



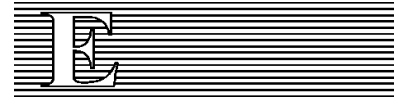
**UNITED NATIONS
ECONOMIC AND SOCIAL COUNCIL
ECONOMIC COMMISSION FOR AFRICA**



AFRICAN UNION COMMISSION

First Joint Session of the Committee of Directors General
of National Statistics Offices and the Statistical
Commission for Africa

Tunisia, Tunis
8-12 December 2014



Distr. General

E/ECA/STATCOM/4/10
17 October 2014

Original: English

**Report on
information and communications technology and
e- government for development in Africa**

Table of contents

Abbreviations and acronyms.....	ii
A. Background: Information and communications technology for development in Africa.....	1
Assessing the trends and use of ICT.....	1
Broadband uptake in Africa.....	1
Liberalization and reform trends	2
Key telecom trends in Africa.....	2
African Union Reference Framework (2008).....	2
Main challenges faced in the ITC sector	2
Opportunities, threats, weaknesses and strengths.....	2
Supporting information and communications technology transformation in Africa.....	3
Emerging areas of focus for ICT	3
Information and communications technology for different aspects of development	3
B. Partnership on Measuring ICT for Development	3
C. Information and communications technology for development led by the Economic Commission for Africa	5
D. Work of the Task Group on E-Government	9
E. Geoinformation and e-government.....	10
F. Expected outcomes	11
Annex	
Partnership on Measuring ICT for Development Workplan 2012-2014	13
References	17

Abbreviations and acronyms

AISI	African Information Society Initiative
ARSDI	African Spatial Data Infrastructure at Regional Level
CUT framework	Capacity, utilization and transformation framework
DESA	United Nations Department of Economic and Social Affairs
ECA	United Nations Economic Commission for Africa
ECLAC	United Nations Economic Commission for Latin America and the Caribbean
ECOWAS	Economic Community of West African states
ED	Education
EG	E-government
e-SADC Strategic Framework	Southern African Development Community’s ITC development strategy
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
ESCWA	United Nations Economic and Social Commission for Western Asia
GGIM	Global Geospatial Information Management initiative
GIS	Geographic information systems
ICT4D	Information and Communications Technologies for Development programme
IDI	ICT Development Index
IoT	Internet of Things
ITU	International Telecommunication Union
M2M	Machine-to-machine
Maaya	World Network for Linguistic Diversity
NICIs	National information and communications infrastructures
NSDI	National spatial data infrastructure
OECD	Organisation for Economic Co-operation and Development
OpenMRS	Medical record system
OTT communications	“Over-the-top” communications
PIKs	Payment-in-kind bonds
PPPs	Public–private partnerships
SBC	Secretariat of the Basel Convention
SC	Steering Committee
Scan-ICT	ECA/Government of Finland initiative for quality data on ICT activities in Africa
SEGS	Spatially-enabled government e-services
TGCB	Task Group on Capacity-building (led by UNCTAD)
TGDD	Task Group on Database Development (led by the World Bank)
TGEG	Task Group on E-Government (led by ECA)
TGG	Task Group on Gender of the Partnership on Measuring ICT for Development (led jointly by ITU and UNCTAD)
TG WSIS	Task Group on Measuring the WSIS Targets
TIGA	Technology in Government in Africa Awards
TRACNet	Treatment and Research AIDS Centre electronic health record system
UC	Unified communications
UIS	United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics

UNCTAD
UNSC
WiBro
WHO
WSIS

United Nations Conference on Trade and Development
United Nations Statistical Commission
South Korean wireless broadband Internet technology
World Health Organization
World Summit on the Information Society

A. Background: Information and communications technology for development in Africa

1. Information and communications technology (ICT) is fundamental for human development and its benefits can only be harnessed effectively through an inclusive approach. Harnessing ICT for human development requires awareness-raising and constituency-building across all levels of society. Information and ICT initiatives in Africa are political, and the effectiveness and potential of ICT initiatives can be inhibited or circumscribed by national and/or local power relations. Political awareness and analysis is an important aspect for the ICT development planning process at all levels. The barriers to universal access to ICT are not only those to the national availability of telecommunications infrastructure and computing equipment but also those to individual access created by economic, educational and sociocultural hindrances. ICT initiatives will not be appropriate unless they deliver information that is relevant and useful to the end users. Furthermore, the sustainability of ICT initiatives can be compromised by unrealistic time frames, insufficient training and when the technologies chosen do not suit the task, while sometimes the simplest technologies can produce the best results. ICT development is becoming a major focus for a wide range of development actors in Africa. Lack of coordination in this sector may lead to duplication of effort and incompatibility of technical solutions, and compromise sustainability.

Assessing the trends and use of ICT

2. According to ITU in 2013¹, there is strong growth in the ICT sector in Africa, particularly in the mobile/cellular network, with a penetration rate of 63.5 per cent in 2013 and 16.3 per cent of Africans using the Internet – just over half the average of 31 per cent for the user population in the developing world in 2013. According to the ITU report, about 6.7 per cent of African households had Internet access at home in 2013, although Africa scores low on the ITU ICT Development Index (IDI), with the highest-ranking African country ranked seventieth globally. IDI combines a list of indicators that serves to compare and measure ICT development across countries, and IDI indicators are being used to predict future development in the ICT sector. More efforts must be undertaken to enable Africa to become more active in the information society. Reducing the widening of the digital divide in the African region is a priority for most governments and international organizations across Africa as the continent continues to make good progress in the ITC sector.

