The African Science, Technology and Innovation Indicators (ASTII) Initiative
-An Introduction-

Presentation at
The East/North Africa Regional STI Policy Reviews Workshop

By

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- The Genesis
- The ASTII Initiative –Phase 1
- The Process and Progress thus far
- Partnership and collaboration
- Challenges and way forward
- conclusion
Consider the following scenario

GDP and Sectors of Economic Activities

-Information in the Public Domain-

<table>
<thead>
<tr>
<th>Sector</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>34.6%</td>
</tr>
<tr>
<td>Distribution</td>
<td>23.5%</td>
</tr>
<tr>
<td>Pvt Services</td>
<td>12.0%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>6.4%</td>
</tr>
<tr>
<td>Const.</td>
<td>5.7%</td>
</tr>
<tr>
<td>Trasp&amp;Comm</td>
<td>3.1%</td>
</tr>
<tr>
<td>Gov. Serv</td>
<td>2.3%</td>
</tr>
<tr>
<td>Bus. Serv</td>
<td>2.2%</td>
</tr>
<tr>
<td>Util</td>
<td>1.6%</td>
</tr>
<tr>
<td>Min</td>
<td>8.7%</td>
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</tbody>
</table>
STI for Socio-Economic Development

Question of interest?
Role, impact, of STI

Rationalise structures, institutions and actors in STI to dare social and economic development needs
Local Circumstances Matter

Country XZ

Country ZX

[Charts showing economic sectors for Country XZ and Country ZX, with percentage distributions for each sector such as Agriculture, Distribution, Manufacturing, Gov. Serv, Bus. Serv, Trasp&Comm, Const., Min, Pvt Serv, Util, Fin&Bus, other ind., Trans&Comm, other serv, Mining, trade&Hotels.]
What are we talking about

- Can we provide decision makers (i.e. Parliamentarians, Minister in charge of STI) with indicators and policy advice comparable to that received by the Minister of Finance, Governor of Central Bank?

- How can we present complex science, technology and innovation (STI) indicators in a way that is accessible to the policy community?

- What dialogue between indicator producers and the users?

- Use STI indicators to communicate the ‘big picture’ to civil society?
Genesis

**AMCOST I** - Nov. 2003, Johannesburg. African countries endorsed the compilation of indicators for scientific research, technological development and innovation activities.

**AMCOST 2** - Sept. 2005, Dakar. Creation of African Intergovernmental Committee (AMCOST Steering Committee) on African Science, Technology and Innovation Indicators initiative with mandate to:

i. spearhead a better understanding of national and regional science and innovation systems among African countries;

i. enhance skills for science, technology and innovation policy review and development;

i. improve the quality of science, technology and innovation policies;

ii. promote the exchange of experiences, expertise and information;

i. strengthen regional cooperation.

**AMCOST 3** - Nov 2007, Mombasa – Facilitate implementation

NEPAD OST is facilitating and coordinating this AMCOST Call.
The ASTII Initiative

**Overall Goal**
Contribute towards the improvement of the quality of science, technology and innovation policies at national, regional and continental levels

**Purpose**
To strengthen Africa’s capacity to develop and use Science, Technology and Innovation (ASTII) Indicators.

**Specific Objectives**

i. To develop and cause the adoption of **internationally comparable STI indicators**;

ii. To build **human and institutional capacities for STI indicators and related surveys**;

iii. To enable African countries **to participate in international programmes** for STI indicators;

iv. To **inform African countries on the state of STI in Africa**
ASTII Phase-one: Milestones

- Maputo Platform (Sept. 07)
- Training Workshop March 08 - Frascati and Oslo
  Family of manuals as guidelines to conduct R&D and innovation surveys
- Harmonisation of Survey Instruments (March 09) – taking stock of work undertaken thus far.
- Harmonisation of Survey Outcomes (Q4 2009)
- Publication and dissemination of the outcomes of Phase one (Q1 2010) - Towards an African Innovation Outlook
Applicability and/or Access to the Frascati & Oslo manuals and guidelines

African countries shall use the existing internationally recognized STI manuals and/or guidelines, particularly the Frascati and Oslo Manuals to undertake R&D and innovation surveys respectively.

