**TELECOMMUNICATION
DEVELOPMENT BUREAU**

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SOURCE: STAT, ITU

TITLE: WSIS Target a: ICTs in Villages

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WSIS Target a: ICTs in Villages

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WSIS Plan of Action

B. Objectives, goals and targets

6. Based on internationally agreed development goals, including those in the Millennium Declaration, which are premised on international cooperation, indicative targets may serve as global references for improving connectivity and access in the use of ICTs in promoting the objectives of the Plan of Action, to be achieved by 2015. These targets may be taken into account in the establishment of the national targets, considering the different national circumstances:

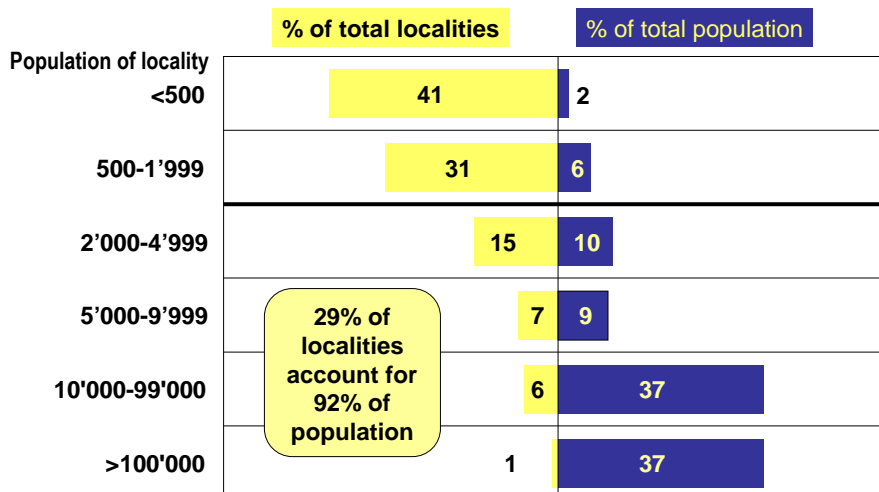a. to connect villages with ICTs and establish community access points;

Comments - WSIS Target a

a. to connect villages with ICTs and establish community access points;

- Village implies rural
  - "a group of houses and other buildings, such as a church, a school and some shops, which is smaller than a town, usually in the countryside" [Cambridge Advanced Learner's Dictionary]
- Village as unit of measurement
  - Practically all national statistical systems do not disseminate data in this way
- "Connect villages with ICTs"
  - ICT is undefined
  - How many villages to connect is unspecified…
- "Community access points"
  - Undefined in the Plan of Action

Hardly any countries are directly tracking this…

Population distribution of localities

Population of locality	% of total localities	% of total population
<500	41	2
500-1'999	31	6
2'000-4'999	15	10
5'000-9'999	7	9
10'000-99'000	6	37
>100'000	1	37

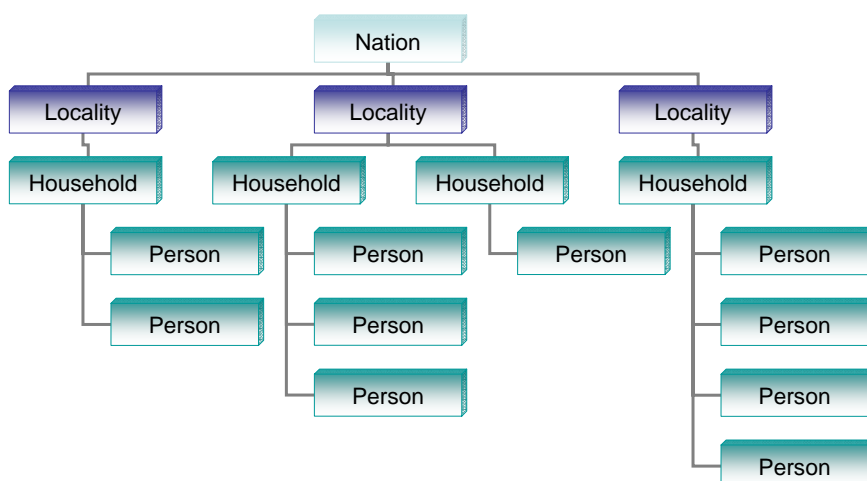**29% of localities account for 92% of population**

