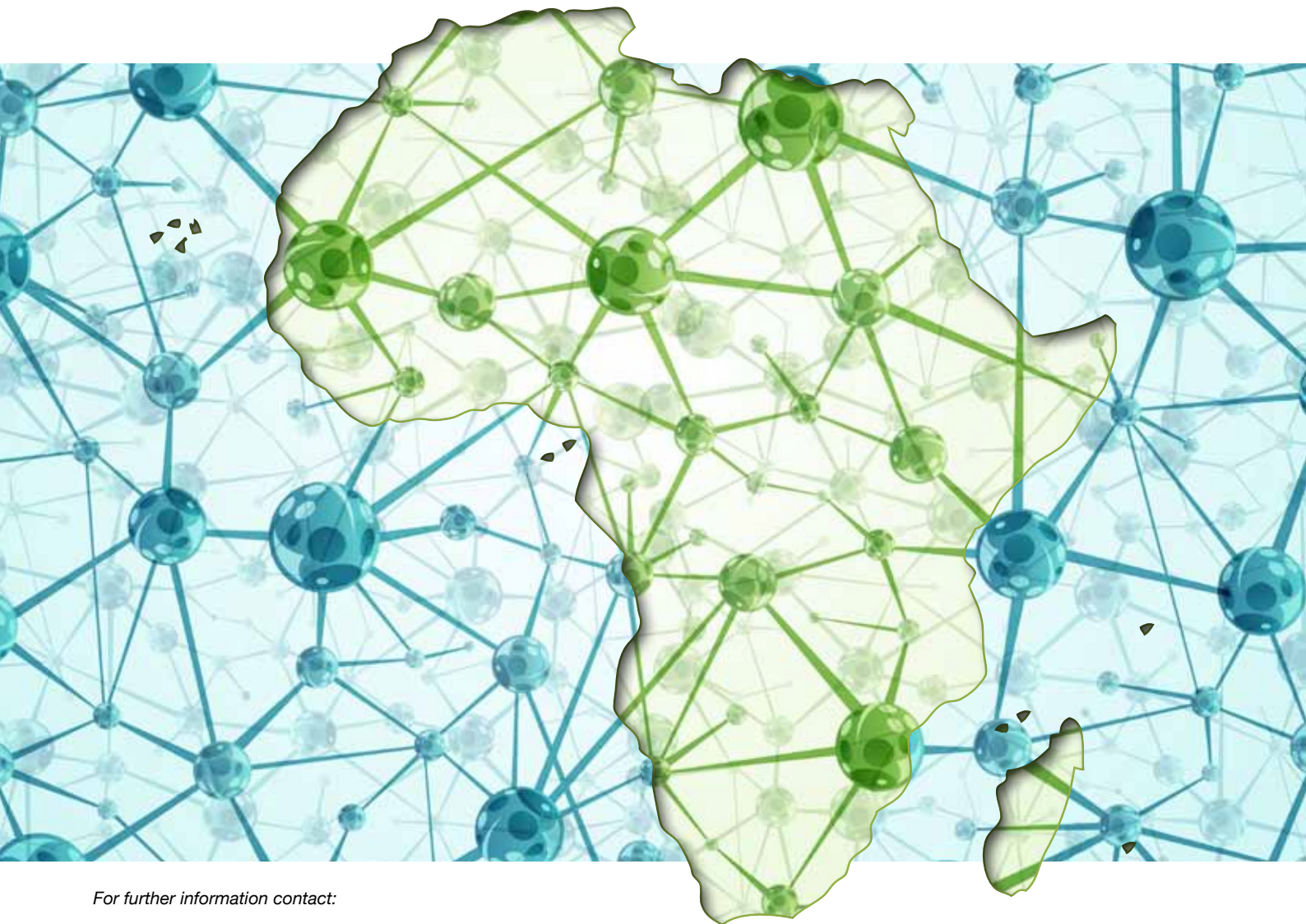




African Science Technology and Innovation Indicators (ASTII) Initiative

Newsletter - 2013



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Introduction

The African Science Technology and Innovation Indicators (ASTII) Initiative is a programme of the AU/NEPAD Africa's Science and Technology Consolidated Plan of Action (CPA). The CPA was adopted in 2005 by the African Ministerial Council on Science and Technology (AMCOST) as the framework for Science, Technology and Innovation (STI) to respond to the socio-economic challenges facing the continent.

