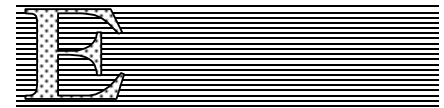




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**ECONOMIC COMMISSION FOR AFRICA**

Annual Meeting of the African Technical Advisory Committee (ATAC)  
Addis Ababa, Ethiopia  
9 - 10 December 2004, United Nations Conference Center

**Note on the Joint ITU/ECA Regional workshop on  
Information and Communication Technologies (ICT) Indicators  
Botswana, Gaborone 26-29 October 2004**

## **Background**

At its first meeting held in Addis Ababa from 10 to 11 May 2004, the Advisory Board on Statistics in Africa (ABSA), recommended that ECA should cooperate with the National Statistical Systems to begin the collection of statistics on Information and Communication Technologies (ICT) using a harmonized framework. As a follow up to this recommendation and also as part of a multi-stakeholder initiative involving the United Nations Regional Commissions, ITU, OECD, UNCTAD and UNESCO, ECA has undertaken a survey on metadata collection of available ICT indicators in Africa, with a view to assessing the extent to which ICT issues are taken into account in statistical surveys in member States. The survey was also a response to a worldwide call for Information Society statistics in the framework of the World Summit on the Information Society (WSIS).

## **Introduction**

It was in this context that ECA organized jointly with ITU a regional workshop on ICT indicators in Gaborone Botswana, 26-29 October 2004. The purpose of the workshop was to exchange information on dissemination of statistical ICT indicators and discuss involvement of National Statistical Offices (NSOs) in collection, processing and dissemination of information society indicators. As the lack of timely and relevant statistics in many developing countries, including Africa is still a major barrier to measure the penetration and impact of ICTs and to identify and ultimately overcome the digital divide, such a workshop represented an important step towards the implementation of the goals and objectives articulated in the World Summit on the Information Society's (WSIS) Plan of Action adopted at the first phase of the Summit.

## **Organization of the workshop**

The workshop was divided into two parts: two days dedicated to sector ministries and regulators and two days to NSOs. During the first part, data collection and dissemination of statistics relating to access to ICTs was discussed, while the second part of the workshop covered issues relating to use of ICTs by households, businesses and individuals. It included also discussions on data collected from official household surveys, usually conducted by NSOs.

The workshop was attended by over 100 statisticians and regulators from all over Africa and the secretariats of the Southern African Development Community (SADC), the Common Market for Eastern and Southern Africa (COMESA) and the Telecommunications Regulatory Association of Southern African (TRASA).

### **Regional metadata Collection**

Prior to the workshop a questionnaire adopted by all the organizations members of the joint partnership was distributed to all African NSOs in August 2004 and 22 responses were received.

The objectives of the survey were to:

- Collect data on activities undertaken by NSOs in relation to collection of statistics on ICT indicators.
- Identify core Indicators
- Exchange information and best practices on collection, management and dissemination of ICT indicators
- Identify Technical Assistance needed in support to NSOs

The following conclusions can be drawn from the survey:

- No ICT definition in the majority of NSOs.
- Various Financing mechanisms were available to support NSOs.
- Publications are done in the majority of countries.
- There was demand for Households ICT statistics.
- There was high demand for Business ICT Statistics in countries implementing an e-strategy, or having formulated a National Information and Communication Infrastructure (NICI) Plan.
- Existing collected ICT Statistics concerns mainly presence of Radio, TV, Fixed and mobile Telephony in Households.
- Some countries address presence and usages of PCs and Internet.
- Some countries collect other areas of ICT Statistics.

- Some countries collect Business ICT Statistics
- There is a need for an harmonized Methodology and a core of ICT Statistics to be collected.
- The SCAN ICT methodology was found by participants to be suitable for use by NSOs.
- The participants adopted a core set of Indicators for the African region as attached in annex.

