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Core set of Indicators:
Basic access and Infrastructure

Esperanza. Magpantay@itu.int
Market, Economics and Finance Unit (MEF)
Telecommunication Development Bureau

Data collection

100 Indicators

HOW?

- o Two Telecommunication Indicator Questionnaires per year addressed to government agencies in charge of ICT/telecom, or operator
- o Online research
- o Annual reports

WHAT?

- o Telephone network
- o Mobile services
- o Traffic/Tariff
- o Quality of Service/Staff
- o Revenues & Investment
- o Broadcasting
- o Information Technology
  - • PCs
  - • Internet subscribers/users
 - • Broadband/bandwidth

Details

Type of Source:	oAdministrative records (operator data, regulatory /ministry data collection)
Frequency/ Data collection:	oAnnual oThrough ITU World Telecommunication Indicators questionnaire
Source:	oSector-specific ministry or regulatory agency
Definition:	oITU Telecommunication Indicators Handbook oITU World Telecommunication Indicators (WTI) meeting
Dissemination:	oITU statistical publications (Yearbook of Statistics, World Telecommunication Development Report, Regional publications) oITU World Telecommunication Indicators database

Beyond statistics

- World Telecommunication Development Report
- Regional Reports on ICT/telecom developments
- ICT Case Studies (www.itu.int/ict/cs)
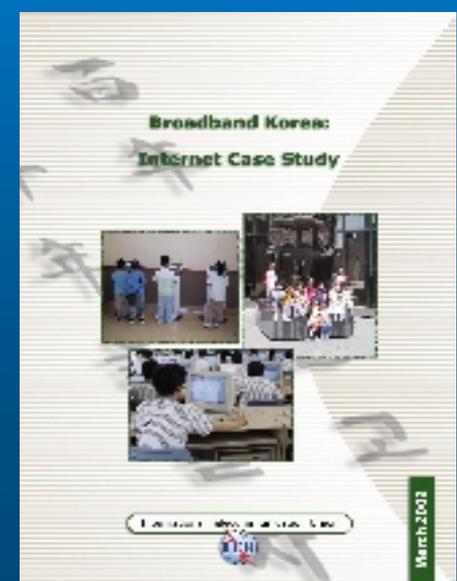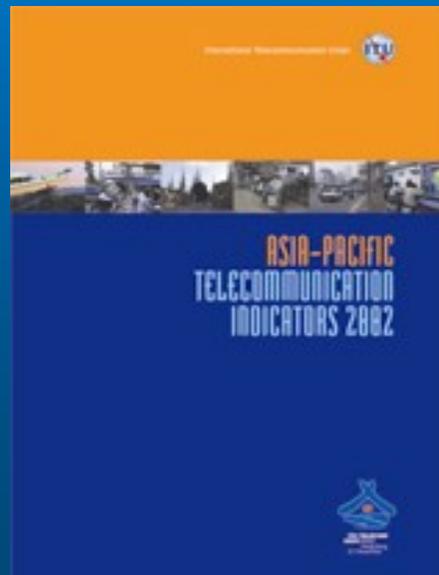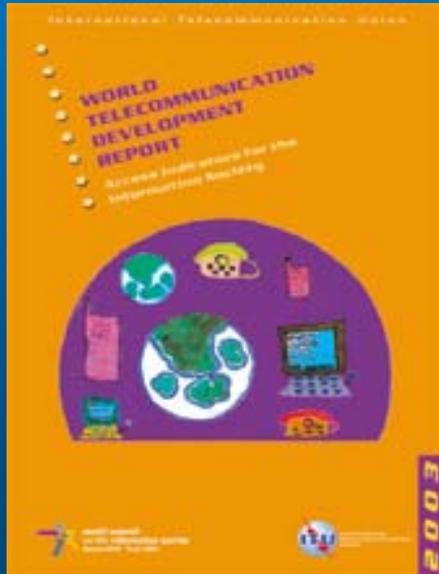
Infrastructure and access core indicators

