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TELECOMMUNICATION DEVELOPMENT BUREAU

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6TH WORLD TELECOMMUNICATION/ICT INDICATORS MEETING, GENEVA, 13-15 DECEMBER 2007

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TITLE: Draft Report of World Telecommunication/ICT Indicators Meeting

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Draft Report of World Telecommunication/ICT Indicators Meeting
Geneva, Switzerland, 13-15 December 2007

Key conclusions highlighted during the meeting

1. **National Cooperation**

ITU highlighted the increasing need for the national regulatory authority to cooperate with the National Statistical Office (NSO) in order to collect data to measure the Information Society.

2. **Countries with low levels of household access to, and use of, ICTs are strongly encouraged to measure community connectivity**

3. **Two indicators were identified as a basis to track and measure community access:**

A)

Location of individual use of the Internet in the last 12 months (by rural/urban area):

- **Home**
- **Work**
- **Place of education**
- **Another person's home**
- **Community access (subsidized, or free)**
- **Commercial Internet access**

B) Percentage of localities

- **With electricity**
- **With public Internet access centre**
- **Connected to the public telephone network (fixed and/or mobile)**

4. **New indicators**

- **ITU will cooperate with OECD and adopt the same definition for mobile broadband subscribers**
  - **Only active mobile broadband subscribers should be counted**
  - **Current trends suggest that mobile broadband will be an important way of accessing ICTs in developing countries**
- **Countries are encouraged to start collecting data on domestic internet bandwidth**

5. **Single ITU Index**

- **The meeting approves to have a single ITU index**
- **Data for indicators included in the ITU single index need to be collected/available by ITU for the majority of countries and should be based on data provided by administrations**
- **The technical and methodological aspects of the Index should be finalized by experts, including experts from member states**
- **The ITU index should be simple and easily understood to increase it usability**
- **Specific points with regard to the indicators were raised:**
  - **The index should not include the international outgoing traffic indicator**
  - **Household data, based on surveys, should be included when possible (i.e. available)**
  - **Broadcasting indicators should be included.**
  - **Indicators chosen should reflect all countries' level of development**
- **Specific points with regard to the methodology were raised:**
  - **Cut-off limits should be used for certain indicators to show saturation rates (for example for individuals using mobile phones)**
  - **ICT skills should be taken into consideration**
  - **The index should be able to measure the digital divide and the development of the ICT sector. It should also help understand the viability of the ICT sector in terms of revenues and investments.**
- **Countries should start to collect more**
  - **Gender-disaggregated data**
  - **Data measuring the size of the domestic internet infrastructure**
  - **Community access indicators**
  - **Data on ICT usage by people with disabilities**

Summary

The 6th World Telecommunication/ICT Indicators Meeting—organized by the International Telecommunication Union (ITU)—took place in Geneva, Switzerland, from 13-15 December 2007.[1] There were 171 participants , including 60 women from 78 countries. The meeting was also attended by representatives from the OECD, the World Economic Forum, UNCTAD and Comesa. The meeting was chaired by Ms. and vice-chaired by Mr. Russell Southwood, CEO from Balancing Act. The meeting was divided into six sessions, covering the following three key topics.

1. Community access indicators: The recognition that traditional indicators (such as fixed telephone lines and mobile subscribers) alone are not sufficient to identify the extent of the digital divide has highlighted the need to measure community or public access to ICTs. Since the vast majority of households in developing nations do not have modern ICTs such as computers and the Internet, community access will play an important role in providing citizens with access to ICTs, a prerequisite for participating in the information society and reaping its benefits. A paper and presentation on "ICTs in villages" *(available soon)* will help provide a global estimate for the 'percentage of villages with access to ICTs' (in terms of telephone and Internet access). This indicator will also help measure the WSIS target on village connectivity. Discussion will also benefit from and review the proposed list of indicators that were identified at the 'Global Indicators Workshop on Community Access to ICTs'.

2. New indicators: The session on new indicators focused on the discussion on new and revised indicators to measure telecommunication and ICT developments. Given the rapidly changing nature of the telecommunication/ICT sector, there is a constant need to update and review existing indicators. The session included a discussion on mobile broadband indicators.