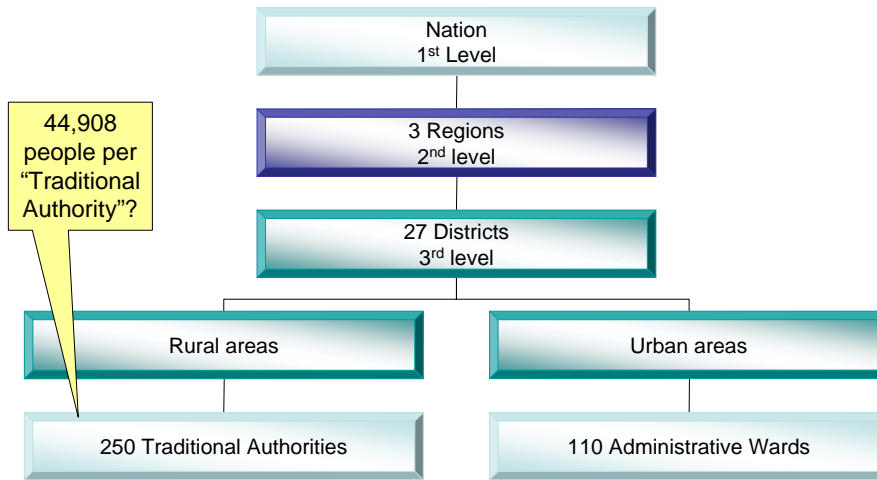*Source*: Adapted from Jordan Population & Housing Census 2004

Villages

- Few countries readily publish data on number of villages
- Information on administrative divisions usually stops at "region/state"
- No precise definition of village. Implies rural but definition of rural varies within & between countries
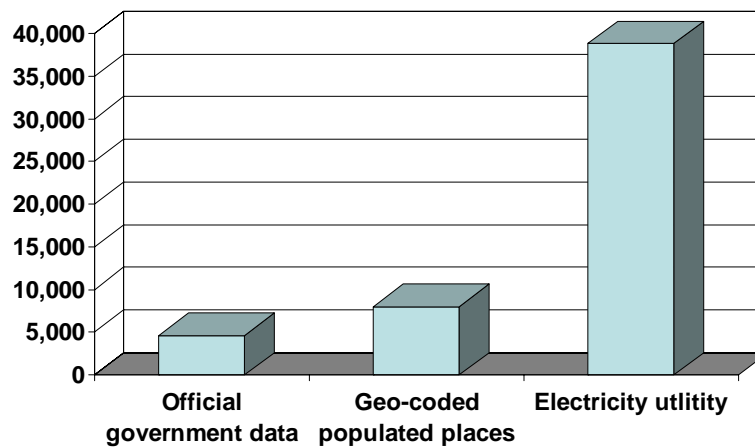
Levels of measurement

```
                        Nation
         ┌──────────────┼──────────────┐
      Locality       Locality        Locality
         │          ┌────┴────┐          │
    Household   Household  Household  Household
         ├─Person    ├─Person   └─Person  ├─Person
         └─Person    ├─Person             ├─Person
                     └─Person             ├─Person
                                          └─Person
```

Spatial hierarchies in Malawi

Nation
1st Level

3 Regions
2nd level

27 Districts
3rd level

44,908 people per "Traditional Authority"?

Rural areas

Urban areas

250 Traditional Authorities

110 Administrative Wards

Differing national counts of localities

40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0

Official government data   **Geo-coded populated places**   **Electricity utlility**

Urban definition comparison

- 105 countries based their urban data on **administrative** criteria, limiting it to the boundaries of state or provincial capitals, municipalities or other local jurisdictions; 83 use this as their sole method of distinguishing urban from rural.
- 100 countries define cities by **population size or population density**, with minimum concentrations ranging broadly, from 200 to 50000 inhabitants; 57 use this as their sole urban criterion.
- 25 countries specify **economic** characteristics as significant, though not exclusive, in defining cities-typically, the proportion of the labour force employed in non-agricultural activities
- 18 countries count the availability of **urban infrastructure** in their definitions, including the presence of paved streets, water supply systems, sewerage systems, or electric lighting.
- 25 countries provide **no definition** of "urban" at all
- 6 countries regard their **entire population** as urban

http://www.scorus2006.ae.wroc.pl/modules/Downloads/presentations/Markandey_Rai.pdf

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Number of villages methodology

