insect, water-borne, bacterial and viral

debt

Patchy industrialisation

Music: The African Connection Vol 2 by Richard Nwamba

??????????

What are we in Africa to make of statements
(Guelllec, 2001) such as “ An increase of 1%
of BERD leads to 0,13% increase in MFP,
while an increase of 1% in GOV//HERD
leads to MFP increase of 0,2%”?

So did anyone lose their job?

FIVE ISSUES

1. **Who wants to know what and why?**
2. **Measurability**
3. **Measurement**
4. **Challenges and issues for research**
5. **The role of NEPAD**

1. WHO WANTS TO KNOW WHAT AND WHY?

1. One measures to inform policy. Who is the client?
2. Measurement involves selection
3. Selection implies value judgement
4. Evidence-based decision-making implies provision of quality information
5. Quality information → timeous; relevant; accurate; complete

Do all development paths lead to the capitalist road?

2. MEASURABILITY

1. Macro-economic (trade, TBOP) and census data
2. R&D (Frascati), Innovation Oslo (Surveys), ICTs
3. Sustainability data: wellbeing; environmental accounting
4. HR data (Education, Labour Market, CDH, Women in SET)
5. Patent statistics, Bibliometrics, Registered designs, Copyright, Trademark and Plant Breeders Rights.
6. Primary and secondary data collection with estimation and imputation
7. Linkages and spatial data

Fewer than 10 States report on S&T

3. MEASUREMENT

1. Accessing respondents – confidentiality, multinationals and all that. ‘We count R&D at head office ...’
2. Definitional problems – what are R&D/Innovation? Gray areas – clinical trials; software development; overlaps with S&T Services. Data inflation
3. The importance of business registers
4. Measuring the service sector
5. The tyranny of denominators
6. Maintenance and stability

It's like collecting tax: ability to detect vs willingness to comply

**African perspective: Common S&T
indicator collection issues (UIS,
Entebbe, September, 2005)**

1. Unclear user needs/political support
2. Resources and affordability
3. Capacity development
4. Survey complexity and relevance
5. Coordination and harmonization

4. CHALLENGES AND RESEARCH

1. How useful are Scoreboards? Who's in and why?
2. Researching and managing duality
3. Absence of panel data
4. Categorization– high, medium and low technology
5. Measuring intangibles (58% of total wealth in low income countries – > 75% of market value on NYSE)
6. Valuing traditional knowledge systems
7. Understanding social innovation, poverty, exclusion and underdevelopment – Gini, HDI

5. ROLE OF NEPAD

“The importance of indicators has been recognised by African leaders and policy-makers. At the first African Ministerial Conference on Science and Technology, countries committed themselves to develop and adopt common sets of indicators. The system of indicators will track the development and functioning of the African national systems of innovation and it will constitute the mainstay for the production of the African Innovation Outlook. The Outlook will report on the developments in science, technology and innovation in Africa at national, regional and continental level.” (MCOST, Dakar, September, 2005)

MANDATE FOR AOSTI

1. Develop common methodology for STI surveys
2. Identify and work with competent national authorities for STI indicators
3. Link with regional platforms and multilaterals
4. Publish an African STI Indicators Manual
5. Produce the African Innovation Outlook
6. Effect capacity building
7. Promote understanding of the dynamics of African innovation systems

R&D COUNTS

“Foreign R&D is particularly important for most OECD countries (the United States being an exception), since the bulk of innovation and technological change in small countries is based on R&D that is performed abroad. But domestic R&D, i.e., business, government and university research, is also an important driver of MFP growth.

It is also key in tapping into foreign knowledge; countries that invest in their own R&D appear to benefit most from foreign R&D” (Pilat, 2002).

What does this mean for the small NSIs of Africa?

ENDGAME

How does the act of measurement perturb the respondent?

Do respondents learn from engaging with the measurement process?

Another example of co-evolution?