

# **ITU Data collection, verification and harmonization: Addressing data gaps and challenges and the role of national focal points**

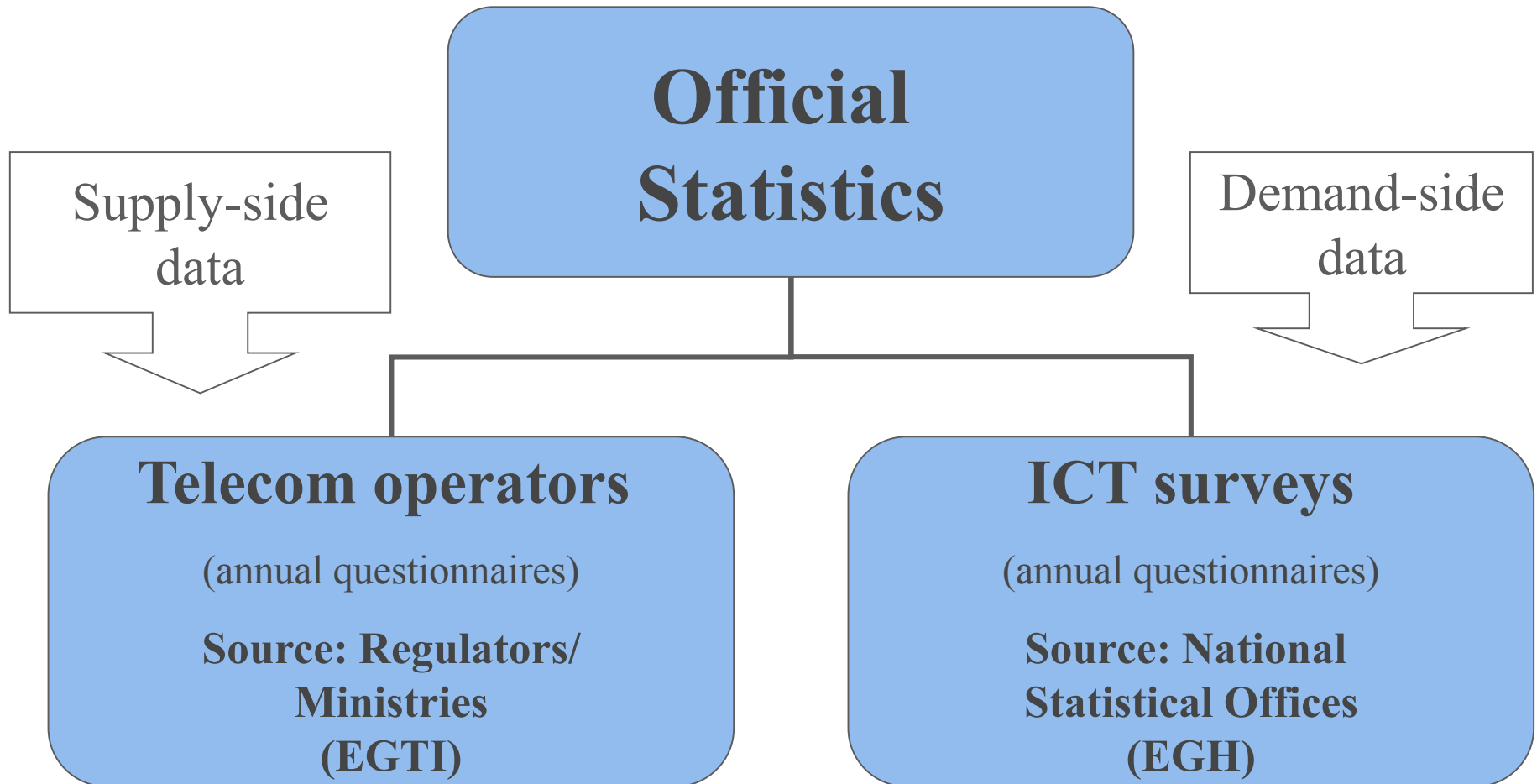
ITU Regional Forum on ICT Measurement  
Dubai, United Arab Emirates  
13-15 December 2016

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ICT Data and Statistics Division  
Telecommunication Development Bureau  
International Telecommunication Union

# Outline

1. Expert groups and online forum
2. ITU questionnaires and timelines
3. Role of national statistical focal points
4. Data verification
5. Data availability and addressing data gaps

# ITU Statistics: data collection



# Expert Group on Telecommunication/ICT indicators (EGTI)

- Launched in **2010**, following a decision by the 7th World Telecommunication/ICT Indicators Meeting (Egypt)
- Main objectives: **revision of the telecommunication/ICT indicators** (*and of the ITU Handbook on telecommunication/ICT indicators*)
- **Open to all ITU members and experts** in the field of ICT statistics and data collection
- Works through an **online forum** ( $\approx$  750 members) and task teams
- **Meets once a year** and reports back to the World Telecommunication/ICT Indicators Symposium (WTIS)

