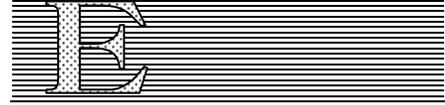




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**ECONOMIC COMMISSION FOR AFRICA**

Third Session of the Committee on  
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Addis Ababa, Ethiopia  
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**CONCEPT NOTE**

**Theme: Measuring Innovations Environment in Africa**



## **Measuring Innovations Environment in Africa**

### **A concept note for CODIST Meeting**

#### **Overview**

1. Innovation is generally acknowledged to be a major driver of economic and social development, and a determinant of the competitiveness of firms and economies. As such, knowledge about the development of innovation capacity of a country and its supporting mechanisms becomes fundamental to formulating development goals and strategies.
2. CODIST III will focus specifically on: 1. the alignments of the current innovation indicators to Africa's main economic sectors and priorities and 2. the methodologies and frameworks to capture the innovation performance, progress and potential of countries. It will draw on existing and ongoing work by the OECD, NEPAD and UNECA to determine areas that may need to be addressed to promote technology diffusion and innovation. In addition, CODIST III will address how innovation is contributing to broad-based and rapid economic empowerment of communities on the continent.
3. A number of plenary and parallel sessions will analyse the research findings and inform the presentations and findings on best practices in methodologies and frameworks for measuring innovation. The sessions will also address the policy implications and relevance of different innovation measurement methodologies and frameworks for Africa's social-economic transformation.

## I. Introduction

4. Innovation – the use of new knowledge or a new use or combination of existing knowledge to introduce a new product, process, organizational and market arrangements - has become a major driver of economic growth and a determinant of the competitiveness of firms and economies. Innovation is high on the agenda of strategic development goals of almost all firms and governments. Reliable and quality data by the countries statistical systems is therefore needed to provide evidence to aid African policy makers to implement informed decisions

5. Measurement is intended to provide evidence on the factors that facilitate or hinder innovation; the relationship between economic growth and innovation; and for gauging the performance of a country against leading or competing nations and emerging innovation trends, among others. Most innovation indicators are R&D-centred, and based on the Frascati<sup>1</sup> and the Oslo<sup>2</sup> manuals initially developed for use by member States of the Organization for Economic Cooperation and Development (OECD) and UNESCO Institute of International Statistics. They serve as global standards in undertaking and interpreting innovation surveys.

6. Africa has also made some progress on this front recently. The African Science, Technology and Innovation Indicators (ASTII) initiative of NEPAD, launched in 2006, and the Africa Observatory on Science, Technology and Innovation (AOSTI), endorsed by Heads of State in 2013, are worth noting. The two initiatives represent the most comprehensive effort intended to measure and benchmark innovation in African member States. The ASTII's African Innovation Outlook<sup>3</sup> presented the first results of a comprehensive R&D and innovation surveys of about 13 African countries based on the EU's Community Innovation Survey (CIS).

7. Despite these efforts, the rapidly changing global economy requires continuous improvement of the indicators used to measure innovation. For instance, the work of European Institute of Business Administration (INSEAD)<sup>4</sup> on measuring innovation efficiency includes a number of institutional and policy related indicators that are not the main focus of the Community Innovation Surveys. Moreover, there is also growing recognition that there is a difference in the way R&D and innovation, in general, are performed and diffused in advanced and poorer countries. The existing indicators may not fully account for, capture and reflect innovation development in Africa's specific context. There is a need to develop indicators that go beyond R&D, that take into account Africa's context: informal, low-intensive R&D, agriculture and extractive industry-based innovation.

8. UNECA has taken an important first step to explore the development of innovation indicators that capture the innovation climate or environment within which firms and individuals in Africa innovate, the major obstacles they face in technology diffusion and commercializing, and the development of an innovation index to capture progress, potential and performance. This

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<sup>1</sup> Frascati Manual: Proposed Standard Practice for Surveys on Research and Experimental Development, 6th edition. (In 2012, An annex was added on measuring R&D in developing countries).

<sup>2</sup> Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data, 2005 Edition.

<sup>3</sup> AU-NEPAD (2010) *African Innovation Outlook 2010*, AU-NEPAD, Pretoria.