3. The ITU ICT index: Through Resolution 131 of the 2006 Plenipotentiary Conference, ITU Membership called for the development of a singe ITU index to measure countries' progress towards becoming information societies. To this end, ITU prepared a background document with a proposal on index methodology and indicators and the single index was discussed and recommendations made.

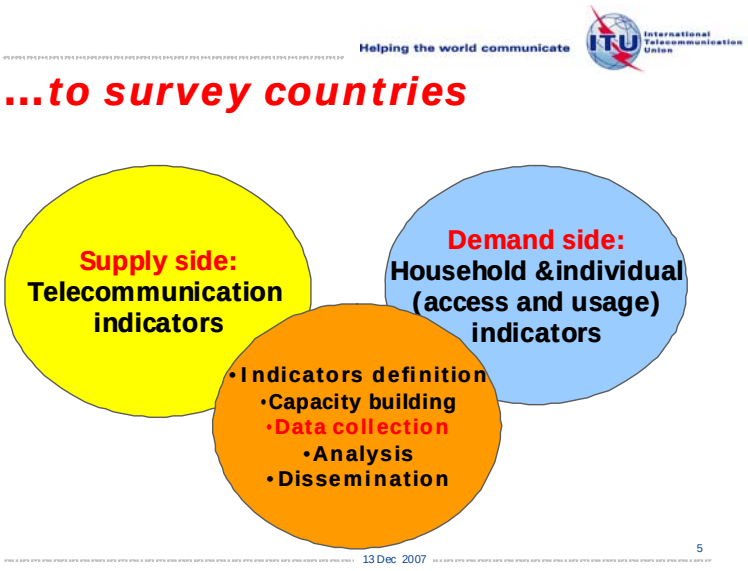
The 6th WTI/ICT Indicators meetig was opened by Mr Sami Al-Basheer, Director of the ITU's Development Bureau. An overview of the meeting was presented by Mr Mario Maniewicz, Head of the BDT's Policies and Strategies Department. The opening and overview of the meeting put the statistical work of the ITU into a broader perspective. This is particularly important today in the light of the discussion on the information society. ITU is increasingly working with other international partners and organizations in an effort to help measure the information society and to identify appropriate indicators to measure the progress countries are making.

ITU Statistics

As the United Nations specialized agency for telecommunications, ITU is responsible for producing statistics covering its sector. Both, the 2006 World Telecommunication Development Conference (WTDC) and the 2006 Plenipotentiary Conference decided to centralize all statistical and indicators work within ITU, in the Telecommunication Development Bureau (BDT). Recently, ITU has expanded its work from collecting mainly supply side statistics (through its World Telecommunication/ICT Indicators questionnaire), to demand side statistics, to cover household and individual data collected through household surveys. Household survey data are particularly useful to go beyond measuring

[1] The programme and background documents are available at the following web site: http://www.itu.int/ITU-D/ict/wict07/index.html

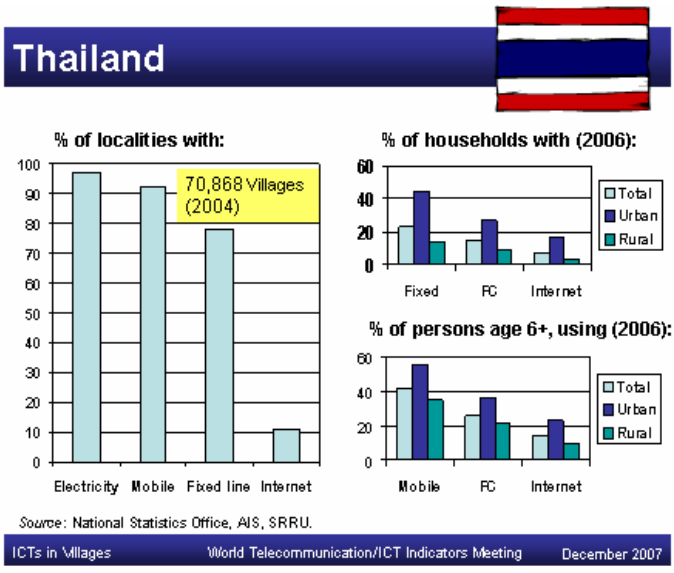
network and access statistics and to track ICT usage. While the first set of (administrative) indicators are collected mainly from regulatory authorities and ministries, household (and individual) data are collected through a questionnaire that is sent to National Statistical Offices (NSO). ITU's data collection covers around 100 indicators for more than 200 economies. For both sets of indicators, ITU provides definitions to help guide countries in their data collection efforts. It is also currently preparing a housheold survey manual which will be used for capacity building and as training material for NSOs in developing countries. The data collected through the different questionnaires are also published and used to analyse ICT developments in a number of reports and formats. This includes the Yearbook of Statistics, as well as the World Telecommunication/ICT Development Report.