# EGTI online forum (1/3)

<http://www.itu.int/net4/ITU-D/ExpertGroup>

## Expert Group on Telecom/ICT Indicators Forum



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- WHAT'S NEW
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- MEMBERS
- FAQ

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CASE sensitive

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Discussion Boards	Topics	Posts	Last Post
<b>ICT/Telecommunication indicators</b>			
<a href="#">Ongoing discussions</a>	8	164	18 Nov 2016 12:04:55 by: <a href="#">Montenegro</a> →
<a href="#">Previous discussions</a>	43	443	12 Apr 2016 00:05:20 by: <a href="#">jrodriguez</a> →
<a href="#">ITU Handbook</a>	2	16	14 May 2012 15:30:54 by: <a href="#">Vallejo</a> →
<b>EGTI meetings</b>			
<a href="#">7th EGTI meeting - 2016</a>	6	11	15 Nov 2016 13:28:21 by: <a href="#">Iñigo Herguera</a> →
<a href="#">6th EGTI meeting - 2015</a>	7	13	04 Nov 2015 14:32:16 by: <a href="#">Vallejo</a> →
<a href="#">5th EGTI meeting - 2014</a>	7	13	11 Dec 2014 12:24:28 by: <a href="#">Vallejo</a> →
<a href="#">4th EGTI meeting - 2013</a>	5	9	20 Dec 2013 16:25:11 by: <a href="#">Vallejo</a> →

# EGTI online forum (2/3)

<http://www.itu.int/net4/ITU-D/ExpertGroup>

## Expert Group on Telecom/ICT Indicators Forum

All Forums

Registration Rules and Policies Agreement

Registration Form for Expert Group on Telecom/ICT Indicators

All Fields marked with \* are required

To complete your registration, you need to have a valid e-mail address.

### Contact Info

\* E-mail Address:

\* E-mail Address Again:

Allow Forum Members  
to Send you E-Mail?:

\* Organisation:

\* Position:

\* Telephone:

### Links

Homepage:

### Basics

\* User Name:

\* Password:

\* Password Again:

\* Firstname:

\* Surname:

\* City:

\* Country:

Gender:

Signature:

\* HTML is OFF

\* Forum Code is ON

View Signatures  
in Posts?:

Signature checkbox  
checked by default?:

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# EGTI online forum (3/3)

<http://www.itu.int/net4/ITU-D/ExpertGroup>

## Expert Group on Telecom/ICT Indicators Forum

- ▶ All Forums
- ▶ ICT/Telecommunication indicators
- ▶ Ongoing discussions
- ▶ The Internet of Things (IoT)



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Welcome Back Fredrik Eriksson

- Display my profile
- Edit my Profile
- Manage my Files

LOGOFF

### ← The Internet of Things (IoT) →

[jonathanduggan](#)

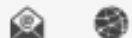
New Writer



Ireland

Member since  
15 Feb 2011

Last visit  
25 Oct 2016



4 Posts

Posted - 24 Oct 2016 : 15:04:30

REPLY

Dear Sami, dear all,

While, as a regulator, I wouldn't dare to attempt to answer a question about what Telcos are thinking, I can at least attempt to shed some light on what (European) regulators are thinking.

It may be of interest to you to note that BEREC (the Body of European Regulators for Electronic Communications) earlier this year published a report on "Enabling the Internet of Things" - [http://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/reports/5755-berec-report-on-enabling-the-internet-of-things](http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/5755-berec-report-on-enabling-the-internet-of-things)

As a follow up to this, BEREC will host a workshop on the topic in Brussels on 1 February 2017. The proceedings of the workshop will be published in June 2017. I'm not certain at the moment about how open to the public the workshop will be, but if anyone from outside Europe is interested in attending, please let me know and I'll try to get more information for you.

At the workshop, panels will be held on privacy, network security & consumers' rights, diversity of business models & interoperability, scarce resources (numbers and frequencies) and IoT industry use cases (energy & transportation).

## Expert Group on ICT Household Indicators (EGH)

- Launched in **2012**, following a decision by the 9th World Telecommunication/ICT Indicators Meeting
- Main objective: **revision of the household core ICT indicators**
- **Open to all ITU members and experts** in the field of ICT statistics and data collection
- Works through an **online forum** ( $\approx$  500 members)
- **Meets once a year** and reports back to the World Telecommunication/ICT Indicators Symposium (WTIS)



# EGH online forum (1/3)

<http://www.itu.int/net4/ITU-D/forums/EGH>

FORUM ACTIVE TOPICS LOGIN REGISTER

ITU » ITU-D » ICT Statistics & Indicators » Forums » Register New User

## ITU-D Expert Group on Households Forum

ITU » ITU-D » ICT Statistics & Indicators » Forums » Login

### Login

User Name or E-Mail Address:

Password:

Remember me

Forum Login

Lost Password

### Register New User

Password Requirements: 8 min length. 0 minimum non-alphanumeric characters (jQuery#@!).  
User name should not contain more than 300 characters.