- Some countries have official administrative data on number of villages
- Secondary sources on number of villages (e.g., electricity utility, health surveys, election / local government data, etc.)
- Census enumeration areas
- Online gazette of geo-coded populated localities
- Estimate base on region average village size

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Overall global demographics

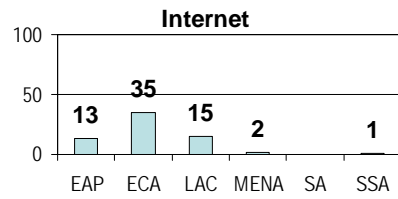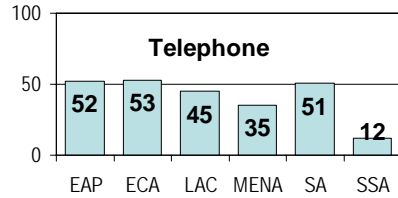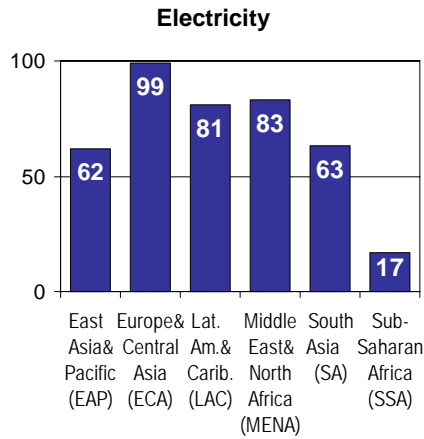|	Population (millions)	Rural population (%)	Rural population (millions)	Number of localities (000s)	Size
Developing	5,108	56%	2,850	2,961	1,826
East Asia & Pacific	1,717	58%	1,000	956	1,795
Europe & Central Asia	446	33%	148	285	2,841
Latin America & Caribbean	529	21%	113	349	1,645
Middle East & North Africa	308	42%	129	107	2,961
South Asia	1,354	72%	977	868	1,560
Sub-Saharan Africa	754	64%	484	396	1,904
Developed	1,013	22%	228	248	4,092
World	6,145	50%	3,102	3,059	2.009
Developing as % of world	84%		93%	92%	

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ICTs in villages

- ICTs not defined in Plan of Action
- For this study, consider fixed telephony access for localities
- Also consider electricity
- "Establish community access points" not defined in Plan of Action. However ITU has done pioneering work in this area and Partnership has identified following indicator:
  - A10: Percentage of localities with public Internet access centres (PIACs) by number of inhabitants (rural/urban)

Same data problems as localities: Few countries collect this information or offer it in the format required

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ICTs in localities

Percentage of localities with (simple average, latest year)

Electricity

East Asia& Pacific (EAP): 62
Europe& Central Asia (ECA): 99
Lat. Am.& Carib. (LAC): 81
Middle East& North Africa (MENA): 83
South Asia (SA): 63
Sub-Saharan Africa (SSA): 17

Telephone

EAP: 52
ECA: 53
LAC: 45
MENA: 35
SA: 51
SSA: 12

Internet

EAP: 13
ECA: 35
LAC: 15
MENA: 2
SA:
SSA: 1

Source: ITU from national administrative data.

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Peru

Number of Public Internet Access Points (PIAP)

	Locality by size	Number of localities	Population	Locality with PIAP	Population covered by PIAP	Percent with PIAP	
						Locality	Population
Urban	>500 000	1	582,975	1	582,975	100%	100%
	50 000-499 999	122	12,501,916	88	9,212,782	72%	74%
	10 000-49 999	228	3,891,678	153	3,100,222	67%	80%
	2 500-9 999	255	1,259,256	126	553,183	49%	44%
Rural	1 000-2 499	565	831,928	75	86,548	13%	10%
	500-999	1,933	1,273,209	67	40,002	3%	3%
	100-499	19,809	4,292,805	462	135,093	2%	3%
	<100	46,194	1,290,252	48	2,812	0.1%	0.2%
	Total	**69,107**	**25,924,019**	**1,020**	**13,713,617**	**1%**	**53%**

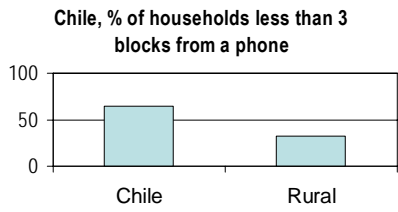**Source: OSIPTEL, El Acceso Comunitario a las TICs (2004)**