The goal of ASTII is to contribute towards better quality of STI policies at national, regional and continental levels. Its purpose is to support and strengthen

Africa's capacity to develop and use STI indicators in development planning and policy. The specific objectives of the second phase of ASTII are to:

- Establish African-based systems for collecting and analysing STI indicator data building on the experience gained during ASTII Phase I;
- Establish a harmonized African platform for publishing STI indicators data for African Union (AU) member States;
- Enable AU member States to

utilise reliable and accurate information on STI for policy formulation and tracking commitments;

- Mobilize political support and create ownership of the ASTII programme;
- Provide an opportunity to the AU system and governments to compare and monitor the development of STI in the member states.

Some of ASTII's activities in 2013 are highlighted in this brochure:

African Science, Technology and Innovation Indicators (ASTII) Initiative

Training and Data Validation Workshops in Collaboration with the Egyptian Ministry of Scientific Research

11–15 February, 2013 – Cairo, EGYPT

The African Science, Technology and Innovation Indicators (ASTII) Initiative in collaboration with the Egyptian Ministry of Scientific Research organized back-to-back Training and Data Validation workshops in Cairo Egypt on 11 – 15 February, 2013. The objectives of these workshops were to train both the old and new AU member States participating on the ASTII Initiative and to validate the quality of STI

indicators produced by AU member States involved in ASTII Phase-2 surveys. The focus of the training was on definitions and terminologies used in R & D and Innovation based on the OECD frameworks (Frascati and Oslo Manuals) respectively. The two manuals have officially been adopted for use in the context of ASTII surveys. During this session, South Africa through its Centre for Science, Technology and

Innovation Indicators (CeSTII) shared its 10-year experience in conducting R & D and Innovation surveys; (2) The second event was concerned with assessing the quality of indicators produced by AU member States. This task was undertaken by a Panel of Experts and stakeholders comprising namely UNESCO Institute for Statistics (UIS), the Research Policy Institute (RPI) at Lund University, CeSTII/HSRC, the

NEPAD Agency STI Hub as well as the African Observatory on STI (AOSTI).

A total of twenty-three (23) countries attended the Workshop namely; Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Egypt, Ethiopia, Gabon, Ghana, Kenya, Lesotho, Mali, Mauritius, Mozambique, Niger, Nigeria, Senegal, South Africa, Tanzania, Togo, Uganda and Zimbabwe.

The consultant from ScienceMetrix-Canada who was engaged by AOSTI presented an interim report of the work undertaken on Bibliometrics. This report provided the current status of

scientific outputs in Africa including publications. Part of this report will go into the AIO-2013 to be produced by NEPAD in 2014.

The following main outcomes of the two workshops were noted:

1. Eighteen countries had conducted R&D surveys out of which 14 had already submitted their R&D surveys data to NEPAD;
2. Fourteen countries had conducted Innovation Surveys out of which 11 had already submitted their Innovation survey data to NEPAD;

3. NEPAD Agency encouraged AU Member States to produce and publish National reports on STI indicators with the involvement of all key national stakeholders involved: i.e. Ministry in charge of Science and Technology, National Statistics Office, etc.
4. AU member States were requested to submit to NEPAD their budget contributions to the national surveys so that this can be reflected and acknowledged in the AIO 2013.

In-House Short-Term Training on STI data management for Staff of the NEPAD Science, Technology & Innovation Hub (NSTIH)

May & June, 2013

In May 2013, six members of staff of the NSTIH had the opportunity to be trained on how to use STI data for tracking progress and assessing impact of STI programmes. This is part of the initiative of the newly established STI Hub aimed at building in-house capacity. The three-day skills course was offered by experts from the South African Centre for Science, Technology and Innovation Indicators (CeSTII) in Cape Town. A second course, attended by 11 employees of the NSTIH took place in Rustenburg on 17-19 June 2013. Experts from the UNESCO Institute for Statistics, a partner to the ASTII Initiative delivered the training. The objective of the second course was to impart skills to the staff of the NSTIH so that they can better support AU member States to produce internationally comparable STI Indicators to inform policy making.



NSTIH Staff members together with UIS Resource persons

2nd International Conference on Biotechnology organized by the Ministry of S & T of Mozambique

21–25 May 2013 – Maputo, MOZAMBIQUE

The ASTII Coordinator, Prof Luke Mumba, was invited to the 2nd International Conference on Bio-

technology in Maputo, Mozambique. The objective of the conference was to strengthen Mozambique's capacity and

commitment to the implementation of its national biotechnology & Biosafety Strategy. In recognition of the role

NEPAD has played and continues to play in supporting Mozambique to build its capacity in S & T and biotechnology and biosafety in particular, the Minister of S & T His Excellency Prof Louis Augusto Pelembe invited Prof. Mumba to give a Framework Speech entitled the “Role of Biotechnology in the Socio-economic Development of Africa: Biotechnology a development Issue”. Other senior NEPAD staff present at the event were Dr. James Okeno from the African Biosafety Network of Expertise

(ABNE) and Prof Karim Maredia from Michigan State/ABNE.