User Name :

Display Name :

Password :

Confirm Password :

Email Address :

Security Question :

Security Answer :

Security Image: 

[Generate New Image](#)

Enter The Letters From The Security Image:

Create User

# EGH online forum (2/3)

<http://www.itu.int/net4/ITU-D/forums/EGH>

FORUM SEARCH MEMBERS ICT STATISTICS & INDICATORS HELP

Forum

Topics

Posts



Last Post

General

**Chair of the EGH forum**  
Chair of the EGH forum

5

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Importance of Experience Sharing -...  
by Alexandre Barbosa (NIC.br Brazil)    
6 months ago

**Tutorial, help, questions, feedback**

General introduction, help, technical issues, features, possible improvements, suggestions, feedback

8

12



Tutorial 07: How to change your display name...  
by Diana Parra (Agesic, Uruguay)    
3 years ago

2016 Discussions and Meeting








**Workplan 2016**  
2016 Work Programme

1

11



2016 Workplan and Schedule  
by Zindoga    
6 months ago

**Items for Discussion**  
Items for Discussion






Sub-forums:  1. Development of new indicators 2016,  2. Methodological issues:,  3. New data sources,  4. National coordination,  5. Improving data availability of ICT statistics,  6. Future Work,  7. IDI indicators sub-group

24

89



IDI indicators sub-group  
by Fredrik Eriksson    
25 days ago

**4th Meeting of the EGH**  
4th Meeting of the EGH

Sub-forums:  Invitation and Agenda 2016,  Registration EGH,  Logistics 2016,  Inputs for discussion,  Presentations 2016,  Meeting report and List of participants

10

21

EGH 4th MEETING SUMMARY REPORT  
by Sami Alfakhri    
about a month ago

# EGH online forum (3/3)

<http://www.itu.int/net4/ITU-D/forums/EGH>

Review of response category of HH9 - *purchasing or ordering goods*

[« Previous Topic](#)

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espiemagpantay ▾

#1 Posted : 4 months ago

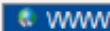
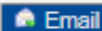
The current indicator HH9 - activities undertaken by individuals while using the Internet - includes a response category on purchasing or ordering. While current response category can provide insights on the proportion of individuals that accessed the Internet for buying and selling online, there is additional information that can be collected from household surveys for example, by adding questions on whether individuals bought online from abroad for commerce activities.

Experts are invited to comment on this proposal and to share their experience on whether information on e-commerce is collected in their surveys

*Edited by user 4 months ago | Reason: Not specified*



IP: 156.106.249.89



Linah ▾

#2 Posted : 4 months ago

To measure e-commerce, this indicator has been derived from other questions in household budget survey. In this survey, a number of items are included online local and online international. However, since the list only entails common products used in the household and also the products that answer the question. However, we can borrow the question we set in measuring e-commerce in enterprises and to cater for household as follows:

Did your household (or individual) place an order through local online sites in the past 30 days? Yes/No

Did your household (or individual) place an order through international online sites in the past 30 days? Yes/No

Examples can be given for the local and international online sites as per countries reference.

Since e-commerce is all about selling or buying of goods via online, then we can add how the goods were paid and how they were delivered. The question is: If your household (or individual) placed an order via online sites, what was the mode of payment:

- Cash at delivery
- Point of sale
- Internet banking
- Mobile banking
- Though credit/ debit card (includes visa, mastercard etc)

# Questionnaires and timelines

<i>Name of Questionnaire</i>	<i>Short World Telecommunication / ICT Indicators (WTI) questionnaire</i>	<i>Long World Telecommunication / ICT Indicators (WTI) questionnaire</i>	<i>ICT Price Basket (IPB) Questionnaire</i>	<i>Short Questionnaire on ICT Access and Use by Households and Individuals</i>	<i>Long Questionnaire on ICT Access and Use by Households and Individuals</i>
<i>Addressed to</i>	Regulator/Ministry	Regulator/Ministry	Regulator/Ministry	National Statistical Offices	National Statistical Offices
<i>Format</i>	Online	Online	Online	Online	Excel
<i>Periodicity</i>	Annually	Annually	Annually	Annually	Annually
<i>Collection period</i>	March/April	July/August	October	February	July/September
<i>Open for</i>	2 weeks	2 months	2 weeks	3 weeks	2 months
<i>Number of indicators</i>	7 key indicators (+ sub-categories = 12 in total)	57 indicators in total	Three main sets of ICT prices (fixed telephone, mobile cellular and fixed broadband)	5 key indicators (+ disaggregation = 17 in total)	19 indicators (with many sub-categories and classificatory variables)
<i>Data published</i>	June and December	June and December	June and December	June and December	June and December