Broadband uptake in Africa

3. According to ITU, mobile broadband penetration was still below the global average, as only 10.5 per cent of African countries had wired high-speed Internet and access remained very limited, with only 0.3 per cent fixed broadband penetration. Barriers to broadband penetration on the continent have been the limited fixed infrastructure, high cost and insufficient backbone networks. Records indicate that 145 governments have adopted, or are planning to adopt, a national broadband policy. In Africa, 23 countries have adopted a plan, while 6 are planning to do so by 2014.

¹ ITU, 2013 African ICT Week, “Africa’s ICT development challenges and opportunities”, presentation (29 November 2013) available from http://au.int/en/sites/default/files/Final_ITU-ATU_2013ICTWEEK_Presentation_v12.pdf.

Liberalization and reform trends

4. Some 57 per cent of countries in Africa in 2013 had partially or totally private operators, and competition in most ICT markets was the norm on the continent. It was estimated that about 40 countries in Africa in 2013 had a separate ICT regulator.

Key telecom trends in Africa

5. The number of mobile subscriptions is still growing as the rollout of 3G and 4G networks enables further growth in the mobile data sector in Africa. Mobile data services are central to the growth of the African telecoms industry. New network rollouts are increasing, thereby facilitating the growth in data services. Reducing infrastructure gaps should be considered in all phases of decision-making, as they may hold up the development of the telecoms sector in Africa.

African Union Reference Framework (2008)

6. Updating the established policy objectives and the operational road map for pan-African ICT policy and regulatory harmonization should be considered a priority in Africa, as the sector is transforming rapidly. The coordination frameworks for the regional economic communities' ICT activities should be enhanced by creating a conducive environment for the interconnection of networks and interoperability of services at the national and regional levels.

Main challenges faced in the ITC sector

7. Strengthening an enabling environment for broadband infrastructure and network development and putting broadband ICT systems and services within every citizen's reach are important for achieving total coverage of the population with broadband services. Priority should be given to achieving total interconnection of national infrastructures and ensuring affordable broadband services, and transforming Africa through innovation in ICT development and usage. Achieving Africa e-content presence on the web and accessibility for all Africans to e-content will facilitate the use of the continent's scarce resources. Building and strengthening confidence in the ICT cybersecurity sector is important as this is a major shortcoming in the sector. The production of African ICT statistics should be encouraged, and governments must be more active in ICT standardization work at the global and regional levels.

Opportunities, threats, weaknesses and strengths

8. Large broadband development gaps need to be filled, as delays in development will hold back the use of ICT to transform the continent. An enabling environment is therefore a requirement for ICT development. Many parts of Africa have socioeconomic challenges in areas such as education and professional training, which are delaying the development of the ICT sector. Global consensus and partnership in the fight against cybercrime is building and Africa should be part of the discourse.

9. The lack of stability and peace on the continent is a major threat to the development of the ICT sector and aspects such as leadership and political will, the "brain drain" and competing interests in the development agenda must be tackled in the interests of ICT development. Many decision makers are not aware of the importance of ICT as a tool for solving a variety of socioeconomic development issues, and the lack of ICT skills for sustainable development and innovation hinders prosperity in many sectors. Connections and services are not available in many

localities and, where they are available, are not affordable for the majority of citizens. Many States are not playing their role and are at times failing in creating an enabling environment for ICT development. Moreover, the lack of reliable statistics on the ICT sector hinders the monitoring and evaluation of the sector at the continental and regional levels. However, the continent has a very large youth population, which has the potential to harness the ICT sector, and is surrounded by many international submarine cables, with multiple landing points, with integration at regional and continental levels on the way.

Supporting information and communications technology transformation in Africa

10. Global consensus building in the ICT sector is key to supporting the African ICT transformation agenda; the ICT issue should be on the agenda for discussion at global summits on ICT accessibility, etc., and assistance in consensus building at regional and national levels should be encouraged. Assistance in developing and strengthening regional and national enabling environments, as well as cybersecurity, is imperative. In addition, assistance and capacity-building in the management of scarce resources and in infrastructure and network engineering and planning must be encouraged to foster the African ICT transformation agenda.

Emerging areas of focus for ICT

11. The emerging areas of focus to enhance development of ICT are: cybersecurity and privacy, the Internet of Things (IoT) and machine-to-machine (M2M), mobile commerce (mobile money), big data, over-the-top (OTT) communications, pay TV, cloud computing, mobility on wheels, connected car, software-defined networking and connectivity for landlocked developing countries.

Information and communications technology for different aspects of development

12. In Africa, the ICT sector is fostering human development in areas such as ICT and climate, weather and response mechanisms, people with disabilities, education, livelihood, agriculture, e-businesses, e-learning, e-health, e-employment, e-environment/agriculture, e-science, e-government and e-governance, e-security etc.