Among other things, the Framework Paper makes recommendations in terms of how Africa can develop its biotech sector. If implemented, the recommendations will guide the enactment of a biotech and biosafety law and the attendant regulations in Mozambique.

The conference concluded that innovations in biotechnology have a key

role to play in the bio-economy of Africa and in the socio-economic development of the continent. However, agriculture biotechnology is a tale of great achievements and controversy. As long as this scenario remains, its potential will remain unused and the victims will be farmers and consumers in Africa. The potential of biotechnology can be explored through knowledge-based innovations, financing mechanisms, capacity development and functional regulatory systems.

1st In-country ASTII Training Workshop

7–9 August 2013 – Kigali, RWANDA



From left to right: Prof Aggrey Ambali, Ms Maria Hakansson, Mr Remi Twiringiyimana, Prof. Marie Christine Gasingirwa

ASTII in collaboration with the African Union Observatory for Science, Technology and Innovation (AOSTI) and the UNESCO Institute for Statistics (UIS) organized the In- Country Training Workshop for Rwanda on 7-9 August, 2013. The event was held under the auspices of the Ministry of Education of the Republic of Rwanda and was hosted at Kigali Institute of Science & Technology (KIST). Twenty experts (15 experts from Rwanda and 5 from Burundi) attended the training.



Workshop participants “at work”

The workshop was officiated by the following: Prof Aggrey Ambali, Head of the NSTIH, the Director of S & T in Rwanda, Mr Remy Twiringiyimana, the Principal of KIST, Prof. Marie Christine Gasingirwa, and the Minister Counsel, a representative of the government of Sweden in Rwanda, Ms Maria Hakansson.

Training Workshop: Production of indicators of science, technology and innovation in the Economic Community of Central African States (ECCAS)

9–11 September 2013 – Brazzaville, CONGO

NEPAD/ASTII in collaboration with the current chair of the Steering Committee of the African Union Ministerial Conference on Science and Technology (AMCOST) hosted a training workshop on STI indicators on 9–11 September 2013. 13 participants from 5 ECCAS

countries attended the training, namely; the Republic of Cameroon, the Republic of Gabon, Republic of Congo, the Democratic Republic of Congo, the Republic of Equatorial Guinea and the Republic of Chad. This training was followed by a consultative meeting

between NSTIH and ECCAS Deputy Secretary-General responsible for Social and Cultural Integration.

This workshop was officially opened by HE Bruno Jean Richard ITOUA, Minister of Scientific Research and Technological



Innovation. In his opening speech he expressed gratitude to NEPAD Agency for choosing the Republic of Congo to host the workshop as part of its current chairmanship of the Steering Committee of the Conference of AU Ministers in charge of Science and Technology (CMAST/AMCOST V). He welcomed all the participants from the countries of the Central African region, UIS, NEPAD and ECCAS. The Minister stressed the importance of STI indicators and his commitment to making sure that the National Agency of Statistics and the National System of Scientific Research and Technical Innovation in the Republic of Congo support the collection of data on STI indicators. This task, he noted, falls within the jurisdiction of one of his Departments within the Ministry. He mandated his Department to establish a platform that will build on the partnership with the AU, NEPAD and other partners in order to strengthen the conduct of surveys on indicators in Congo Brazzaville and the region.

In discussing the value of Science, Technology and Innovation Indicators (STII), workshop participants noted that measuring STI was important for the ECCAS region as it provides data and statistics for monitoring and evaluation of policies and developmental programmes. The meeting further noted that STI indicators can be used to improve the quality of policies and inform planning that can enhance the region's scientific and technological development.



From left to right HE Bruno Jean Richard Itoua, Mr. Jean Crispin Jaime Sangale and Prof. Luke Mumba



Workshop participants

The meeting made a resolution calling for a regional approach to this matter in order to raise awareness and support for the compilation of STI indicators in the region. The meeting identified the ECCAS Secretariat to be the GOOD-

WILL AMBASSADOR who will make a case to the ECCAS Heads of State and Government for a regional approach on matters of Science, Technology and Innovation Indicators in the ECCAS region.