The first presentation also highlighted the reliance of the ITU on national entities (regulators, ministries and NSOs) to collect ICT statistics. The presentation emphasized the main challenges of the ITU's statistical work, including the limited response rate to the questionnaire and non-response to some questions. ITU stressed the need for increased cooperation between a country's regulatory authority and the National Statistical Office (NSO).

Community Access Indicators

The first presentation, on "WSIS target a: ICTs in Villages" (by Michael Minges) gave an overview of the possible ways of measuring global village connectivity. It also presented some results on the percentage of the population covered by various ICTs. The presentation first Highlighted some of the difficulties to tracking World Summit on the Information Society (WSIS) target "…*to connect villages with ICTs and establish community access points*". One problem faced is that the target is not specific on the amount or percentage of villages that should be connected. Also, it does not clearly say which ICTs it refers to. In terms of measurement, many countries do not publish or collect the number of localities and the definition of localities (villages, towns, cities, etc) between countries will vary. There is no standard definition for urban and rural areas, which makes international comparison more difficult.



It is important to collect data on public internet access not only by locality but also in terms of the population size of each locality. Locality data in isolation can be misleading because often the majority of the population is concentrated in a few localities. Available data measuring the availablity

of internet access and PCs in households show that it is neglibiable in most developing region. This finding highlights the need for community access. Countries may establish regulatory strategies to connect rural areas, including through universal service obligations (mobile coverage targets) and village payphone programms.

The presentation highlighted two main indicators to measure community access. The first proposal is to add a qustion on the "Location of individual use of the Internet in the last 12 months" to household surveys (carried out by National Statistical Offices). The second indicator would be collected by the government agency responsible for ICT statistics and cover the percentage of localities a) with electricity b) with a public internet access point c) connected to the public telephone network. This information should be broken down by population size. During the following dicussion a number of countries expressed their concern about the feasibility to collect this type of information, since governments would need to track the number of public internet access points, by location.

Some statistics

DCCs

	Rural Internet Centre	*Kedai dot kom*	*Medan Info Desa*	*Libraries*	*Total DCC*
Number	42	58	39	225	364

Other PIACs

	Internet Cafés	*Total PIACs*
Number	2,478	2,842

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The presentation by the MCMC (Malaysia) compared the existing PIAC indicators defined by ITU to available data in Malaysia. A total of 3 out of the 9 PIAC indicators are currently tracked in Malaysia. These are a) the total number of PIACs b) the the total number of DDCs and 3) the total number of other PIACs.

The meeting suggested that for policy purposes it was important for countries to start collecting community access indicators, at least to get a rough idea about the percentage of localities and the percentage of the population covered.

Basic Elements of Egypt's approach to increase community access

- MCIT seeks to guarantee universal, easy, affordable and rapid access for all Egyptian citizens to ICT, and stimulating awareness of the potential uses and benefits of ICT.
- In this respect, MCIT has implemented a number of programs with the chief aim of providing benefits to users, promoting computer literacy, and encouraging increased use of ICT by the public. These initiatives include:

1. Free Internet initiative.
2. PC for every home initiative.
3. IT club initiative.

Egypt's experience with community access was presented by the MCIT. It highlighted Egypt's efforts to increase community access (see slide), which is an important part of Egypt's National Telecommunications Plans. These initiatives have increased the number of publicat internet access points, as well as the number of users. Egypt has made use of ITU's indicators to track ICT developments in the country, including the indicators on public internet access centres.

Following these presentations, the general discussion highlighted that the definition of 'locality' (village, town, etc) should be based on the national definition used. If countries can provide a breakdown of localities by population size, then the percentage of the population with access to ICTs can be calculated. ITU was requested to provide information based on the ITU Regions, including the Arab Region. Also, ITU was asked to collect and publish certain statistics more frequently and not just on an annual basis.