## Data collection: practicalities

- Collection schedule is communicated every year to **all National Focal Points** (Ministry, Regulator and NSOs).
- **Online notification** with instructions is sent to national focal points responsible for the data reporting (for each questionnaire).
- All questionnaires are **web-based**, except for the Long Questionnaire on ICT Access and Use by Households and Individuals (**Excel-based**).
- **Sample questionnaires and definitions are available on ITU website: <http://www.itu.int/en/ITU-D/Statistics/Pages/datacollection/default.aspx#questionnaires>**

**Important that contact information is up-to-date**

# ITU Questionnaires on ICT Access and Use by Households and Individuals

## 2a) ICT Usage by gender and urban/rural

The numbers included here should be population estimates (i.e. weighted sampling values).

[For definitions and further information on the indicators see the ITU Manual for Measuring ICT Access and Use by Households and Individuals](#)

No.	Indicators	All individuals		Gender				Urban				Rural							
				Male		Female		Total		Male		Female		Total		Male		Female	
		Value	Note	Value	Note	Value	Note	Value	Note	Value	Note	Value	Note	Value	Note	Value	Note	Value	Note
<b>TOTAL TARGET POPULATION (NUMBER OF IN-SCOPE INDIVIDUALS):</b>																			
HH5	Number of individuals who used a <b>computer</b> (from any location) in the last three months																		
	Desktop																		
	Laptop (portable) computer																		
	Tablet (or similar handheld computer)																		
HH7	Number of individuals who used the <b>Internet</b> (from any location) in the last three months																		
HH8	Number of individuals who used the Internet in the last three months, <b>by location of use</b>																		
	at home																		
	at work																		
	at place of education																		
	at another person's home																		

# Role of national statistical focal points (NFP)

- **Focal points** should be identified for ICT statistics **to coordinate** among national agencies and responsible for **compiling and replying** to ITU questionnaires and follow-up queries.
- Ideally, these should be **statistical experts and informed of latest developments**, including:
  - have the **statistical knowledge** to perform data quality assurance checks.
  - **participate** in ITU meetings, workshops and online expert groups.
- Depending on country context, NFPs may not always be the statistical experts; however, they would then **need to liaise and coordinate with experts internally.**

## Role of national focal points: Best practices

- The **role of NFP should be institutionalized** and supported by internal coordination mechanisms.
- **Inform ITU** in changes of status and appointment of new national focal point.
- **Statistical advocacy:** promote ICT statistics for planning and monitoring among international, regional and national agencies.



# ITU statistics: data verification (1/2)

## Automated checks in online questionnaires:

- **Consistency checks**, e.g. fixed broadband subscriptions broken down by technology or speed should not exceed to total number of subscriptions.

## Automated checks using an Excel macro in Long Questionnaire on ICT Access and Use by Households and Individuals:

- **Consistency checks**, e.g. total number of households with telephone does not exceed total number of households
- **Aggregation checks**, e.g. male + female = total individuals.
- **Format checks**, e.g. notes referenced in the different sheets should be explained in detail in the notes sheet.

## ITU statistics: data verification (2/2)

Other checks performed (examples):

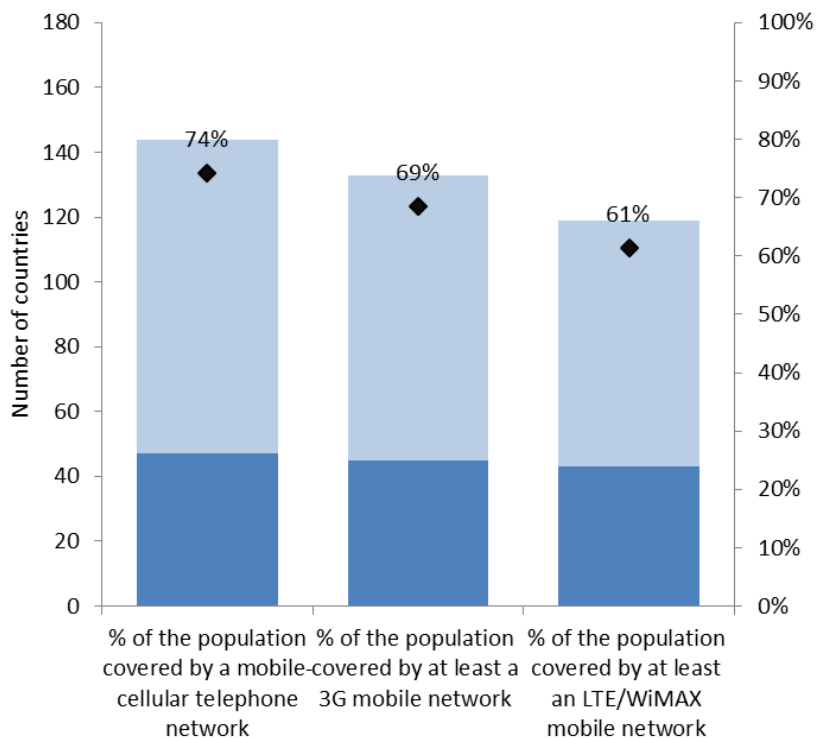
- **Assessment across years**
- **Assessment across countries**
- **Manual cross-checks** between administrative data and household data, e.g. between subscriptions and user data.
- **Format and unit checks**
- **Survey quality checks**
- **Checks of definitions**
- **Check with data from other sources**, e.g. operator's annual reports and other studies.