Mapping Research and Innovation initiative institutions in COMESA region

26–27 September 2013 – Silver Springs Hotel, Nairobi, KENYA

ASTII and COMESA held a joint Workshop on 26-27 September, 2013 in Nairobi Kenya to map research and innovation institutions in the COMESA region. The overarching objective of the Workshop was to establish synergies between NEPAD and COMESA on the STI measurements. Thirteen COMESA countries attended the workshop

namely, Burundi, Comoros, DR Congo, Egypt, Ethiopia, Kenya, Malawi, Rwanda, Sudan, Uganda, Swaziland, Zambia and Zimbabwe.

In welcoming the delegates, Cabinet Secretary (Minister) in the Ministry of Education, Science and Technology of the Republic of Kenya, Professor Jacob

Kaimenyi, expressed his gratitude to all friends of the Republic of Kenya for travelling despite the difficult moments that the nation had experienced. He welcomed all officials from AU bodies, AU member States in the COMESA region and representatives from Pan-African institutions. He indicated that hosting the NEPAD-COMESA

Collaborative Workshop on Mapping of Research and Technology Institutions was a great honour for the government of Kenya and he commended the organizing team in COMESA and NEPAD. He noted that there was a very large pool of scientific and technological knowledge at the disposal of the continent that can be deployed for economic development. “We also have great potential to interact, access and secure high levels of scientific advances and technological progress from global frontiers of knowledge,” he said.

The Cabinet Secretary further emphasized the importance of evidence-based policy making process, noting that the commercialisation of S&T was not easy and he presented the steps the government of Kenya had taken to advance S&T nationally. These steps included an increasing investments in R&D, establishment of a national ST&I grant and the enactment of ST&I Act of 2013.

He explained that if well harnessed ST&I offers multiple opportunities for development in areas of vital importance in the COMESA region through creation of science parks and innovation centres. However, innovation centres are not enough unless commitment is shown to create a conducive environment where much is done to utilise STI for development and Monitoring and Evaluation (M&E) are applied continuously to monitor performance.

The Cabinet Secretary called upon all delegates to be ambassadors and champions of STI by enhancing collaborations and partnerships to increase sharing information to fill in knowledge gaps and enhance adoption of new technologies that are appropriate to the region’s economic development needs. He challenged the audience to ensure that the strategies emanating from this workshop should be cascaded within institutions and not

archive them.

The first keynote address was presented by Prof. Dhanjav Jhurry from Mauritius who is also the Vice Chair of the COMESA Innovation Council and the National Research Chair & Head of the ANDI Centre of Excellence for Biomedical and Biomaterials Research (CBBR). He spoke on the theme: “Fostering Innovation: from lab to commercialization”. He highlighted the National Innovation System (NIS) and its characteristics for it to be very successful. For illustration, comparison was made between lessons from Finland and challenges experienced by African countries. As solution, the triple helix approach was recommended. It has been applied in Mauritius to improve the national capacity of the ocean industry. At least all sectors were involved: Government, research institutions and private. Quality matters to reach the level of a successful technology transfer, he added. In ending his address, Prof Jhurry made two recommendations to NEPAD and COMESA to: (i) Identify research institutions in the COMESA region that have reached world-class level in terms of research achievements and the sectors in which the Centres of Research operate. In a second instance, map the existing resources (i.e world-class research centres) with the needs of the region. Finally, COMESA and NEPAD and AU join efforts to assist these institutions to move to commercialization of R&D, thus promoting innovation; (ii) Promote the Concept of a Corporate Scientific Responsibility Scheme (CScR) to foster industry’s investment in R&D & Innovation.

The second keynote address was presented by Mr. Godber Tumushabe from Uganda who is also the Executive Director of Advocates Coalition for Development and Environment (ACODE). His speech focused on the value of linking Science, Technology

and Innovation to evidence-based policies. He emphasized the need to transform business in addition to the leadership component in the national system of innovation. Not having the latter could only consist on dealing with a pain-killing approach. The governance component is a key consideration and should be assessed.

Interventions from the audience focused on the involvement of the opposition groups in national discussions and consultations. This group is always omitted in various national fora because it is regularly seen as going against the vision of the ruling party. The role of civil society is already positive in policy service delivery but still the environment in which they operate influences their outcome. Thus, understanding the environment is critical.

In conclusion the following action points were raised by attendees for consideration of both NEPAD and COMESA: (i) Pan-African institutions to support STI data collection processes to improve quality of COMESA innovation Outlook; (ii) COMESA member countries to carry out baseline study on National System of Innovation (NSI) for competitiveness; (iii) NEPAD and AOSTI to consider COMESA member countries which are not yet part of the ASTII Initiative for in-country trainings for the following:

- Production of R&D indicators reflecting all performance sectors (Government, Firms, Higher Education, Non-for-profit-Institutions);
- Production of innovation indicators to guide strategies to improving competitiveness in and beyond COMESA;
- Encouraging the design of new STI policies and review of old ones based on evidence or data produced by national ministries in charge of STI and trade.