During the final session on the community access indicators, and based on the previous discussion, two indicators were proposed (see slide). It was highlighted that it is important to have a minimum set of indicators that can be collected by a minimun number of countries rather than to have a long list of indicators that will be impossible for countries to compile. To this end, countries have to consider what is practical and do-able in selecting and approving indicators related to community connectivity.

Indicator Proposal 1

Question to be added to household surveys:

Location of individual use of the Internet in the last 12 months (by rural/urban area):

- Home
- Work
- Place of education
- Another person's home
- Community access (subsidized, or free)
- Commercial Internet access

(Source: Partnership on Measuring ICT for Development HH-9)

Indicator Proposal 2

To be collected by the government agency responsible for ICT statistics:

Percentage of localities*

- With electricity
- With public Internet access centre
- Connected to the public telephone network (fixed and/or mobile)

*The total number of localities should be provided and the number of localities should be broken down by population size. Proposed population size:

>499, 500-999, 1000-2499

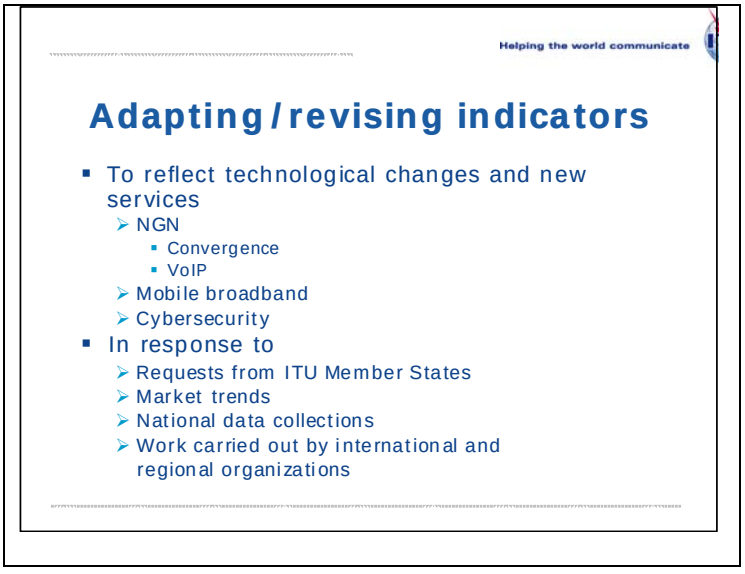
2500-9999, 10'000-49'000, 50'000 plus

Note: The definition of 'locality' should depend on national definition (If breakdown of localities by population size can be provided, the percentage of the population with access to ICTs can be calculated).

- Both indicator proposals were accepted, with the following observations:
  - Proposal 1: While Indicators Proposal 1 is intended to allow for multiple answers, it would be possible to split the question into two, to track not only all possible access locations, but the 'main location of access'.
  - Proposal 1: If a country wants to have additional breakdowns from the Indicator 1, they may cross-tabulate the information with other demographic data collected from surveys.
  - Proposal 2: It was suggested that countries should collect information on proposal 2 using population size brackets to enable aggregation of data if needed (without distinguishing between urban and rural).

It was suggested that countries should start collecting data for these two indicators and present result and experiences at the next World Telecommunication/ICT Indicators meeting in 2009 The meeting highlighted the importance of national cooperation, particularly between the regulatory agency and the NSO in collecting these two indicators.