## **Recommendations of the workshop**

The following conclusions and recommendation were made as results of the discussion during the first part of the workshop:

- Collaboration between different ICT players is crucial in the development of ICT indicators as well as in the collection and dissemination of telecom/ICT data. Ministries, regulators and NSOs should continue dialogue to define the indicators which are appropriate for their country policy needs.
- Internationally agreed indicators and definitions should be used as basis of data collection to increase comparability between countries.
- Cost elements should be included in community access indicators particularly cost of public Internet access.
- Community access point should be redefined to take into account other location of access, which can include schools and other places in the villages (example: neighbour).
- Community ICT access indicators should not just focus on Internet access but should include traditional ICTs such as telephone, radio and TV, which are available in the village for public use.
- New indicators that will measure the quantity of MMS sent, VoIP, GSM public payphones should be included in the list of Top 50 Telecom indicators.
- Investigation on appropriate indicators for VSAT and teleconferencing service should be carried out.
- Inclusion of gender indicators such as number of telecom staff and Internet users.
- Information and knowledge should be disseminated to ALL stakeholders.

- As confidentiality of operators data in some countries hamper data collection of regulators, operators should be assured that company data won't be published if considered confidential but data will only be used to aggregate country level data.
- There is a need to build capacity in the collection of telecom data in some regulatory agencies.
- Training of staff in the area of data collection, verification and dissemination is needed.
- Regulators/ministries may want to consider engaging an in-house statistician to be the focal point and responsible for telecom/data collection and dissemination. NSOs should help train and guide the focal point in area of data collection and dissemination.
- Workshops such as this one are considered important in building capacity and should also involve operators.
- ITU should develop standardized application (software) to help ministries/regulators in data collection and dissemination.

The following conclusions and recommendation were made as results of the discussion during the second part of the workshop:

- There is a need to build statistical capacity in the area of ICT through workshops and training materials.
- Partners such as ECA and ITU should assist NSOs in carrying out ICT surveys. In addition NSOs and ICT regulatory agencies should make a case inside their own Government by showing the importance of ICT statistics and ask to increase the budget of NSOs in order to start the data collection of ICT statistics.
- The importance of collaboration and coordination among and between ministries, regulators and national statistics offices were also highlighted.
  - There is need to extend the second phase of ECA's SCAN ICT project on measuring the penetration of indicators in African countries with inclusion of more countries.
  - National Statistics Offices should be included in the next phase of SCAN ICT.
  - There is need to support the private sector engaged in R&D/software development.
  - There is need to expand & increase ICT access points in order to bridge the urban-rural infrastructure gap.
  - It is crucial to continuously monitor and capture data to facilitate informed decisions.

- There is need to promote linkages with various national ICT initiatives and projects in a country.
- Desegregation of indicators according to age, gender and disability should be carried out.
- Data collection on key sectors such as education, agriculture, health, public administration and e-commerce should be carried out.
- While acknowledging need for partnerships, there is need for synergy, to avoid duplication of efforts. In this regard, each partner should be assigned clear roles and responsibilities.
- Participants recommended creation of a Regional Task Force on ICT indicators, to be composed of representatives from the 5 sub-regions (Senegal – Chair –, Mauritius – Rapporteur –, Morocco, Uganda, South Africa, Democratic Republic of Congo).
- Creation of an on-line discussion list by ECA to facilitate discussions on information society indicators and preparations for the African Regional Conference.
- ECA and ITU together with other relevant institutions should develop a data base of ICT indicators.
- Need for African NSOs to participate in the African Preparatory Conference for the WSIS to be held from 28 January to 4 February 2005 in Accra; and the Global Thematic Conference on indicators which will be held in Geneva from 7-9 February 2005.