29% of population age 6+ use Internet, 75% access from public location
46% in Lima, 37% other urban and 8% rural. Source: INE, April-June 2007.
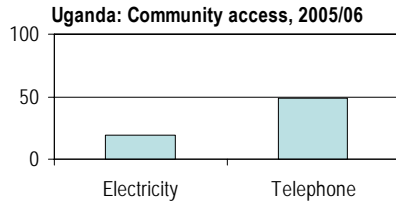
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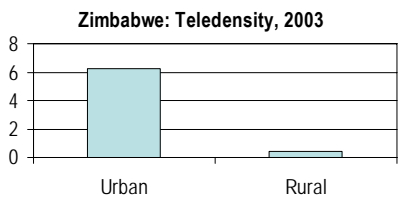
Other ways of measuring access

Chile, % of households less than 3 blocks from a phone

Source: SUBTEL.

Uganda: Community access, 2005/06

Source: UBOS National Household Survey.

Zimbabwe: Teledensity, 2003

Source: POTRAZ.

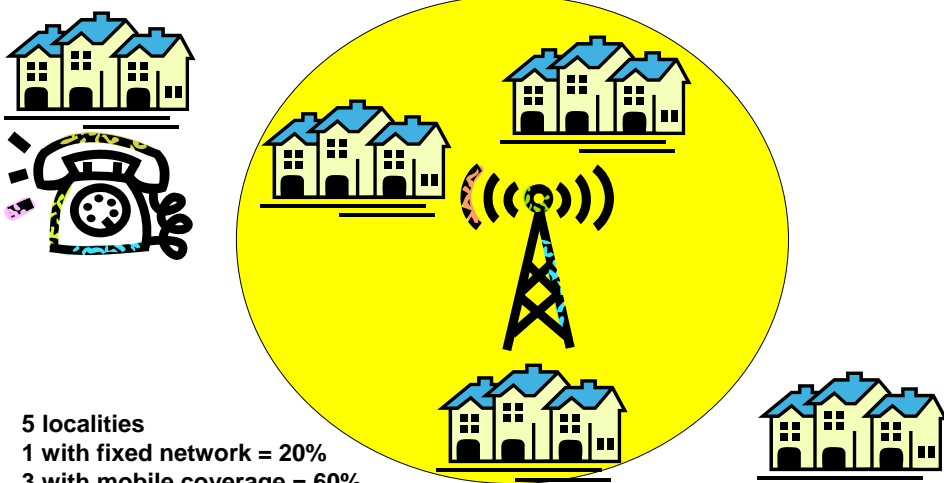**Ghana: % of households < 1/2 hour from phone**
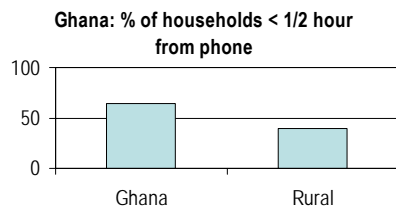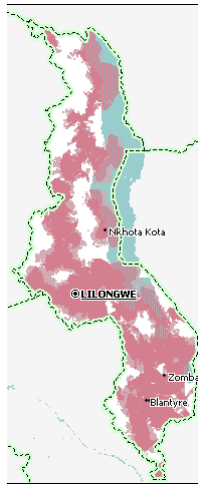

Source: Ghana 2003 CWIQ Survey Report.

Spatial difference between fixed & mobile

5 localities
1 with fixed network = 20%
3 with mobile coverage = 60%
1 with none = 10%

Mobile coverage & settlements

Malawi
Mobile population coverage:
Total (TC): 93%
Rural (RC): 92%

Population:
Total (TP): 12.7 million
Urban (UP): 1.5 million
Rural (RP): 11.2 million

Rural population coverage=
(TC x TP – UP) / RP =
93% x 12.7m – 1.5 m = 10.3m
10.3 / 11.2 ~ 92%

Source: WinRock, National Statistical Office of Malawi, GSMA, maplibrary.

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Rural mobile population coverage

Mobile population coverage 2006, %

	Total	Rural
Developing	**76**	**62**
East Asia & Pacific	89	83
Europe & Central Asia	90	83
Latin America & Caribbean	87	41
Middle East & North Africa	79	69
South Asia	62	47
Sub-Saharan Africa	57	42

Rural population _not covered_ by mobile signal

South Asia 46%
Sub-Saharan Africa 25%
Total 1.1 billion
East Asia & Pacific 16%
Middle East & North Africa 4%
L. America & Carib. 6%
Europe & Central Asia 3%

Source: ITU from regulators, operators, World Bank and ITU calculations.