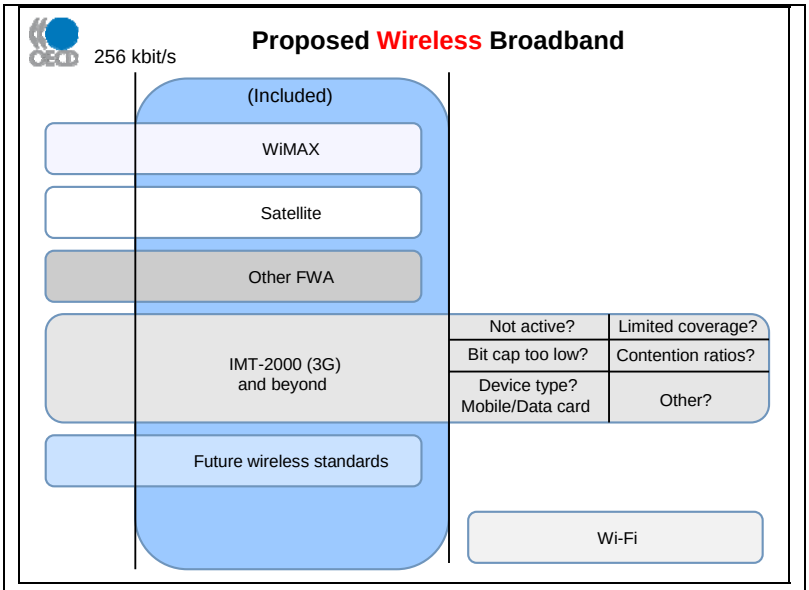
Review of existing indicators



ITU's presentation provided an overview of different indicators that it collects through its annual questionnaires (telecommunication and household indicators) and the revisions made to the existing indicators during the last WTI meeting in 2006. The presentation further highlighted some of the new indicators, including mobile internet and cybersecurity indicators. The importance of tariff indicators for analysing affordability of mobile, fixed, and Internet services was also highlighted. Some of the challenges were mentioned in collecting the tariffs, including the difficulty of getting data from the countries, mainly due to multiple tariff packages available. The presentation concluded by highlighting the importance of collecting data for newer indicators to measure new market trends.

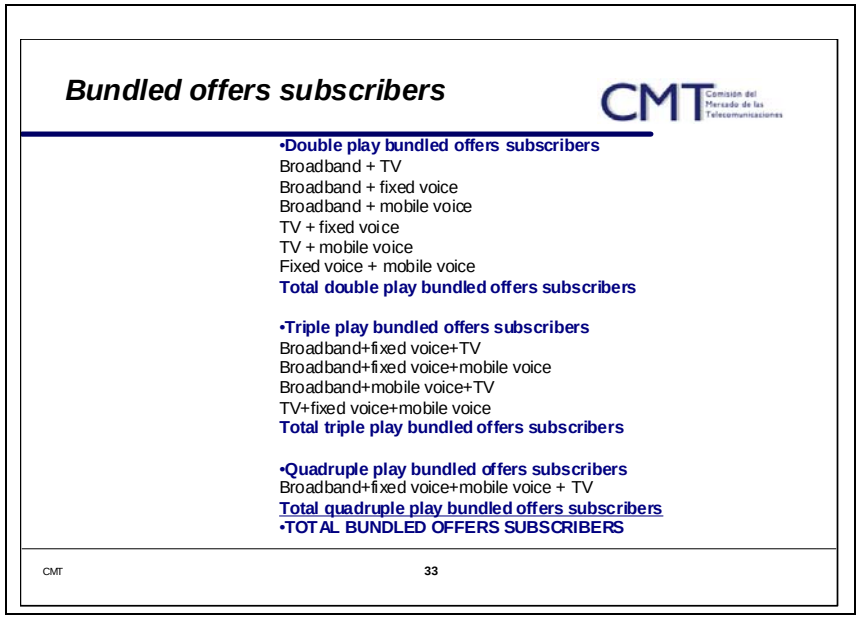
Some participants further highlighted the importance of collecting domestic bandwidth indicators to reflect actual usage of ICT at the country level.

Mobile broadband indicators



The presentation of the OECD highlighted the work it is doing in the area of ICT measurements, in particular broadband statistics - OECD's most popular statistics. OECD started the work of harmonizing the data on mobile broadband indicator but face difficulty due to different definition currently in use by countries. Some OECD countries, such as Portugal, have done an excellent job in collecting 3G subscribers, by distinguishing active subscribers from potential users of mobile Internet. The presentation also highlighted the proposed Wireless broadband technologies that should be included (see slide), and highlighted the different issues that needs to be considered in collecting the data. The challenges include issues related to usage (whether to include the active subscribers only), device type (should mobile phones and data cards be considered equally), coverage (should network footprint be considered), contention ratios (should contention for bandwidth be considered) and bit caps (is minimum monthly traffic allowance necessary).