B. Partnership on Measuring ICT for Development

13. The Partnership on Measuring ICT for Development was launched in 2004, with the aim of improving the availability of internationally comparable ICT statistics. The Partnership is a multi-stakeholder initiative to build capacity for the collection and dissemination of internationally comparable ICT statistics. Its overall goal is to help produce more and better statistical information in the area of ICTs, to allow governments and other stakeholders to make informed policy decisions on using ICTs as a tool for social and economic development. The Partnership aims to improve the availability and quality of statistical information on ICT. To achieve that objective, the Partnership has set out: (i) to define and analyse internationally comparable statistical ICT indicators and develop methodologies to collect those indicators; (ii) to assist developing countries in the collection of ICT statistics; and (iii) to develop a global database on ICT indicators based on an agreed set of core indicators².

² See “Partnership on Measuring ICT for Development”, available from https://www.itu.int/ITU-D/ict/partnership/material/Flyer_partnership.pdf. See also http://new.unctad.org/default_____600.aspx.

14. The Partnership is comprised of the following key stakeholders: Eurostat; ITU; the Organisation for Economic Co-operation and Development (OECD); the United Nations Conference on Trade and Development (UNCTAD); the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics (UIS); the United Nations ICT Task Force; four United Nations regional commissions, namely the Economic Commission for Africa (ECA), the Economic Commission for Latin America and the Caribbean, (ECLAC), the Economic and Social Commission for Asia and the Pacific (ESCAP) and the Economic and Social Commission for Western Asia (ESCWA); and the World Bank. The Partnership was officially launched during the eleventh session of UNCTAD, held in Brazil in June 2004.

15. Task groups were created to address specific objectives and activities of the Partnership. Each task group is led by an organization which put itself forward for the task, and its members are interested partners. The task groups are:

(a) The Task Group on Education (led by UIS), whose objective is to develop a plan of activity to collect a core dataset of indicators on the role of ICT in education;

(b) The Task Group on E-Government (TGEG, led by ECA), whose objective is to coordinate and further develop the various activities of the partners in the area of e-government indicators;

(c) The Task Group on Capacity-building (TGCB – led by UNCTAD), whose objective is to coordinate and further develop the various activities of the partners in the area of capacity-building for ICT measurement in developing countries;

(d) The Task Group on Database Development (led by the World Bank), whose objective is to coordinate and further develop the various activities related to databases;

(e) The Task Group on Gender (TGG – led by ITU and UNCTAD)³, which aims to facilitate and improve the availability of sex-disaggregated data, especially in developing countries. It takes stock of existing ICT indicators disaggregated by sex, assesses data availability and identifies main gaps based on an evaluation of needs and demand for such indicators. It also identifies areas to be covered, as well as potential new areas where sex-disaggregated data are desirable, and the methodological work needed in order to develop relevant indicators to fill the data gaps.

16. One of the main achievements of the Partnership on Measuring ICT for Development has been the establishment of a core list of ICT indicators, which was endorsed by the United Nations Statistical Commission at its thirty-eighth session, held from 27 February to 2 March 2007. The Commission endorsed a revised version at its forty-third session, held from 28 February to 2 March 2012. The core list has served as the basis for the collection of internationally comparable ICT statistics and covers the following areas: ICT infrastructure and access; access to, and use of, ICT by households and individuals; use of ICT by businesses; the ICT sector; trade in ICT goods; ICT in education; and e-government.

17. The Task Group on Education produced the Guide to Measuring Information and Communication Technologies (ICT) in Education, published in 2009, representing a groundbreaking attempt to put in place internationally standardized concepts and indicator measurement specifications to ensure consistent use and interpretation of ICT in education statistics among policymakers, statisticians, researchers, experts and statistical institutions throughout the world.

³ See <http://unctad.org/en/pages/PublicationWebflyer.aspx?publicationid=924>.

18. In 2012, the Task Group on E-Government produced the Framework for a Set of E-Government Core Indicators⁴. The Framework sets forth a set of globally comparative e-government core indicators, reflecting the emphasis on e-government by the World Summit on the Information Society (WSIS) and the suggestion by the United Nations Statistical Commission that the Partnership on Measuring ICT for Development extend its core list of ICT indicators to include indicators on ICT use in government⁵. The objective of the Framework is to support the efforts of countries in the collection of data for the core e-government indicators. Particular attention is paid to providing a measurement approach that is viable for developing countries and supports their efforts to utilize e-government for the benefit of their societies and economies.

19. The Partnership assists statistical agencies in developing countries with ICT data collection and dissemination, including the development of national databases to store and analyse survey results. Partners run technical workshops at the regional level to exchange national experiences and discuss methodologies, definitions, and survey methods and data collection efforts. The Task Group on Capacity-building conducted a stocktaking exercise on capacity-building requirements in developing countries and also compiled a roster of experts on ICT statistics. That information provides the basis for the Partnership's capacity-building activities, at the national, regional and international levels. In order to improve the availability of internationally comparable statistics on ICT for development, such technical assistance must be combined with the commitment of countries to implement the recommended core list of ICT indicators⁶.

20. The Task Group on Database Development agreed to include the core indicators collected by members of the Partnership in the newly established United Nations data portal maintained by the United Nations Statistics Division.

21. The Partnership on Measuring ICT for Development recently released a report entitled "Measuring ICT and gender: an assessment". The report constitutes part of the efforts by the Task Group on Gender to improve the availability of sex-disaggregated data. By disaggregating ICT access and usage data into various categories, including gender, the report takes stock of the ICT indicators currently available on gender, identifies gaps and proposes indicators to enrich the data on ICT and gender. It is the first step in the work of the Task Group and is intended to serve as a basis for further discussions at the country level⁷.