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ICTs in households

Percentage of households with (latest year, simple average):

Electricity

Total / Rural

- East Asia & Pacific (EAP): 80 / 62
- Europe & Central Asia (ECA): 99 / 98
- Latin America & Caribbean (LAC): 96 / 87
- Middle East & North Africa (MENA): 88 / 81
- South Asia (SA): 45 / 34
- Sub-Saharan Africa (SSA): 30 / 9

Radio

Total / Rural — EAP, ECA, LAC, MENA, SA, SSA

TV

Total / Rural — EAP, ECA, LAC, MENA, SA, SSA

Source: ITU from national household surveys.

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ICTs in households
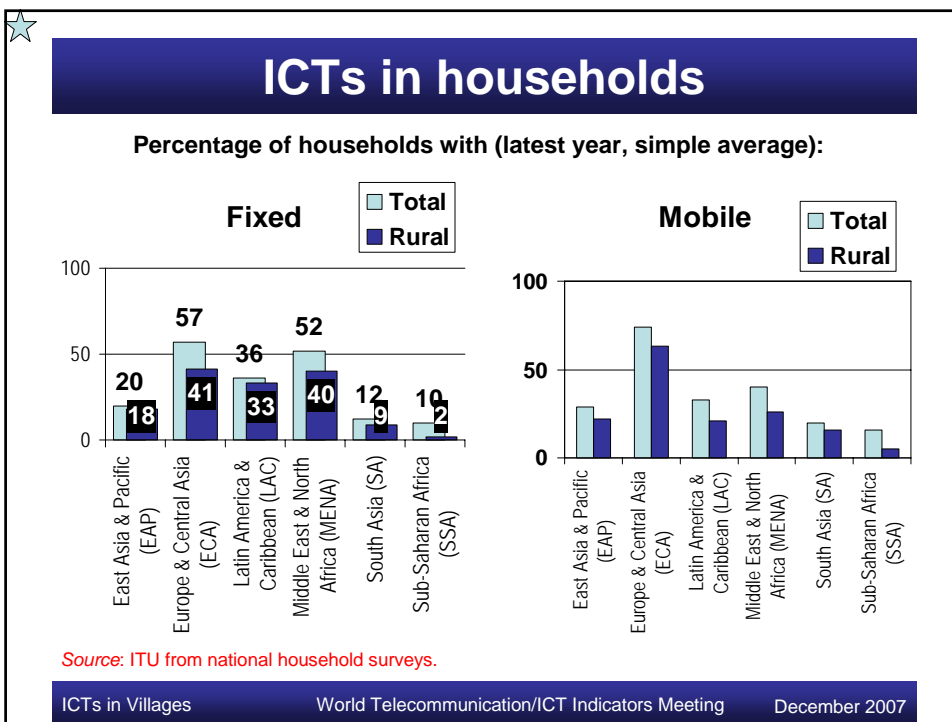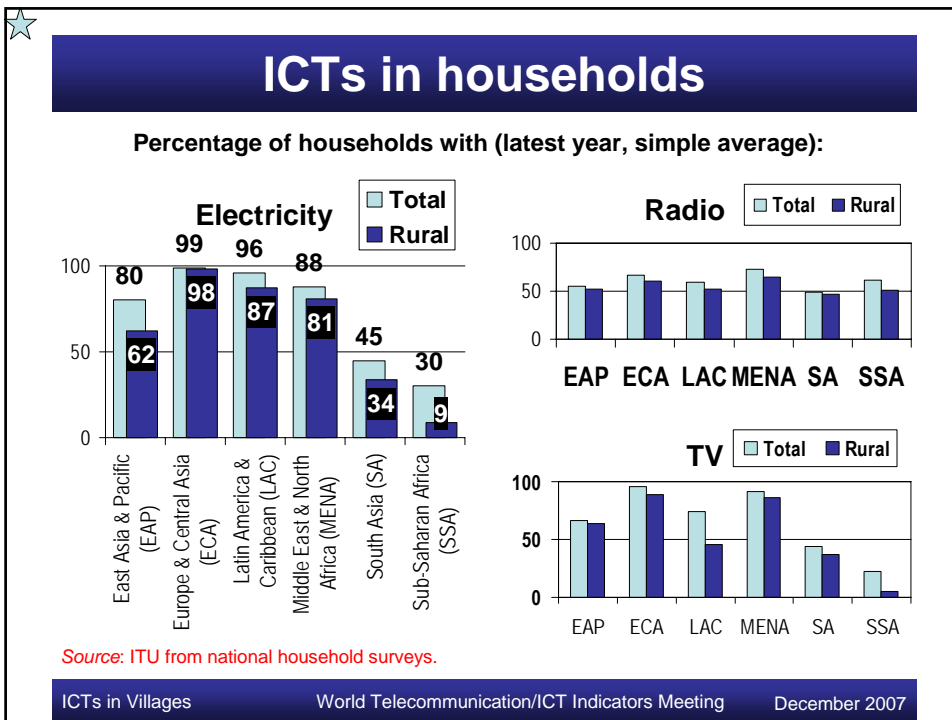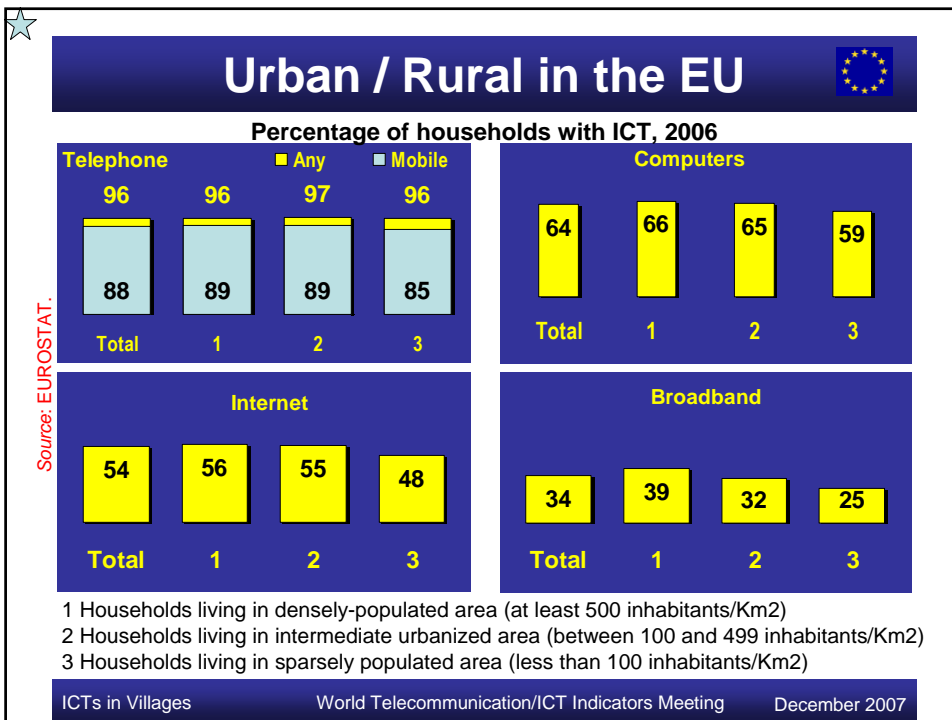
Percentage of households with (latest year, simple average):

