

Master class in **MEASURING SCIENCE, TECHNOLOGY and INNOVATION**

The Centre for Science, Technology and Innovation Indicators (CeSTII) at the HSRC, in collaboration with the NEPAD Planning and Co-ordination Agency (NPCA) and the UNESCO Institute for Statistics (UIS), hosted a remarkable training workshop on the collection of science, technology and innovation indicators in Cape Town in April. The workshop formed part of the implementation of the second phase of the African Science, Technology and Innovation Indicators (ASTII) initiative. Demetre Labadarios, Neo Molotja, Moses Mefika Sithole and Cheryl Moses report.

The development and the role of science, technology and innovation (STI) indicators in supporting policy decision-making is a relatively new concept in Africa. Yet, the ability of organisations and economies to constantly innovate, and the means that promote this capability, are central to the competitiveness of nations.

Just as important for policy-making is to be able to measure and monitor research and experimental development (R&D) and innovation activities to understand their dynamics in terms of human resources, expenditure and focus areas in relation to economic growth.

Realising this, the African Union Ministerial Conference in charge of Science and Technology (AMCOST) established the African Science, Technology and Innovation Indicators (ASTII) – a programme within the African Science and Technology Consolidated Plan of Action. The main funder of the initiative is the Swedish International Development Co-operation Agency (SIDA).

The overall goal of the initiative is to compile science, technology and innovation (STI) indicators that will contribute towards improving the quality of STI policies at national, regional and continental levels. ASTII achieves this by supporting and strengthening Africa's capacity to develop and use STI indicators in developing planning and policy.

TRAINING TO GATHER DATA ON STI

To further this process, the Centre for Science, Technology and Innovation Indicators (CeSTII) at the HSRC, in collaboration with the NEPAD Planning and Co-ordination Agency (NPCA) and the UNESCO Institute for Statistics (UIS), hosted a training workshop on the collection of STI indicators in Cape Town from 23 – 27 April 2012.

The workshop was organised as part of the implementation of the second phase of ASTII. The first phase of the initiative was implemented in 2007 and 19 African Union countries participated in this phase namely: Algeria, Angola, Burkina Faso, Cameroon, Egypt, Ethiopia, Gabon, Ghana, Kenya, Lesotho, Malawi, Mali, Mozambique, Nigeria, Senegal, South Africa, Tanzania, Uganda and Zambia. Some countries undertook either the R&D survey, or the innovation survey, while other countries elected to undertake both surveys.

The second phase of the ASTII initiative was launched in Addis Ababa, Ethiopia, on 23 – 25 May 2011. The list of the participating countries was extended to include nine more countries, namely Cape Verde, Equatorial Guinea, Liberia, Mauritius, Namibia, Niger, Togo, Tunisia and Zimbabwe. Other countries showing interest and willing to participate in the future include Algeria, Burundi and Rwanda. The launch of the second phase was followed by the first training workshop of this

phase which was held in Yaoundé, Cameroon from 3 – 4 October 2011.

The results of these surveys were published as the African Innovation Outlook 2010 initiative, as will be the upcoming surveys.

THE CONTENT OF THE WORKSHOP

The workshop, co-organised by CeSTII, was the second of the series of workshops that were planned in the second phase of the project by the NEPAD-NPCA to build capacity on the measurement and production of the STI indicators.

The workshop was designed to impart skills and tools, to interpret the STI manuals used to implement the surveys in particular the OECD Frascati (R&D) and Oslo (Innovation) Manuals and to apply this knowledge in designing their surveys and collecting data in the respective countries, thus affording the necessary basis for comparative studies. Discussions also included the relevance and implications of STI indicators to policy. Furthermore, newer countries to the project presented their current STI systems including strategies and policies.

The training covered the following:

- methodologies for the measurement of research and experimental development (R&D) and innovation;
- understanding of R&D and innovation definitions and concepts in relation to STI indicators;



Measuring innovation - participants at the training workshop on the collection of science, technology and innovation indicators.

- R&D and innovation data collection and frameworks;
- processing R&D and innovation survey data and analysis and dissemination; and
- linkages between STI indicators, science policies and development.

The training was conducted through presentations which were complemented by the relevant exercises and follow-up question and answer (Q&A) discussions.

ATTENDANCE

Altogether 71 participants attended the workshop from countries in the first and second phases of the ASTII initiative as well as other invited countries (Botswana, Burundi, Morocco and Swaziland).

Also present at the workshop were international experts on the field of STI indicators, Professor Fred Gault, a professorial fellow at United Nations University (UNU-MERIT) Maastricht; Mr Martin Schaaper, programme specialist at UNESCO Institute for Statistics and Professor Claes Brundenius, Honorary Professor at Lund University, Sweden. Other speakers included Dr Philippe Mawoko, representing the African Observatory for STI (AOSTI), who gave an update on the progress made on the establishment of the AOSTI; Dr Shamila Nair-Bedouelle, chief of Science Policy and Sustainable Development at UNESCO who spoke on linking STI policies to indicators;

and Dr Roland Kouakou Roland, the head of the Division of Science and Technology of the ECOWAS commission who spoke about the STI activities and plans of ECOWAS.

The NEPAD-NCPA-CeSTII secretariat was represented respectively by Mrs Estherine Lisinge-Potabong, Dr Tswana Nyrenda-Jere, Mr Lukovi Seko and Ms Nancy Ngum, while CeSTII were represented by executive director Professor Demetre Labadarios, Mr William Blankley, Dr Neo Molotoja, Dr Moses Mefika Sithole, Ms Cheryl Moses and Mrs Natalie Vlotman. Additional CeSTII personnel presented lectures and workshops in their areas of expertise.

THE IMPACT OF WORKSHOP

CeSTII's work is largely directed to building capacity and expertise in science and technology (S&T) surveys and indicators and in constructing a concrete national baseline and data series. As part of this broad objective, the work of CeSTII is currently mainly focused on South Africa's National R&D and Innovation surveys and also extends to create a broad a collegiate, and dialogue, with researchers and practitioners globally. CeSTII works closely with the OECD, S&T offices in other African countries, the NEPAD-NPCA, UNESCO and other international agencies. CeSTII, and by extension, the South African Department of Science and Technology, has emerged as a leader and focal point in the SADC region and the continent for the

initiative's objective to support and strengthen Africa's capacity to develop and use STI indicators in development planning and policy-making.

Through this activity CeSTII had the opportunity to share its work with other African countries and it is in this regard that CeSTII hopes to see more and more countries participating in this initiative. The workshop also presented opportunities to collaborate in studies that explore and develop indicators on areas that are not currently covered by the conventional measurement methods of STI indicators. Through the collaboration with UIS, CeSTII further developed its training material and is ready to continue offering such services to other countries or agencies.

Overall, this workshop set the bar at a higher level for future ASTII workshops.

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