C. Information and communications technology for development led by the Economic Commission for Africa

22. A considerable challenge for global society is to determine how to harness the power of computer-based ICTs in order to raise the ability of governments in developing countries to govern, serve their citizenry and, ultimately, improve human development conditions for their people. ECA has been in the forefront of the process of developing ICT and e-government policies and strategies in Africa, under the leadership of the Task Group on e-Government, whose objective is to

⁴ Partnership on Measuring ICT for Development, ECA, Framework for a set of e-government core indicators, by the Task Group on E-Government, led by ECA, in collaboration with the ECLAC, ITU and UNDESA.

⁵ Submission by the Partnership on Measuring ICT for Development to the Commission on Science and Technology for Development (CSTD) at its fifteenth session, Geneva, 21 to 25 May 2012 (Submissions from entities in the United Nations system and elsewhere on their efforts in 2011 to implement the outcome of the WSIS).

⁶ See http://new.unctad.org/templates/Page___605.aspx.

⁷ See www.researchictafrica.net/home_archive_reader.php?aid=110.

coordinate and further develop the various activities of the partners in the area of e-government indicators.

23. Guided by the African Information Society Initiative launched in 1996, ECA and other partners supported countries in Africa with the formulation of national ICT policies on national information and communications infrastructures (NICIs). As a result, over 43 countries had adopted their NICIs by the end of 2010, with a further 6 in the process of development, most countries having identified e-government as one of their development pillars. ECA also provides support to African governments and regional economic commissions in the development of national and regional e-government strategies, as about 80 per cent of African countries have e-government strategies⁸.

24. In 2012, the Framework for a Set of E-Government Core Indicators was published by ECA. The training manual on e-government indicators was under development and capacity-building training for NSOs was conducted in December 2012.

25. ECA activity in the development of e-government in Africa has included e-government policy, strategy formulation and implementation. Those initiatives supported the following countries and institutions: Botswana, Burkina Faso, Ghana, the Niger, Swaziland and Togo, the African Union Convention on Cyber Security and Personal Data Protection, the East African Community E-Government Framework and the Southern African Development Community's ITC development strategy (e-SADC Strategic Framework).

26. In the area of e-government capacity-building, ECA supported the African parliamentary ICT committees in training parliamentarians, and created e-learning platforms in support of e-government. The Scan-ICT programme and the e-government indicators programmes were launched to promote and measure, respectively, the impact of ICT, and of knowledge-sharing and networking. The partnerships and collaboration came from member States, the African Union Commission, the regional economic commissions, and the Government of Finland; others included the Partnership on Measuring ICT for Development.⁸

27. An overview of the Rwanda NICI success story is important, as internet services have enhanced e-government in the country. Internet services such as WiBro, Data Center, the Kalisimbi Project, KMN Digital Services, the ICT Park, Online Registration (World Bank Doing Business top global reformer), online tax declarations and tax incentives were created in Rwanda to foster e-government. E-government services such as SMARTGov, online asset declarations, the National ID Project, teleconferencing/unified communications (UC), document tracking and workflow management, and Government Web presence have all gained prominence in the country. A critical mass of human capacity was developed in rural communities, producing services such as the Rwanda Telecentre Network of community-based ICT initiatives, the ICT Bus Project, PIKs, low-cost mobile phones, the Esoko communications platform for agricultural markets, the OpenMRS medical record system, the TRACNet electronic health record system, telemedicine and the SchoolNet school computerization programme.⁸

⁸ See Director, ICT, Science and Technology Division, ECA, "E-government development trends and challenges of Africa Region, and ECA's Policies and Strategies", submission to 1st Global e-Government Forum: "Smart e-Government for a Better Future", 18-19 October 2012, Seoul, Republic of Korea, available from <http://unpan1.un.org/intradoc/groups/public/documents/un-dpadm/unpan050611.pdf>.

28. One of the NICI implementation challenges in Rwanda was an acute shortage of skilled human capital, as there was a need to integrate and harmonize the Information and Communication Technologies for Development (ICT4D) programme at the regional and continental levels. There was also a lack of ownership, as it was necessary for the process to involve all the stakeholders and educate them on how ICT could help them improve their lives. Power shortages caused systems to fail at times, damaging ICT installations. The capacity to monitor and evaluate NICI implementation at the outcome level was also lagging behind and there was limited information on ICT security and privacy issues.⁸

29. The emphasis in the Rwanda NICI implementation plan from 2000 to 2010 in the areas of e-government and e-governance was on improving the efficiency of the civil and public sectors in the delivery of services and information through the use of ICTs for e-government, as well as widening public-private partnerships (PPPs) and improving accountability and transparency, and citizen participation in governance issues.⁸

30. Projects were developed in Rwanda to support and empower the Immigration and Emigration Departments by simplifying entry and exit processes, the issuance of travel documents, and the collection of migration information. Telecentres, business development centres and the ICT Bus project were developed and established, fostering national developmental efforts. About 53,000 families received low-cost telephones and 400,000 rural farmers and students obtained ICT skills training. The telecommunications sector was liberalized, and the cost of voice calls was lowered. Fibre-optic internet cable was rolled out into the countryside, and radio, TV and telecommunications coverage increased significantly.⁸