**Questions are directed to national statistical focal points**

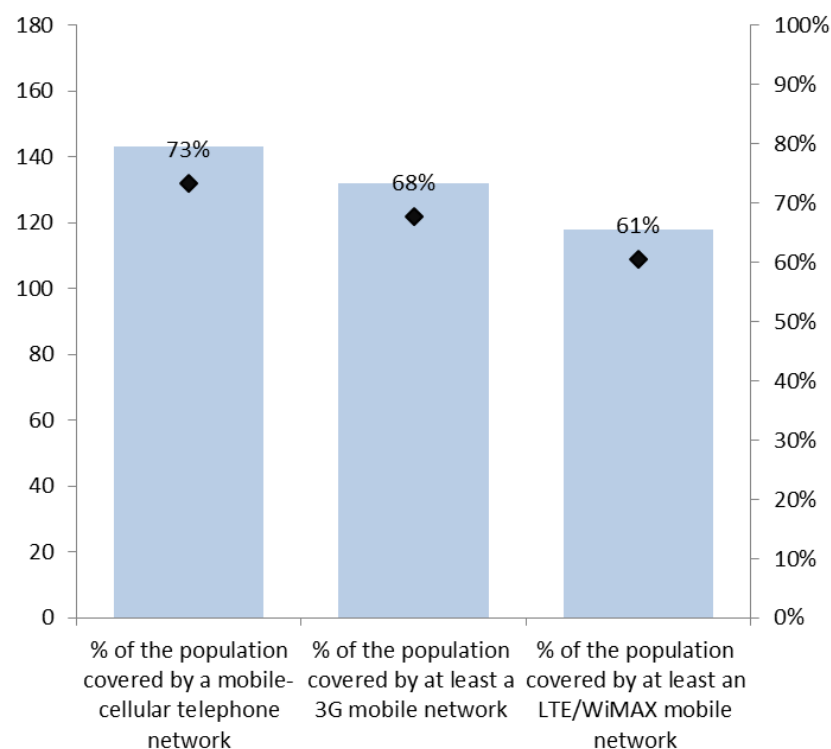
# Data availability (1/3)

SDG target 9.C: Percentage of the population covered by a mobile network, broken down by technology (2015)

## By developed/developing countries



## Arab States



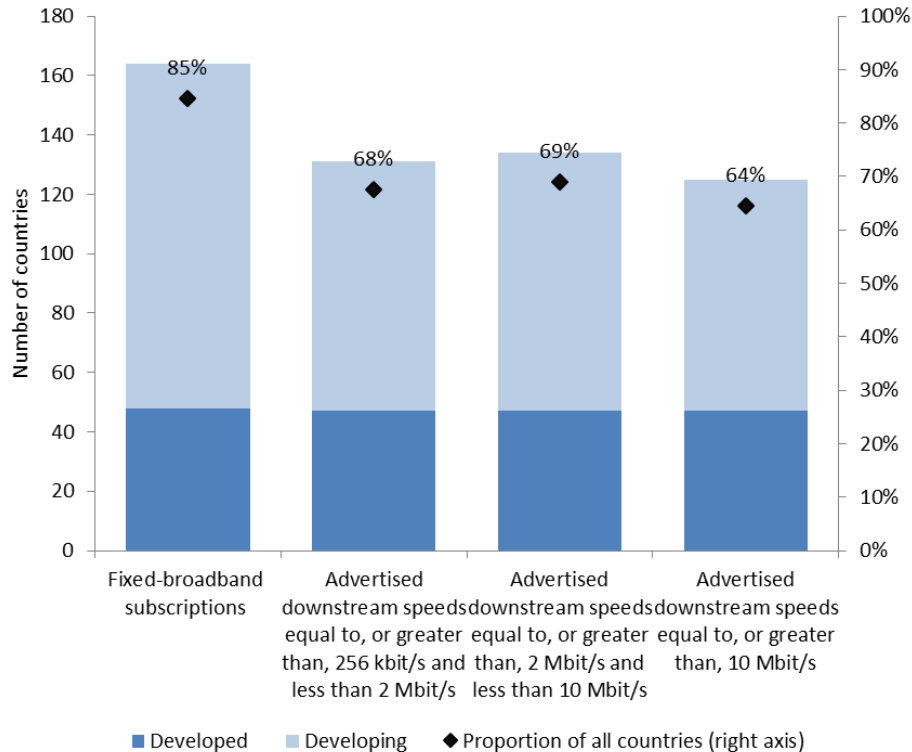
■ Developed ■ Developing ◆ Proportion of all countries (right axis)