A-1	Fixed telephone lines per 100 inhabitants
A-2	Mobile cellular subscribers per 100 inhabitants
A-3	Computers per 100 inhabitants
A-4	Internet subscribers per 100 inhabitants
A-5	Broadband (fixed and mobile) Internet subscribers per 100 inhabitants
A-6	International Internet bandwidth per inhabitant
A-7	Percentage of population covered by mobile cellular telephony
A-8	Internet access tariffs (20 hours per month), in US$, and as a percentage of per capita income
A-9	Mobile cellular tariffs (100 minutes of usage per month), in US$, and as percentage of per capita income
A-10	Percentage of localities with Public Internet Access Centres (PIACs) by number of inhabitants (rural/urban)

Core indicators by category

o Availability of infrastructure to use ICTs
- Telephone (mobile, fixed)
- Computer

o Affordability
- Mobile cellular tariffs
- Internet access tariffs

o Quality of service
- International Internet bandwidth
- Broadband Internet subscribers

o Universal access
- Percentage of population covered by mobile telephony
- Percentage of localities with Public Internet Access Centres (PIACs) by number of inhabitants (rural/urban)

A1. Fixed telephone lines per 100 inhabitants

<u>Fixed telephone lines</u> refer to telephone lines connecting a customer's terminal equipment (e.g., telephone set, facsimile machine) to the Public Switched Telephone Network (PSTN) and which have a dedicated port on a telephone exchange.

<u>Fixed telephone lines per 100 inhabitants</u> is calculated by dividing the number of fixed telephone lines by the population and multiplying by 100.

o In order to enhance comparability, countries should provide a breakdown of how their main telephone line figure is computed.

A2. Mobile cellular subscribers per 100 inhabitants

Mobile cellular subscribers refer to users of portable telephones subscribing to an automatic public mobile telephone service using cellular technology.

Users of both post-paid subscriptions and pre-paid accounts are included.

Mobile cellular subscribers per 100 inhabitants is obtained by dividing the number of mobile cellular subscribers by the population and multiplying by 100.

A3. Computers per 100 inhabitants

<u>Computers</u> measures the number of computers installed in a country. The statistic includes PCs, laptops, notebooks etc, but excludes terminals connected to mainframe and mini-computers that are primarily intended for shared use, and devices such as smart-phones that have only some, but not all, of the functions of a PC (e.g. they may lack a full-sized keyboard, a large screen, an Internet connection, drives etc).

<u>Computers per 100 inhabitants</u> is obtained by dividing the estimated number computers in use by the population and multiplying by 100.

❖ An overall country figure for the number of PCs could be estimated by adding up the sales of PCs.

❖ PC import data that are sometimes available from customs departments. However, if PCs were assembled in the country from imported parts, they would not be counted. Customs data would also not include undeclared imports. Additionally, some of the imported PCs may be later exported.

A4. Internet subscribers per 100 inhabitants

An <u>Internet subscriber</u> is someone who pays for access to the public Internet (a TCP/IP connection). The statistic is measured irrespective of the type or speed of access, or the type of device used to access the Internet, or the method of payment.

<u>Internet subscribers per 100 inhabitants</u> is obtained by dividing the number of Internet subscribers by the population and multiplying by 100.

o The <u>number of subscribers</u> measures all those who are paying for Internet use, including those who pay via the cost of their telephone call (sometimes referred to as "free Internet"), those who pay in advance for a given amount of time (pre-paid) and those who pay for a subscription (either flat-rate or volume/usage based).

A5. Broadband Internet subscribers per 100 inhabitants

A <u>Broadband Internet subscriber</u> is someone who pays for high-speed access to the public Internet (a TCP/IP connection). High-speed access is defined as being equal to, or greater than 256 kbit/s, as the sum of the capacity in both directions.

The statistic is measured irrespective of the type of access, or the type of device used to access the Internet, or the method of payment.

<u>Broadband Internet subscribers per 100 inhabitants</u> is obtained by dividing the number of *Broadband Internet subscribers* by the *population* and multiplying by 100.