Fixed

Total / Rural

- East Asia & Pacific (EAP): 20 / 18
- Europe & Central Asia (ECA): 57 / 41
- Latin America & Caribbean (LAC): 36 / 33
- Middle East & North Africa (MENA): 52 / 40
- South Asia (SA): 12 / 9
- Sub-Saharan Africa (SSA): 10 / 2

Mobile

Total / Rural

- East Asia & Pacific (EAP)
- Europe & Central Asia (ECA)
- Latin America & Caribbean (LAC)
- Middle East & North Africa (MENA)
- South Asia (SA)
- Sub-Saharan Africa (SSA)

Source: ITU from national household surveys.

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ICTs in households

Percentage of households with (latest year, simple average):

Computer

Legend: Total, Rural

100 — 50 — 0

Region	Value (Total)	Value (Rural)
East Asia & Pacific (EAP)	11	4
Europe & Central Asia (ECA)	17	6
Latin America & Caribbean (LAC)	13	3
Middle East & North Africa (MENA)	16	8
South Asia (SA)	4	3
Sub-Saharan Africa (SSA)	0.3	

Internet

Legend: Total, Rural

100 — 50 — 0

Regions:
East Asia & Pacific (EAP)
Europe & Central Asia (ECA)
Latin America & Caribbean (LAC)
Middle East & North Africa (MENA)
South Asia (SA)
Sub-Saharan Africa (SSA)

Source: ITU from national household surveys.