■ Total number of countries ◆ Proportion of countries (right axis)

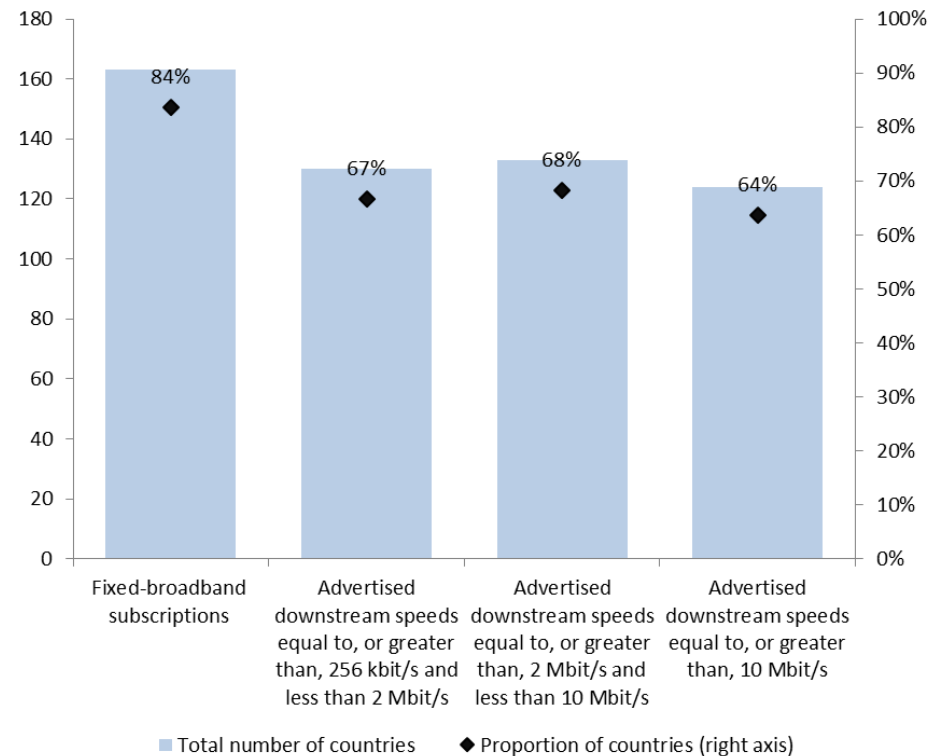
# Data availability (2/3)