<sup>4</sup> [www.insead.edu/](http://www.insead.edu/) (Institut Européen d'Administration des Affaires).

work aims to help policy-makers on the continent to improve their countries' innovation potential and performance through providing them with user-friendly, feasible and valid innovation policy assessment tools to identify the strengths and weaknesses of, and opportunities and threats to their innovation system, and to track progress of the country's innovation development overtime.

## **II. The main areas to be addressed**

9. This CODIST will seek to build on and inform the work that UNECA has commenced through a few pilot surveys and expert group meetings and partnerships. CODIST will seek to address two main related issues:

(a) To what extent are the current innovation metrics aligned with Africa's main economic sectors?

(b) How can countries' innovation performance, progress and potential be assessed and what indicators are needed?

## **III. Organization**

### **Pre-events**

#### **Third Science with Africa Conference (SWA-III): Industrial Research to promote manufacturing in Africa**

10. Africa's industrial research institutions could play a pivotal role in both inspiring the growth of new products and firms and in supporting Africa's nascent manufacturing firms to continuously improve their processes, products and organizational arrangements to remain competitive. Such a mission is in line with the mandates of industrial research institutions. The pre-event will specifically address some of the following questions:

(a) To what extent are industrial research institutes driving innovation in the manufacturing sector?

(b) What mechanisms should industrial research institutes put in place to drive the manufacturing sector in Africa?

(c) What strategies should be used to ensure policy makers understand that impact of the R&D on everyday lives?

(d) In which areas are regional strategic partnership useful and how can they be used to keep policy makers informed and promote innovation for manufacturing sector?

### **Follow up to World Summit on the Information Society (WSIS)**

11. Based on the, the United Nations General Assembly Resolution of 56/183 on 21 December 2001, the UN held the World Summit on the Information Society (WSIS) in two phases, in Geneva from 10-12 December 2003 and the second phase in Tunisia from 16-18 November 2005. The Geneva Phase adopted the “WSIS Declaration of Principles” and the “WSIS Plan of Action”. The Tunis phase adopted the “Tunis Commitment” and the “Tunis Agenda for the Information Society”. The Economic and Social Council (ECOSOC) of the United Nations was requested by the Tunis Agenda for the Information Society to oversee the United Nations system-wide follow-up to the outcomes of the Geneva and Tunis phases of the Summit. In its substantive session in July 2006, ECOSOC adopted a resolution entitled ‘follow-up to the World Summit on the Information Society (WSIS) and review of the Commission on Science and Technology for Development (CSTD)’ which decided that CSTD to effectively assist the Council as the focal point in the system-wide follow-up to the outcomes of WSIS. Since then, CSTD organizes annual follow up meetings in Geneva. Implementation of the outcomes of the WSIS at the regional level is facilitated by the UN regional commissions and according to the ECOSOC resolution 2006/46 which requests the UN Secretary-General to inform the CSTD about implementation of the outcomes of the WSIS based on inputs from UN and other entities.

12. Accordingly, ECA has been supporting member States during the WSIS process through two preparatory conferences held respectively in Bamako in 2002 and Accra in 2004 which resulted in the Bamako Declaration and the African Regional Action Plan on the Knowledge Economy (ARAPKE) which was adopted in September 2005 by African member States which is being implemented today by the AUC.

13. ECA has also been assessing implementation of the WSIS Action Lines in member States through a meeting organized every two years in the framework of our Committee on Development Information, Science and Technology (CODIST). It has undertaken surveys and compiled Africa status reports in 2007, 2009 and 2011 which was used to provide inputs to the annual UN Secretary General reports to CSTD.

14. United Nations, international agencies and regional organizations have begun preparing for the ten-year review of WSIS outcomes which is scheduled for 2014/15, with several meetings to be held yearly in different parts of the world, including Addis Ababa, Paris, Geneva and Tunis. Currently work is on going in the five continents, led by the UN Regional Commissions, on the review of the WSIS Targets based on internationally agreed development goals, including those in the Millennium Declaration. The WSIS indicative targets may serve as global references for improving connectivity and access in the use of ICTs in promoting the objectives of the Geneva Plan of Action, to be achieved by 2015. In this context ECA has submitted a questionnaire on the 10 WSIS Targets to all member States.

15. The pre-event aims at reviewing the work being undertaken in member States in assessing the WSIS Targets and charting the way for Africa’s participation, under the leadership of ECA and the AU, in the global WSIS assessment to culminate with a Conference mandated by the UN General Assembly in 2015.