NEPAD/ASTII supporting the launching of R&D and Innovation surveys in Burundi through a training workshop of national experts

2–3 October, 2013 – Bujumbura, BURUNDI



The Minister of Higher Education and Scientific Research in Burundi, Hon. Joseph Butore, officially requested the NEPAD Agency to support the launching of the first round of national R&D and Innovation surveys scheduled

for 2nd and 3rd October 2013. Prior to this, both ASTII and AOSTI team trained experts on the ASTII survey methodologies as per the OECD Frascati and Oslo manuals. Topics covered included definitions of R&D

and related indicators; (2) Definitions of Innovation and related indicators; and (3) Methodologies for R&D and Innovation surveys; (4) and Reporting templates to be used in the surveys.

Expert Group Meeting to Review the Draft African Innovation Outlook Report 2013 (AIO-2013) Human Sciences Research Council (HSRC)

11–13 November, 2013 – Cape Town, SOUTH AFRICA

One of the main activities of the African Science Technology and Innovation Indicators Initiative (ASTII) is to produce a series of the African Innovation Outlook (AIO) Reports biennially. The AIO report is based on data from the R & D and Innovation Surveys conducted by AU Member States with support from the NEPAD Agency ASTII Programme. The report provides evidence on the state of science, technology and innovation in the surveyed countries and generates significant debate and interest in STI indicators. The debate will ultimately contribute to progressive STI policies, strategies and to finding solutions to Africa's problems. The first ever AIO report was produced in 2010 and was launched in May 2011 in Addis Ababa. The second one with R & D and Innovation data from 20 AU Member states will be published in the first quarter of 2014.



Prof Demetre Labadarios (CeSTII) and Prof. Claes Brundenius (RPI)



Prof. Fred Gault (RPI/UNU-Merit)



AU-AOSTI Team

Expert Group members reviewing the Draft AIO report



NEPAD/ASTII Team



UNESCO/UIS Team

ASTII Achievements and Impacts

One of the major achievements of the ASTI Initiative has been the building of capacities of AU member States to collect and analyse data on STI. Experts have been trained in: (1) Methodologies for measuring Research and Experimental Development (R&D) and Innovation activities; (2) Understanding of R&D and Innovation definitions and concepts in relation to STI Indicators; (3) R&D and Innovation data collection and frameworks; (4) processing R&D and innovation survey data and analysis and dissemination; (5) Linkages between STI indicators, science policies and development. These in-country courses are tailored to fill specific skills gap that may be missing in a particular country.

The above interventions by NEPAD/ASTII are important because a number of AU member states now have national STI statistics which they can develop their policies out of. Increasingly, a number of AU member States are making STI policy decisions based on the messages that have come out from their national survey data. The ASTII Initiative has been unique in

that it has been readily implemented by member states and requests for countries to join the Initiative keep coming from the countries that have not yet launched their national surveys. Legitimization of STI data as part of national statistics has brought in a high degree of independence among the member states which were traditionally dependent on sources outside the continent for them to get status report on STI in their countries. This was not a reliable source given that more often than not, statistics on most African countries were missing due to non-availability of data. It was therefore not uncommon to get data tables where the majority of the African countries had blanks for most of the parameters.

Countries participating in the ASTII initiative have contributed both in-kind and cash to the costs of conducting national surveys, an indication that countries appreciate the value of STI indicators. Statistics from the ASTII African Innovation Outlook 2010 are also cited in many international fora as a reliable source of data on Africa. Thus,

the ASTII Initiative has institutionalized a culture of collection and use of STI statistics on the continent. It is expected that STI data will have similar impacts on other sectoral policies particularly; Education, Commerce and Industry (Trade and Investment), Small and Medium Enterprises (SMEs) and overall Economic Strategies on the continent. To achieve better impact and the use of STI indicators in development, experts must embark on strategic popularization, sensitization and advocacy among stakeholders, policy makers and the executives in government and the private sector.

In spite of these successes, more still needs to be done to build the critical human and institutional capacity in AU Member States for the conduct of surveys and to be able to link indicators to policy making processes. There is also a need to broaden participation of countries of countries, RECs and private sector on the ASTII Initiative and to mobilize domestic resources to sustainably finance the programme.