## SDG target 17.6: Fixed Internet broadband subscriptions broken down by speed (2015)

### By developed/developing countries



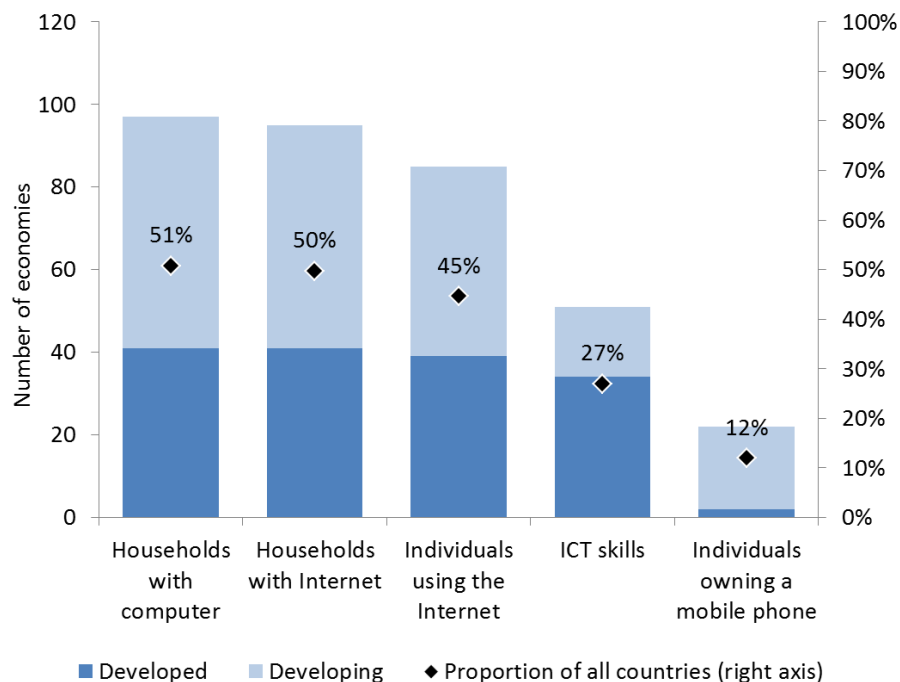
### Arab States



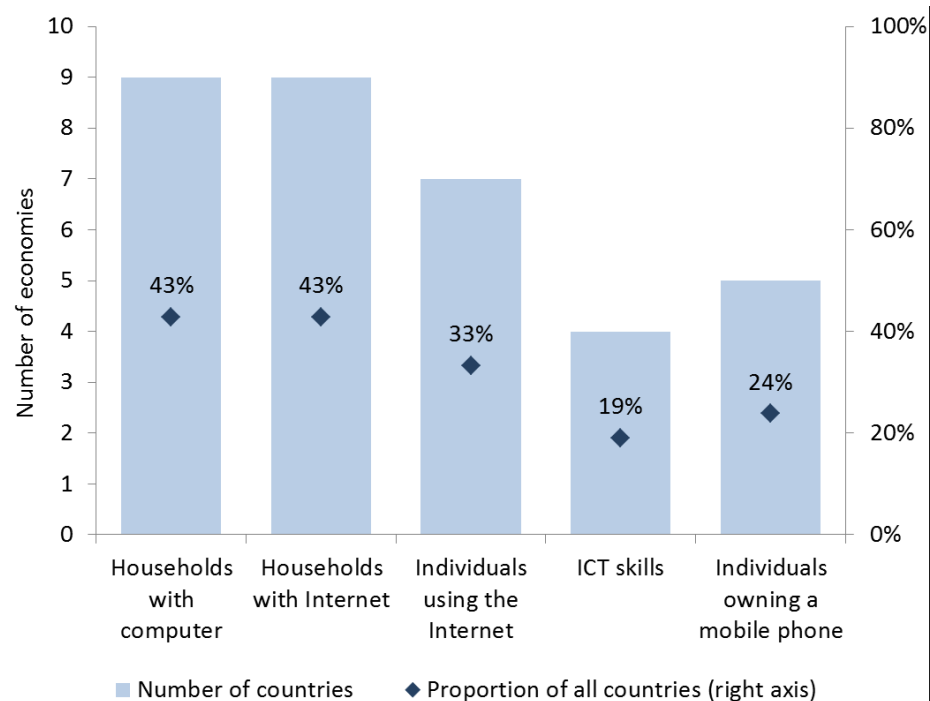
# Data availability (3/3)

## IDI and SDG ICT Household Indicators (latest data 2013-2015)

### By developed/developing countries



### Arab States



## Reasons for data gaps

Data gaps present a serious challenge. Data gaps may arise because:

- lack of understanding of main authorities of the importance of collecting the data, i.e. no priority.
- the service provider does not have the data or does not respond to requests.
- lack of capacity or resources within NSOs to collect household data
- lack of coordination between data users and data producers at the national level

## Addressing data gaps: within countries

Coordination among national stakeholders can identify and address gaps, e.g. by:

- carry out user needs and satisfaction surveys, asking about specific dimensions of data quality, such as, topics and concepts, detail of breakdown, timeliness and access
- getting feedback on statistical plans (NSDS)
- share data submissions, e.g. NSOs copy regulator and ministry when submitting to ITU.
- pool resources to address specific data gaps, e.g. to conduct ICT surveys