31. The e-government indicators for 2012 ranked Seychelles 84th in the world and 1st in Africa. Next in the ranking were, in order, Mauritius, South Africa, Tunisia, Egypt, Cabo Verde, Kenya, Morocco, Botswana and Namibia.⁸

32. The Technology in Government in Africa (TIGA) Awards were launched by ECA, with the aim of promoting access to e-services and encouraging the use of ICTs by African governments in fulfilling their public service delivery obligations, to recognize outstanding work in developing ICT applications for service delivery by African governments and other stakeholders, and to advance spatial enablement of e-government services in mainstreaming geospatial information technologies in government for day-to-day business processes and service delivery. For the 2013 TIGA, a new category, geospatial government (g-government), was introduced, encompassing the use of the Internet and geographic information systems (GIS) in making the delivery of services by governments more effective. With the United Nations Department of Economic and Social Affairs (DESA), ECA explored the various avenues for creating synergies between TIGA and the United Nations Public Service Awards to recognize excellence in public service in Africa.⁸

33. Over the years ECA has played a fundamental role in strengthening the enabling environments for effective and practical policies and actions on spatial enablement, by:

(a) Setting up national spatial data infrastructure (NSDI) policies, with national governments encouraged to develop policies that provide access to NSDI information; assisting member States to build consensus among the data-providing stakeholders.

(b) Through the NSDI committees, responding to the need for implementation of NSDI policies by setting up the African Spatial Data Infrastructure at Regional Level (ARSDI) and increasing regional-scale development decision-making.

(c) Ensuring that reliable information is easily available for policy, investment, planning, management, monitoring and evaluation purposes at regional levels.

(d) Developing holistic capacity-building and strategies for the retention of GIS professionals in Africa.

(e) Establishing a continental plan of action for the active participation of African government officials and other stakeholders in the Global Geospatial Information Management (GGIM) initiative.

(f) Developing spatially-enabled government e-services and ensuring that reliable information is easily available for policy, investment, planning, management, monitoring and evaluation purposes at the regional and subregional scales.

(g) Setting up online metadata clearinghouses, registry services and enabling Member States' capabilities for the identification and utilization of spatial data to perform online delivery of location-based services.

34. The exemplary e-government-related activities of ECA in support of NSDI for development and the linking of those efforts with the NICI policy development process can be seen across the activities of ECA. ECA provided advisory services and technical assistance to develop the Plan Géomatique National de la Côte d'Ivoire as support for the NSDI development process in Côte d'Ivoire. As part of its assistance, ECA developed the Geoinformation Applications Inventory Tool to support countries on spatial data management issues, together with a standard web-based tool for collecting information, and applications services, as well as inventorying datasets needed for applications development. ECA also assessed institutions against their respective mandates and generated reports on individual datasets or applications, leading to improved assignment of custodians through the development of a consensual process with government entities.

35. To assist with the development of policy frameworks on addressing systems, at the request of governments, ECA supported member States in implementing their mapping activities, as for example in developing the National Addressing System of Ghana. ECA provided advisory services in areas which included expediting the acquisition, processing and analysis of a very high-resolution satellite multi-spectral image covering Greater Accra. That process provided a strong basis for three-dimensional feature recognition to facilitate the extraction and exploitation of geospatial information. The provision of state-of-the-art geoinformation tools and equipment for addressing activities helped in the capacity-building process aimed at developing internal expertise at the Ministry of Local Government and Rural Development through hands-on training and internship programmes on street addressing and house numbering.

36. The ECA Global Geospatial Information Management initiative is aimed at (i) increasing access to, and use of, spatially based information resources in decision-making processes; (ii) strengthening the capacity of member States to design institutional arrangements and implement national policies and programmes to reinforce the linkages within the nexus of planning, mobile services for championing the use of geospatial technology and information services to drive Africa to become more spatially enabled. Those aims are achieved through partnerships and collaboration on crucial issues related to enhancing public service delivery. There is a need to connect governments in order to enhance service delivery, and for policymakers to be aware of the evolving technological options for making government and public services accessible to citizens. There is also a need to engage with citizens, particularly young people, who make up two thirds of the African population using new technologies and tools. The changing needs of economic and social development call for a wide range of new skills and competencies, known as the 21st century competencies, key enablers of responsible citizenship in a knowledge-based and technology-

pervaded economy.⁸ Investing in institutional and leadership capacities is key for e-government development in Africa.

D. Work of the Task Group on E-Government

37. Definitions of e-government abound: the simplest definitions that encompass virtually all existing e-government projects in Africa refer to content and modalities. E-government can be defined as “all the information and communication technology platforms and applications in use in the public sector or the use of the Internet for delivering government information and services to citizens⁹”. Such definitions are value-neutral and technology-oriented. The author prefers a definition of e-government that focuses on its transformative possibilities for governance and emphasizes service delivery in line with the focus of the United Nations *UN E-Government Survey 2008: From E-Government to Connected Governance*. Closely aligned with the United Nations (2009) definition¹⁰, the following aspects are central: e-government is the use of ICT to: promote more efficient and effective government and facilitate the accessibility of government services as well as allow greater public access to information, to make governments more accountable to citizens.