A6. International Internet bandwidth per inhabitant

<u>International Internet bandwidth</u> refers to the capacity which backbone operators provision to carry IP traffic measured in bits per second.

<u>International Internet bandwidth per inhabitant</u> is obtained by dividing the amount of bandwidth by the population.

o A useful derivative of this indicator is *International Internet bandwidth per Internet subscriber*, which takes out of the equation the differing levels of Internet usage in different countries.

A7. Percentage of population covered by mobile cellular telephony

<u>Percentage of population covered by mobile cellular telephony</u> refers to the percentage of a country's inhabitants that live within areas served by a mobile cellular signal, irrespective of whether or not they choose to use it.

This measures the theoretical ability to use mobile cellular services if one has a handset and a subscription.

❖ A very useful indicator of universal access.

❖ Inhabitants who are covered by a mobile cellular signal have the potential to subscribe to the network, irrespective of whether or not they actually do so. Where there is a large gap between population coverage and penetration, it suggests that bottlenecks in access are more due to affordability than to infrastructure shortcomings.

A8. Internet access tariff (20 hours per month), in US$, and as a percentage of per capita income

- Includes monthly line rental, line usage charge and Internet access charge, plus any tax that may be levied.

- Package for 20 hours per month that is the cheapest,widely available to general public without restriction.

- Expressed in a commonly used currency (such as US$)
- The indicator should be compared, as far as possible, for the same date between countries.
- As a percentage of per capita income involves dividing the Internet access tariff by the average monthly Gross National Income per capita of the country.

A9. Mobile cellular tariffs (100 minutes of use per month), in US$, and as a percentage of per capita income

- The <u>Mobile cellular tariff</u> includes the tariff components of monthly service rental, 50 minutes of <u>peak time</u> calling and 50 minutes of <u>off-peak</u> calling, plus tax.
- Either post-paid or a pre-paid service, whichever one is more popularly used (more than 50% subscribers).
- Expressed in a commonly used currency (such as US$) .
- The indicator should be compared, as far as possible, for the same date between countries.
- As a percentage of per capita income involves dividing the mobile cellular tariff by the average monthly Gross National Income per capita of the country.

A10. Percentage of localities with public Internet access centres (PIACs) by number of inhabitants (rural/urban)

A public Internet access centre (PIAC) is a site, location, centre of instruction at which Internet access is made available to the public, on a full-time or part-time basis. This may include digital community centres, Internet cafés, libraries, education centres and other similar establishments, whenever they offer Internet access to the general public. All such centres should have at least one public computer for Internet access. Localities refer to a country's villages, towns and cities.

The percentage of localities with public Internet access centres (PIACs) is computed by dividing the number of localities with at least one PIAC by the total number of the country's localities and multiplying by 100. The indicator should be broken down by range of inhabitants.

A11. Radio sets per 100 inhabitants

A _radio set_ is a device capable of receiving broadcast radio signals, using popular frequencies, such as FM, AM, LW and SW. A radio set may be a standalone device, or it may be integrated into another device, such as a Walkman, a car, or an alarm clock.

Radio sets per 100 inhabitants is obtained by dividing the number of radio sets in use by the population and multiplying by 100.

o Broadcast technologies also have a role to play as a development tool particularly in developing countries. Radio is being combined with Internet technologies to overcome literacy and language barriers. In some situations, radio stations download information from the Internet and re-disseminate it orally to the surrounding community, in local languages.

A12. Television sets per 100 inhabitants

A _television set_ is a device capable of receiving broadcast television signals, using popular access means such as over-the-air, cable and satellite.

A television set may be a standalone device, or it may be integrated into another device, such as a computer or a mobile phone. It may be useful to distinguish between digital and analogue signal delivery and between TV sets receiving only a limited number of signals (usually over-the-air) and those that have multiple channels available (e.g. by satellite or cable).

Television sets per 100 inhabitants is obtained by dividing the number of sets in use by the population and multiplying by 100.

Thank you.
http://www.itu.int/ITU-D/ict/