### **The Internet Governance Forum (IGF)**

16. The Internet Governance Forum (IGF) was established as a forum for multi-stakeholder policy dialogue on Internet governance issues according to its mandate set out in paragraph 72 of the Tunis Agenda for the Information Society adopted by world leaders at the second phase of the World Summit on the Information Society (WSIS) held in Tunis in December 2005.

17. ECA has been playing a key role in enhancing Africa's participation in the IGF consultations since 2006 to ensure adequate responses for African issues. During the IGF meeting in Nairobi in 2011, African participants decided to launch the African Internet Governance Forum (AfIGF) to serve as an annual platform for an inclusive multilateral, multi-stakeholder and multilingual discussion on issues pertinent to the Internet in Africa in general and Internet Governance issues in particular. ECA hosts the AfIGF secretariat.

18. ECA in cooperation with the AUC and the Egyptian Government, convened the first African Internet Governance Forum in Cairo from 2 to 4 October 2012. The outcome of the conference has been tabled in Baku, Azerbaijan where the 7<sup>th</sup> annual IGF conference was held from 6-9 November 2012.

19. The aim of the pre-event is to share information on the outcomes of the first African IGF meeting, discuss the second AfIGF conference to be held in 2013 as well as Africa's participation in the global IGF process.

### **Development of e-Government indicators**

20. The international WSIS follow-up Partnership on ICT Measurement has a Task Group on E-government (TGEG), that is led by ECA, in collaboration with the Economic Commission for Latin America and the Caribbean (ECLAC), International Telecommunication Union (ITU) and United Nations Department of Economic and Social Affairs (UNDESA), has produced a report on a framework for developing e-Government indicators. The report proposes a set of globally comparable e-government core indicators, reflecting the emphasis on e-government by the World Summit on the Information Society (WSIS) and the suggestion by the UN Statistical Commission that the Partnership extend its core list of ICT indicators to include indicators on ICT use in government. The document has gone through a series of review processes by members of the Partnership. The proposed Framework consists of the defined core indicators and associated statistical standards (such as definitions, scope, statistical units, model survey questions and classifications).

21. In 2012, a manual on collection of the data required to construct the core e-government indicators was undertaken and the document has been translated into French and Portuguese. The Arabic translation is being undertaken by the Government of Egypt. A capacity building training programme which will be delivered to staff from selected National Statistical Offices (NSOs) is planned to be undertaken in 2013.

22. The aim of the pre-event is to familiarize participants with the framework document and prepare for in-depth training at national and sub-regional levels.

### **Community Mapping**

23. As the technology continued to evolve, Web services like Google Earth and other virtual worlds permitted individuals to become more involved with the creation, maintenance, and distribution of their own geospatial information.

24. Today, most African countries promote decentralization, thus giving to the local communities' significant attention and power in decision making, which impacts on rural development. The geospatial sector is innovating through the development of Community Knowledge Systems that are expected to drive the management of information system, addressing complex problems of economic development seamlessly at a global, regional and local level. During the past few years much effort has been put into developing community-based methods to capture and analyse a large amount of data in a systematic manner. One of the most remarkable and exciting of these emerging innovations is the crowd-sourcing – a kind of community mapping. One good example of crowd-sourcing is the Ushahidi platform as a tool to easily crowdsource information using multiple channels, including SMS, email, Twitter and the web.

25. The objective of the workshop will be to introduce the concept to national mapping agencies and develop a methodology for them to incorporate the results of such community mapping into their national mapping programme. This could involve training designated focal points on the moderation of edits by the community so that they can review proposed changes to their maps and either moderate them or alert designated moderators of errors or outright misrepresentations.

### **Seminar: ICT for Disaster Risk Management and Climate Change Mitigation**

26. It is well known that our continent is one of the regions most affected by man-made and natural disasters. Disasters arise from the combination of natural hazards, conditions of vulnerability, and insufficient capacity or measures to reduce or cope with the potential negative consequences. Events such as droughts, floods and storms are often terrible experiences for those affected: they cause great loss of life, destroy people's livelihoods and leave millions of people homeless. Moreover, disasters can impact economic development of nations and affect the life of people and are a major threat to sustainable growth and development in Africa.