## Annex

### Proposed List of Core ICT Indicators

No.	Indicators
	<b>Basic infrastructure and access</b>
1.	Main telephone lines per 100 inhabitants
2.	Mobile cellular subscribers per 100 inhabitants
3.	Radio per 100 inhabitants
4.	Television sets per 100 inhabitants
5.	Number of PCs per 100 inhabitants
6.	Number of Internet subscribers per 100 inhabitants
7.	<i>International Internet bandwidth per inhabitant</i>
8.	Broadband Internet subscribers per 100 inhabitants
9.	Internet access tariff (20 hours per month) as a percentage of per capita income
10	Percentage of localities with public Internet access centres (PIACs) by number of inhabitants (rural/urban)
11	Percentage of population with access to PIACs by type of PIAC (governmental/private)
12	Percentage of population covered by mobile telephony
	<b><u>ICT sector</u></b>
13	Percentage of total workforce involved in ICT sector (by gender)
14	ICT imports and exports as percentage of total imports and exports
15	Value added in the ICT sector (as a percentage of total value added)
	<b><u>Households</u></b>
16	Percentage of households with radio
17	Percentage of households with a television
18	Percentage of households with a telephone (Fixed only, mobile only, fixed and mobile)
19	Percentage of households with a personal computer
20	Percentage of households with Internet access (from the home)

	<b>Individuals (by age, gender, including the disable)</b>
21	Percentage of population that use a computer
22	Percentage of population with access to the Internet (by type of access, purpose, location of use)
	<b><u>Business</u></b>
23	Percentage of businesses with computers
24	Percentage of businesses with Internet access
25	Percentage of businesses with a website
26	Percentage of employees using PCs
27	Percentage of employees using the Internet
28	Percentage of businesses receiving orders over Internet
29	Percentage of businesses placing orders over Internet
30	Percentage of businesses with an intranet
31	<i>Value of orders received over the Internet (as a percentage of total value of orders)</i>
	<b><u>Education</u></b>
32	Percentage of primary and secondary schools having Internet access for students for study purposes
33	Percentage of students enrolled in tertiary education having Internet access for students for study purposes
34	Enrolled Student to PC ratio (in primary, secondary schools and tertiary education)
35	Percentage of students enrolled in tertiary education in an ICT field or an ICT- dominated field (of the total number of students) (by gender)
36	Percentage of ICT-qualified teachers in primary and secondary schools (of the total number of teachers)
37	Percentage of tertiary education institutions with e-learning courses (of the total number of tertiary education institutions)
38	<b><u>For what purpose do students/teachers use computers/Internet (% for E-mail, research, employment opportunities, application software, etc.)</u></b>
	<b><u>Government</u></b>

39	Ratio of availability of PCs to number of staff
40	Percentage of government offices with Internet access
41	Percentage of government offices and agencies with a website
42	Percentage of government employees with Internet access from the office
43	% of government workers that use ICTs
44	Purpose of use: (%) for e-mail, research, database work, geomatics, application software, etc
	<b>Agriculture</b>
45	% of agricultural population and extension workers involved in the exploitation and deployment of ICTs to the sector
46	Typology of usage of ICTs in the agricultural sector (% in R&D, business, weather, prices, etc..)
47	Number of Local web-sites and data bases with agricultural information and content
	<b>Health</b>
48	% of health institutions using ICTs (by type of health institution: private clinic, government, university hospital, pharmacy etc...)
49	Geographic distribution of health institutions with computers, telephone and Internet connectivity
50	% of health professionals that use ICTs for medical purposes
51	Purpose of usage and % in tele-medicine, e-mail, research (health information, continuing medical education or distance learning, health promotion (including health information systems), database, Software applications, etc
52	% of local web-sites and data bases with medical information
	<b>Supplementary Indicators</b>
53	Total Resident Population
54	Total number of households
55	Percentage of households with electricity
56	Total number of sub-regional and regional backbones and Exchange Points to which the country has access
	<b>ICT investment and expenditures</b>
57	% of ICT investments and expenditures (% vis a vis GDP and vis a vis general Government expenditures)

	<b>Content issues and local languages</b>
58	% of software developed in local language
59	% of websites developed in local languages
	<b>Security issues</b>
60	% of networks and websites which are attacked, and nature of attacks
	<b>National Information and Communication Infrastructure (NICI) Plans and legislation</b>
61	Existence of national or sectoral ICT policies and strategies and their implementation status
62	Existence of national ICT legislations and regulatory frameworks and their effective implementation.