38. Development of the e-government indicators was discussed at the following meetings: the meeting of the Fifth African Technical Advisory Committee on the African Information Society Initiative (AISI), held in Addis Ababa in December 2006; the ECA–ITU–UNCTAD Regional Workshop on Information Society Measurement in Africa, held in March 2007 in Addis Ababa; and the cluster of WSIS-related events (Action Line C7), held in Geneva on 23 May 2007 and 24 May 2008. The main objective was to address the developmental challenges of countries and accelerate their socioeconomic development process through the development, deployment and exploitation of ICTs. Hence the launch of AISI, with the main aim of supporting countries in developing/implementing e-strategies. The process follows a phased methodology on the development and use of ICT indicators, including on e-government, for benchmarking, implementation and evaluation¹¹.

39. The most important phase for the identification and collection of indicators is that related to the baseline study, which constitutes the first step in developing e-strategies for Africa. It provides the basis for setting targets and projections for the various programmes and initiatives of the e-strategy. A methodological framework derived from the SCAN–ICT programme was used for the e-strategy development process and for the contribution of Africa to the Partnership’s list of core ICT indicators¹².

40. The selection of core e-Government indicators was based on the capacity, utilization and transformation (CUT) model developed by ECA. It provides an avenue for the development of suitable indicators for assessing the status of the development, deployment and use of ICTs in

⁹ Oluwu Dele, “Bridging the digital divide in Africa: making the governance discourse relevant”, in *Africa Networking: Development Information, ICTs and Governance* (Addis Ababa, ECA, 2004).

¹⁰ See Nancy J. Hafkin, “E-government in Africa: an overview of progress made and challenges ahead”, prepared for the UNDESA/UNPAN workshop on electronic/mobile government in Africa: Building Capacity in Knowledge Management through Partnership, held at ECA, 17-19 February 2009.

¹¹ Senior Regional Advisor, Economic Commission for Africa, presentation, “Developing e-Government indicators”, for AISI, available from <http://unpan1.un.org/intradoc/groups/public/documents/un/unpan033662.pdf>.

¹² Ibid.

African countries. It guides and facilitates the ICT4D policy and plan development process and monitors the ICT policy implementation¹³.

41. The Manual for Measuring E-government¹⁴ builds on an earlier publication, “Framework for a set of e-government core indicators”, published in 2012 by the Partnership on Measuring ICT for Development and ECA. Both the Manual and the Framework that preceded it reflect the importance attached to e-government by the World Summit on the Information Society (Geneva, 2003, and Tunis, 2005), echoed by the suggestion from the United Nations Statistical Commission that the Partnership should extend its core list of ICT indicators to include indicators on ICT use in government¹⁵. The main objective of the Manual for Measuring E-government is to support the efforts of countries to compile the core e-government indicators defined in the Framework. The Manual details data sources, data collection and processing methods, and dissemination schemas for the core indicators. A useful feature is an annex containing a number of examples of country e-government surveys¹⁶.

E. Geoinformation and e-government

42. The importance of geoinformation has increased enormously in recent years. A number of web-based applications are now widely available for the general public. E-government services and geoinformation data are essential for spatial development. The introduction of a national spatial data infrastructure in some countries has opened up possibilities for new applications to enhance the exchange of geoinformation between government and other stakeholders, thereby enhancing e-government. E-government services are considered to have advantages for both parties involved. They increase the efficient and effective use of geoinformation, thereby benefiting government. In particular, the facility to ask citizens to provide geoinformation data via the internet allows for more automated processing of the data collected, which consequently increases efficiency and reduces errors. The benefit for the citizens involved lies in improved access to information and the fact that the information presented or requested can be tailored to their needs¹⁷.

43. The public have the right to access information in general, and spatial information is no exception. Such information is crucial to decisions on national policy and to the general public, and every country tries to apply this concept. Traditionally, governments acquire information as mandated by laws and regulations for the day-to-day operation of public administration. The government as a regulator prevents the abuse of information and ensures fair and equal access to information by helping users to apply the information in key day-to-day operations and policy-making. Access to e-government services and geoinformation is every citizen’s right. There is growing recognition of the importance of information and knowledge-based industries to nations’ economic well-being. Spatial information on the web has an important role in improving public access to environmental and other data, and involvement in decision-making. The rising public demand for access to government information has created a strong opportunity to build national clearinghouses. Facilitating public access to spatial information is a key national information

¹³ Ibid.

¹⁴ ECA, Partnership on Measuring ICT for Development and the United Nations Economic Commission for Africa, Manual for Measuring E-Government (2012).

¹⁵ Submission by the Partnership on Measuring ICT for Development to the Commission on Science and Technology for Development (CSTD) at its fifteenth session, Geneva, 21 to 25 May 2012, first page.

¹⁶ Report of the Partnership on Measuring ICT for Development: information and communications technology statistics for the forty-fifth session of the Statistical Commission, held from 4 to 7 March 2014 (E/CN.3/2014/8), para. 24.

¹⁷ Marije Louwsma, “E-government services to support spatial planning through an effective exchange of geoinformation between involved parties”, Cadastre, land registry and mapping agency, Apeldoorn.

infrastructure requirement. A national spatial data infrastructure (NSDI) addresses issues pertaining to spatial information within the conceptual framework of the national information infrastructure. There is a need to increase awareness of the value, use and management of spatial data among government agencies; foster the development of a variety of educational and training opportunities to increase awareness and understanding of the vision, concepts and benefits of NSDI; and improve the collection, management and use of spatial data¹⁸.