OECD highlighted that it is important to collect actual usage of mobile Internet using official surveys. The problem of collecting tariffs for mobile broadband was also mentioned showing that this data can be collected using baskets of prices classified by speed, or mode of access. Some countries stressed the importance of collecting the data for mobile Internet while others feel that the developing countries are still far behind in using the service. OECD thinks it is important to collect mobile internet data in developing countries since fixed Internet access is limited and mobile broadband is the technology that will help solve the problem.



The presentation made by the Spanish regulatory authority highlighted the work they are doing in the area of mobile broadband data collection and indicators to track convergence of the technologies. The country currently tracks the number of active lines associated with handsets to access UMTS networks. To track usage, the number of transactions is used to measure actual usage of 3G services for both prepaid and postpaid services. The presentation also highlighted the importance of measuring network convergence (see slide). Members expressed interest in knowing

whether it is possible to measure revenue, since it is not possible to obtain disaggregated data for converged services.

The presentation on cyber security highlighted the work that the ITU is doing in the area of cybersecurity and emhasised that national frameworks such as legislations are important in tracking the information at the national level. It was further highlighted that there are only 20-30 countries who have a national strategy on cybersecurity and that ITU is currently building capacity with administration in this area. Fore instance, there were 3 events on cybersecurity held in Vietnam, Argentina and Cape Verde in 2007.

Some countries supported the idea of examining indicators for measuring cybersecurity despite the technical issues associated with it. They proposed that indicators on cybersecurity needs to be studied since they are important now and should be looked at as soon as possible.

Single ITU Index

The single ITU index presentation highlighted the objective and goals for developing a Single ITU index. The previous indices of ITU were described, including the Digatal Access Indices (DAI), ICT-Opportunity Indices and Digital Opportunity Indices (DOI). While the DOI measures the possibility for citizens to benefit from access to information that is "universal, ubiquitous, equitable and affordable, the ICT-OI's objective is to identify the digital divide and understand how it has evolved. Although the two indices use different methodologies and were formulated with different objectives and indicators, the results are similar. The two indices were compared in-terms of their methodologies and other aspects including the treatment of outliers and overall index computation (see slide). Three scenarios were presented that can be considered in coming up with the Single ITU index. The first was on the choose of one of the two indices and keeping all the indicators and methodology the same, the second was chosing one of the indices and modify the indicators used, and the third was to adopt a revised index that combines the good points of the two indices. The simplest approach is just to adopt one of the two indices since they are both tested and no further work is needed in terms of methodology. The second option presented more advantages. The idea of "two speed" index was also mentioned as well as indicators

The DOI and the ICT-OI Methodologies

Feature	DOI	ICT-OI
Number of indicators used	11	10
Number of Partnership core ICT indicators	8	6
Framework used	No explicit framework, but sub-indices are sequenced	Economic model framework
Sub-Index category hierarchy levels	1	2
How Digital Divide is measured	Absolute	Relative
Index formula	Arithmetic mean	Geometric mean
Index computation	Can be done easily by the country, since based on absolute values	Depends on average of values included in the study.
Indicator selection focus	Mobile & internet	Skills, basic infrastructure and utilisation
Indicator type emphasis	Household	Individual
Treatment of outliers and large values	Goalposts	Maximum value adjustments/Scalars

that can be used for that purpose – mainly relevant to developed countries. Additional indicators were proposed to be considered in the Single Index including mobile Internet, percentage of households with computer, percentage of household with Internet, domestic Internet bandwidth, community access indicators and equity indicators. The meeting highlighted the ICT-OI has the superior methodology, and that its name should be adopted for the Single ITU Index as mandated by resolution 8 of WTDC06.

Further Suggestions on the Single ICT Index: Rep. of Korea

The presentation by the Republic of Korea highlighted the need to develop an index that will measure the level of countries development. Aside from this, it was mentioned that diverse data source should be used, and the Z-method should be adopted in compiling the index. It further highlighted the need to have an index with transparent methodology (see slide) and suggested to use domestic internet bandwidth instead of international internet bandwidth. It suggested to separate mobile from fixed broadband subscribers and use familiar terminologies such as Infrastructure and Utilization instead of those used by the revised index (in the ITU background document). Some participants felt that collecting the data for domestic internet bandwidth from ISP could be problematic, due to the limitations related to defining "cities" and qualifying who are the ISPs that can provide the required data.