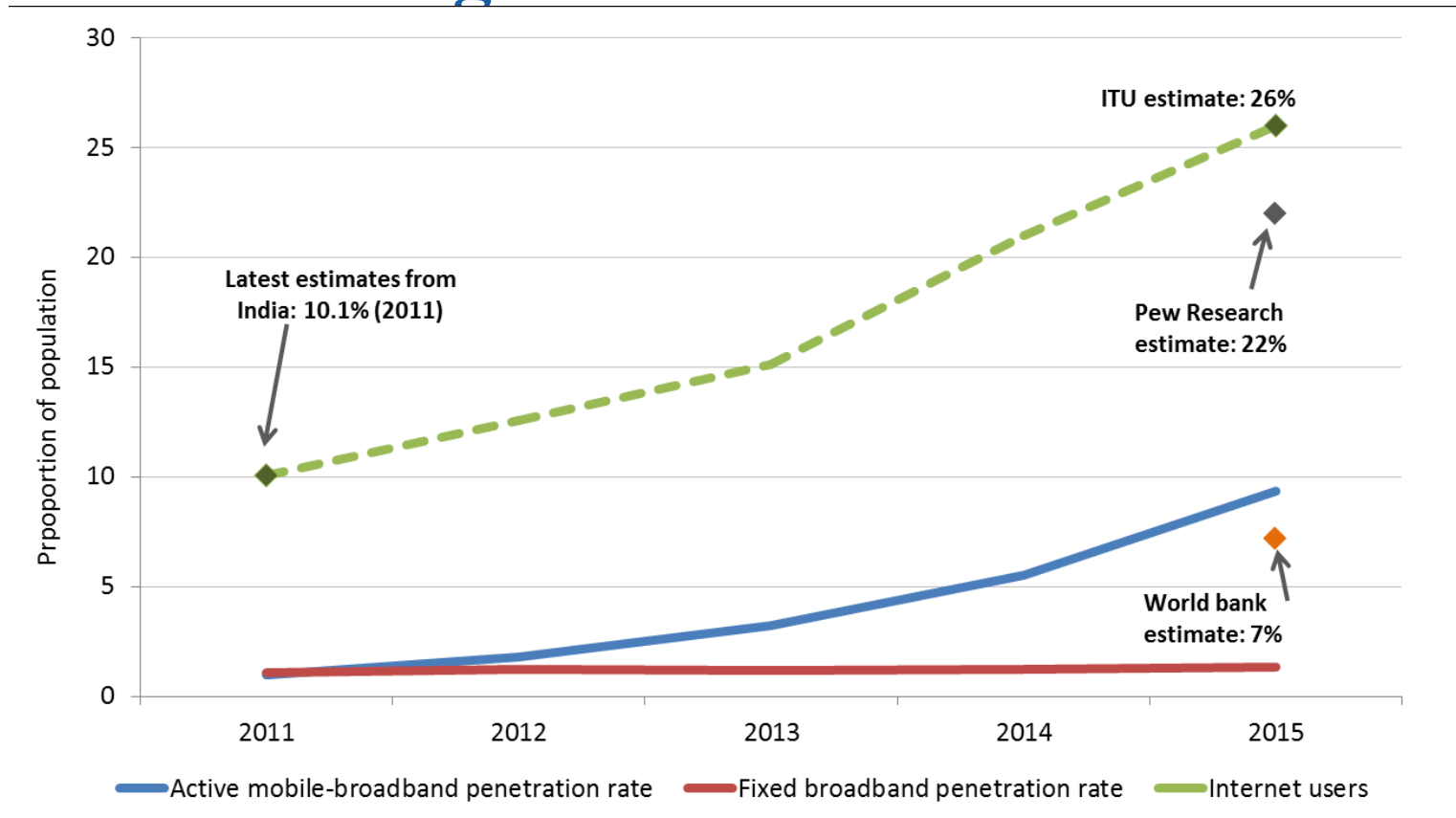
## Addressing data gaps: ITU estimations

- In case of non-reporting, ITU uses **different methods to estimate indicators.**
- **Historical data are used to the maximum extent.**
- **Methods include:** time series, regression models using GNI per capita, and models using mobile and fixed broadband subscriptions.
- **Cross-checks** are made over time and against other countries in the region and with similar levels of GNI per capita.
- **Other sources are also used for benchmarking**, e.g. surveys or estimates.

In case of severe lack of information, estimations may not be possible.



# Example: Estimates of the share of individuals using the Internet in India



**= ITU strongly recommends that countries collect data**

# ITU Statistics: Dissemination

- **World Telecommunication/ICT Indicators database**  
<http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>
- **IDI Data Visualization**  
<http://www.itu.int/net4/ITU-D/idi/2016/>
- **ITU statistics website**  
<http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>
- **ICT Eye**  
<http://www.itu.int/net4/itu-d/icteye/RegionalOrg/WorldRegions.aspx>
- **Publications:**
  - **Measuring the Information Society Report (Nov)**
  - **ICT Facts and Figures (Jul)**
  - **ITU Yearbook of Statistics (Dec)**

**THANK YOU**

**For more information:**

<http://www.itu.int/ict>

and

[indicators@itu.int](mailto:indicators@itu.int)

## Questions for discussion

- Do countries ensure that National Focal Points are up-to-date in ITUs contacts database?
- Are NFPs familiar with questionnaires and methodological resources coming from the ITU?
- Are NFPs participating in ITU activities and forums (EGTI and EGH)?
- Is the calendar of ITU questionnaires adequate to the availability of administrative and survey data in the countries?
- What are the main challenges faced by countries in the production and reporting of ICT Statistics?
- What are countries doing to close the data gap? How is your institution supporting the production of ICT indicators?