- National Coordination (ASTII Focal Points)

- Thinking ahead: African countries may gradually use these manuals and experiences gained in undertaking surveys to develop African STI manuals or guidelines and address issues of:
  - Entrepreneurs (informal economy?); Drivers other than the market: Indigenous Knowledge; Biodiversity and Biotechnology; Health; Security and Connectedness; Measurement of Rare Events — Comparing the incomparable!!
Harmonisation of Survey Instruments March 2009

- **Survey Details** *(sampling (frame, sample, size, how selected)); how the survey was conducted (mail, telephone, interview, web, ...); response rate by sector and size of non-response; etc*

- **Questionnaire Design** *(Topics covered (R&D in Business enterprise, Government, High education, not-for profit, etc.; Innovation; ...); Consultation during question development (government departments, industry associations, firms, ...); Questionnaire design (respondent guides, ...); Questionnaire testing and results (final version?).

- **Reporting Plans** *(Descriptive statistics; Analysis of key issues; International comparisons (Neighbouring countries, comparable economies, ...)*

- **Principal Findings**

- **Resource Allocation**
<table>
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<tr>
<th>Core indicators (R&amp;D and Innovation)</th>
<th>Country specific Questions</th>
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</thead>
<tbody>
<tr>
<td>1. GERD by source and Sector of performance: Higher education, Government; Business; Non-Profit organizations; Abroad</td>
<td>1. General information about the enterprise, business, company or firm</td>
</tr>
<tr>
<td>2. R&amp;D Personnel by level of formal qualification and occupation, gender (headcount (HC) &amp; full-time equivalent (FTE)) :Higher education; Government; Business, on-Profit organizations</td>
<td>2. Product (goods or services) innovation</td>
</tr>
<tr>
<td>3. Researchers by gender and field of study/research</td>
<td>3. Process innovation</td>
</tr>
<tr>
<td>4. Expenditures in development areas identified by the CPA</td>
<td>4. Ongoing or abandoned innovation activities</td>
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<tr>
<td>5. Outputs: publications, patents (not core but to be collected).</td>
<td>5. Innovation activities and expenditures</td>
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<tr>
<td></td>
<td>6. Sources of information and co-operation for innovation activities</td>
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<td>7. Effects of innovation during the last two years</td>
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<td></td>
<td>8. Factors hampering innovation activities</td>
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<td>9. Intellectual Property Rights</td>
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<td></td>
<td>10. Organization and marketing innovations</td>
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Partnership and Collaboration

- MOUs signed with
  - the University of Pretoria in South Africa;
  - the Research Policy Institute of the University of Lund, Sweden;
  - the UNESCO Institute for Statistics;
  - the Southern African Regional Universities Association (SARUA).

- Collaboration with
  - the Statistics Department of the African Development Bank;
  - the OECD National Working Party on Science and Technology Indicators (NESTI)
  - the Centre for STI Indicators CeSTII of South Africa;
  - the African Regional Centre for Technology in Dakar.

- STI Experts (African and non African) are called in as resource persons to contribute with their know-how.
Phase 1: Countries participating in ASTII Initiative
On the UIS and NEPAD ST collaboration

- To cooperate in increasing the availability and improving the quality of international comparable science, technology and innovation statistics in Africa;

- To support NEPAD in facilitating the conduct of national science, technology and innovation surveys and the development of related indicators;

- To develop and offer joint training courses in science, technology and innovation policy to African government officials;

- To collaborate in supporting African governments to review and/or develop national science and technology policies and strategies;

- To collaborate in order to develop an African manual for science, technology and innovation surveys;
Challenges and core values

- Data credibility
- Suitability, accountability and ownership
- Overcoming the myths of “deja vue et entendu”
- Maintaining Confidentiality
- Protecting privacy
- Use of sound methodology

African STI Observatory
Thanks

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