44. With regard to the relationship between spatial information and e-government, the following are of great importance:

- (a) Establishing public sites for presenting spatial information;
- (b) Presenting spatial information through the internet and national web;
- (c) Providing a system for public access to geospatial information such as postal codes, urban development plans, urban services (infrastructure, emergency, etc.) and cadastre;
- (d) Establishing a comprehensive cadastral system;
- (e) Providing a framework for free access to statistical and administrative information;
- (f) Providing public access to thematic information such as boundaries, roads, emergency and rescue centres, geological and meteorological information etc.;
- (g) Establishing a national clearinghouse for information about spatial products and services around the country;
- (h) Providing a national framework for electronic shopping from geospatial data providers and dealers;
- (i) Collaboration for creating a national spatial data infrastructure;
- (j) International cooperation at the regional and global levels for data, knowledge and technology transfer;
- (k) Collaboration in the global map project¹⁹.

F. Expected outcomes

45. ICT statistics will continue to play a key role in view of the growth of the global information society. ECA has developed the Manual for Measuring e-Government and the Framework for a Set of E-government Core Indicators, and those tools should be used for the collection of data by the national statistics offices in Africa to collect ICT and e-government indicators. A StatCom recommendation is required to urge the ECA African Centre for Statistics to work with the Special Initiatives Division to play the leading role in fostering the use by NSOs and other stakeholders in Africa of those tools in collecting ICT and e-government indicators.

46. Given the important role of ICTs and e-government in the development and achievement of international development goals, there is a need for data to identify ICT functions to support national statistical systems in Africa. The support systems identified will require continued and increased efforts by the national and international statistical community to increase the availability

¹⁸ E-government concept and spatial information: a case study in the Islamic Republic of Iran, International Archives of the International Society for Photogrammetry and Remote Sensing, Vol. XXXVII, Part B4, Beijing, July 2008, sect. 4.

¹⁹ Ibid.

of ICT infrastructures for statistical development. Emphasis should be laid on using ICT for data collection in the statistical production process.

47. The review and standardization of ICT and e-government indicators remain critical. The Partnership should therefore continue to regularly review and update the core list of ICT and e-government indicators, and develop new indicators where necessary. In order to improve the availability of ICT statistics, the coordination of data collection at the national level should be enhanced by the setting up of institutional coordination mechanisms between relevant institutions, including national statistical offices, telecommunications regulatory authorities and ministries responsible for ICT policies, including ministries directly in charge of implementation. A working group on ICT should be created during the Fourth Meeting of the Statistical Commission for Africa (StatCom–Africa IV) to enhance the coordination of efforts for the production of ICT statistics.

Annex

Partnership on Measuring ICT for Development Workplan 2012-2014

ACTIVITIES	CALENDAR												PARTNER DIRECTLY RESPONSIBLE	PARTNERS INVOLVED	Secretariat support required
	2012				2013				2014						
	I	I	II	IV	I	II	III	IV	I	II	III	IV			
Lead and direct the Partnership															
Coordinate activities	x	x	x	x	x	x	x	x	x	x	x	x	Steering Committee (SC)		x
Establish and update workplan	x	x			x				x				SC	All partners	x
Follow up on implementation	x	x	x	x	x	x	x	x	x	x	x	x	SC	All partners	x
Represent Partnership outside the organization	x	x	x	x	x	x	x	x	x	x	x	x	SC	All partners	x
Discuss work programme (audio) and inform partners (minutes)	x	x	x	x	x	x	x	x	x	x	x	x	SC		x
Organize Partners' meetings		x		x		x		x		x		x	SC	All partners	x
Organize SC election				x								x	SC	All partners	x
Core indicators															
Regular data collection and dissemination	x	x	x	x	x	x	x	x	x	x	x	x	A – ITU HH – Eurostat, ITU, OECD BB – Eurostat, OECD, UNCTAD ICT – OECD, Eurostat, UNCTAD Education (ED) – UIS E-government (EG) – ECA		x
Revision of indicators and associated standards		H	H	H	H B B IC T	H B B IC T	H B B IC T	H B B IC T					A – ITU HH – Eurostat, ITU, OECD BB – Eurostat, OECD, UNCTAD, ICT – Eurostat, OECD, UNCTAD ED – UIS EG – ECA	All partners to participate in the revision of indicators	
Prepare revised publication on core indicators						x	x	x					A – ITU HH – ITU BB – UNCTAD ED – UIS EG – DESA, ECA	All partners	x
UNSC															
Prepare input documents for UNSC 2014					x	x	x	x					ITU, SC	All partners	x
Website															