27. Climate change has also emerged as a major threat to sustainable growth and development in Africa, and the achievement of the Millennium Development Goals (MDGs). Although Africa is the continent least responsible for climate change, it is particularly vulnerable to its effects, including reduced agricultural production, food insecurity, increased incidence of flooding and drought, communicable diseases and increased risk of conflict over scarce land and water resources.

28. In the coming decades, climate change is expected to exacerbate the risks of disasters, not only from more frequent and intense hazard events but also through greater vulnerability to the existing hazards. Over the last two decades, 76 per cent of all disaster events were hydrological, meteorological or climatological in nature; accounting for approximately 45 per cent of the deaths and 80 per cent of the economic losses caused by natural hazards. The likelihood of increased weather extremes in the future therefore gives great concern that the number or scale of weather-related disasters such as drought and floods will also increase.

29. Disaster risk reduction strategies and risk management are approaches that also seek to build resilience and reduce vulnerability, and therefore they offer capacities to support adaptation, in respect to coping with extreme events such as drought, floods and storms as well as addressing longer term issues such as ecosystem degradation that increase vulnerability to these events.

30. Disaster risk and the adverse impacts of natural hazards can be reduced by monitoring, systematically analysing and managing the causes of disasters, reducing social and economic vulnerability, and improving preparedness for response to adverse hazard events.

31. Much has been done in recent years to raise the profile of disaster risk reduction within relief and development processes. However, much remains to be achieved before it attracts the level of attention and funding needed to reduce avoidable loss of life, livelihoods and property, and to safeguard development gains. Furthermore, as pressures such as population expansion, urbanization and global climate change make the world increasingly unsafe, it is essential to expand risk reduction measures to avert or reduce the scale of future disasters.

32. One of the issues in disaster risk monitoring and mitigation in Africa is the lack of appropriate tools and information resources needed to support evidence-based policy analysis. It is evident that Information and communication technologies (ICTs) have proved to be essential to the effective management of all phases of the disaster risk reduction (DRR) cycle, and are widely used for collecting data and information to manage logistics during emergencies as well as for modeling and forecasting; developing knowledge and decision support tools for early warning, mitigation and response planning; sharing information and disseminating information particularly for communities at risk. Some of the key ICTs that have proved indispensable to DRR include, mobile technology, the internet and web 2.0 tools, space-based technologies such as geographic information systems (GIS), remote sensing and satellite communications. However, there is still lack of awareness and established systems for prevention, preparedness and monitoring of natural disasters.

33. Hence, raising the awareness of policymakers and encouraging member States to incorporate Disaster Risk Reduction in to their national policies are important at this point in time.

34. The pre-event aims to discuss some of the challenges in disaster risk and climate change in Africa, and enlighten with some of the recent technological developments in the ICTs used for disaster risk monitoring, forecasting and emergency response.

## **CODIST-III**

### **Plenary sessions**

35. CODIST-III shall include ten plenary sessions that will focus on the following areas:

***Plenary Session I: Opening panel: “Measuring Innovation Environment in Africa”***

*This session will highlight the general challenge in measuring innovation in general and non-technological and grassroots or invisible innovation in Africa. They will also look at the contribution of such innovations to socio-economic development of countries.*

***Plenary Session II: Alignments of the current innovation indicators to Africa’s main economic sectors and priorities***

*This session will specifically focus on the extent to which the current innovation metrics capture the social and economic development trends, technological level of development and inform national development planning processes. It will take into consideration Africa’s economic structure and technological and industrial base to identify measurements that can inform national policy development processes.*

***Plenary Session III: Subcommittee on Geoinformation report***

***Plenary Session IV: Subcommittee on ICT Report***

*Plenary Session V: This plenary session will seek to identify the major indicators, assess methods and frameworks to capture the innovation performance and and potential of countries. This work will be informed by similar assessment in areas such as investment metrics for assessing potential and performance have been developed*

***Plenary Session VI: Measuring Innovation case studies***

*This session will showcase national case studies by either the Ministries responsible for STI or national statistical offices in measuring innovation*

***Plenary session VII: Subcommittee on S&T Report***

*UNECA will present the STI report and member states will share their experiences in implementing STI and CODIST resolutions*

***Plenary session VIII: Subcommittee on KLIS Report***

***Plenary session IX: Adoption Subcommittees Reports***

***Plenary session X: Adoption CODIST Report and Closing***