ACTIVITIES	CALENDAR												PARTNER DIRECTLY RESPONSIBLE	PARTNERS INVOLVED	Secretariat support required
	2012				2013				2014						
	I	I I	II I	IV	I	II	III	IV	I	II	III	IV			
Update current Partnership websites		x	x	x	x	x	x	x	x	x	x	x	ITU, UNCTAD		
Promotion															
Promote the work of the Partnership at all relevant events		x	x	x	x	x	x	x	x	x	x	x	All partners		x
Update Partnership brochure		x											ITU, SC	All partners	
Fundraising		x	x	x	x	x	x	x	x	x	x	x	WB	All partners	x
WSIS															
WSIS Forum 2012	x	x											TG WSIS (ITU), task group on e-waste (Secretariat of the Basel Convention (SBC)/UNEP)	Eurostat, TG WSIS members (DESA, ITU, OECD, UIS, UNCTAD, ESCAP, ESCWA, ECA, ECLAC, Maaya (World Network for Linguistic Diversity), WHO, United Nations University)	
WSIS Forum 2013					x	x							SC	All partners	x
Promote Partnership report "Measuring the WSIS targets: A statistical framework"		x	x	x	x	x	x	x	x	x	x	x	TG WSIS members	TGWSIS members (ITU, OECD, UIS, UNCTAD, UNDESA, ESCAP, ESCWA, ECA, ECLAC, Maaya, United Nations University, WHO)	
Carry out stocktaking metadata survey to assess data availability for WSIS targets indicators		x	x	x									ESCAP, ECLAC	ESCAP, ESCWA, ECA, ECLAC	x
Prepare WSIS+10 review document: Different chapters to be drafted by different partners (according to targets, plus others – introduction); commitment from Partners (or funds for consultants) to collect data and draft chapters					x	x	x	x	x				TG WSIS (ITU)	TGWSIS members (DESA, ITU, OECD, UIS, UNCTAD, ESCAP, ESCWA, ECA, ECLAC, Maaya, United Nations University, WHO)	x
E-government															
Coordinate and finance preparation of manual and training material		x	x										ECA		
Make substantive comments on draft manual and training material		x	x										TGEG (ECA)	TGEG members (DESA, ESCWA, ECA, ECLAC, Eurostat, ITU,	

ACTIVITIES	CALENDAR												PARTNER DIRECTLY RESPONSIBLE	PARTNERS INVOLVED	Secretariat support required	
	2012				2013				2014							
	I	I	II	IV	I	II	III	IV	I	II	III	IV				
Regional workshop/pilot training				x										ECA	OECD, UNCTAD) TGEG members	
E-waste																
Create new task group		x												SBC/UNEP		
Organize WSIS Forum session (see above)		x												SBC/UNEP		
Develop core set of indicators/framework document		x	x	x	x	x	x	x	x					SBC/UNEP	task group members	
E-health																
Create new task group														OECD?		
Organize WSIS Forum session (see above)														task group on e-health?		
Develop core set of indicators														OECD	task group members	
Gender																
Create new task group				x										ITU/UNCTAD	UIS, task group members	
Develop core set of indicators					x	x	x	x	x	x	x	x		ITU/UNCTAD	UIS, task group members	
Trade in ICT and ICT-enabled services																
Create new task group				x										UNCTAD	OECD, task group members	
Develop core set of indicators					x	x	x	x	x					UNCTAD	OECD, task group members	
Capacity-building																
Respond to requests (each relevant partner) and deliver training		x	x	x	x	x	x	x	x	x	x	x		Relevant partner		
On infrastructure and HH core indicators		x	x	x	x	x	x	x	x	x	x	x		ITU	Eurostat, ITU and regional commissions (ESCAP, ESCWA, ECA, ECLAC)	
On business core indicators		x	x	x	x	x	x	x	x	x	x	x		UNCTAD	Eurostat, UNCTAD and regional commissions (ESCAP, ESCWA, ECA, ECLAC)	
On education core indicators		x	x	x	x	x	x	x	x	x	x	x		UIS	UIS and regional commissions (ESCAP, ESCWA, ECA, ECLAC)	
On government core indicators		x	x	x	x	x	x	x	x	x	x	x		ECA	DESA, ECA and other regional commissions	

ACTIVITIES	CALENDAR												PARTNER DIRECTLY RESPONSIBLE	PARTNERS INVOLVED	Secretariat support required	
	2012				2013				2014							
	I	I I	II I	IV	I	II	III	IV	I	II	III	IV				
															(ESCAP, ESCWA, ECLAC)	
Coordination with other statistical capacity-building initiatives/programmes at national level		x	x	x	x	x	x	x	x	x	x	x	x	ESCAP, ESCWA, ECA, ECLAC, World Bank		
Promote inclusion of ICT statistics in national statistical strategies		x	x	x	x	x	x	x	x	x	x	x	x	ESCAP, ESCWA, ECA, ECLAC, Eurostat, World Bank		
Impact																
Other events																
WTIM – Partnership session			x					x					x	ITU	All partners	

References

Brown, M.M., “Can ICTs address the needs of the poor?”, *Choices*, Vol. 10, No. 2 (New York, UNDP, June 2001), p. 4.

Guengant, L., Dokoue, B.K., and Lukusa, M.-B, Internet Initiative for Africa – Evaluation mission report, project RAF/97/021 (New York, UNDP).

ITU Telecommunication Development Sector, ICT Applications and Cybersecurity Division, “Electronic Government for Developing Countries” (2008).

Kerby, Richard, Personal communication from Information Manager, UNDP Regional Bureau for Africa (2001).

Partnership on Measuring ICT for Development, “The Global Information Society: a Statistical View” (Santiago, 2008).

UNCTAD *Measuring ICT and Gender: An Assessment* (2014).

UNDP et al, “Creating a digital dynamic: Final report of the Digital Opportunities Initiative (DOI)”, (New York, UNDP, 2001).

UNESCO Institute for Statistics (UIS), *Guide to Measuring Information and Communication Technologies (ICT) in Education* (2009).

United Nations Statistical Commission, report of the Partnership on Measuring ICT for Development: information and communications technology statistics (2009).