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Urban / Rural in the EU

Percentage of households with ICT, 2006

Source: EUROSTAT.

Telephone
Legend: Any, Mobile

	Total	1	2	3
Any	96	96	97	96
Mobile	88	89	89	85

Computers

Total	1	2	3
64	66	65	59

Internet

Total	1	2	3
54	56	55	48

Broadband

Total	1	2	3
34	39	32	25

1 Households living in densely-populated area (at least 500 inhabitants/Km2)
2 Households living in intermediate urbanized area (between 100 and 499 inhabitants/Km2)
3 Households living in sparsely populated area (less than 100 inhabitants/Km2)

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Regulatory strategies

- Mobile coverage targets in license
- Competition
- Village payphone programs
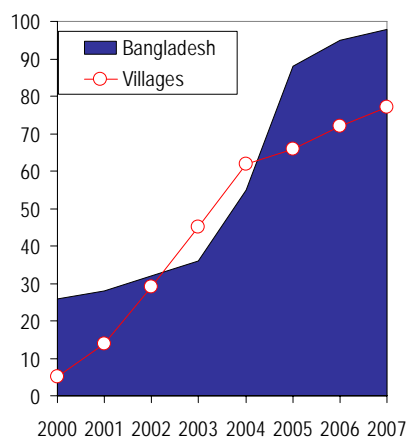- Reverse subsidy auction
- E-government programs

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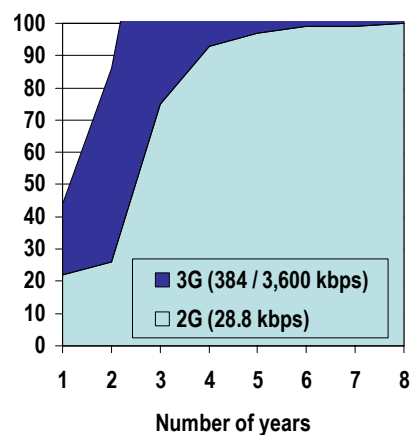

Mobile coverage trends

Bangladesh

Source: Grameen, own estimates.

Japan

Source: DoCoMo.

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Demand side

- Have looked at availability of infrastructure
- Also important to see how it is used, particularly in the context of rural
- Partnership has identified this indicator:
  - HH9 Location of individual use of the Internet in the last 12 months:
    - (a) at home;
    - (b) at work;
    - (c) place of education;
    - (d) at another person's home;
    - (e) community Internet access facility (specific denomination depends on national practices);
    - (f) commercial Internet access facility (specific denomination depends on national practices); and
    - (g) others

Internet café usage

% of Internet users who used Internet Café in the last 3 months, 2006
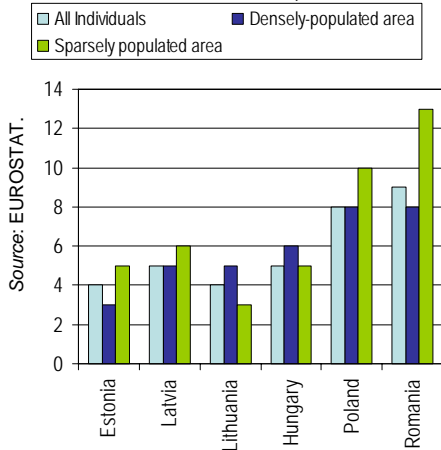
% of homes with member who used Internet Café, April-June 2007
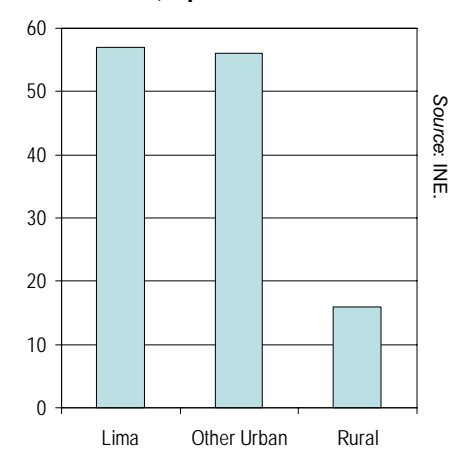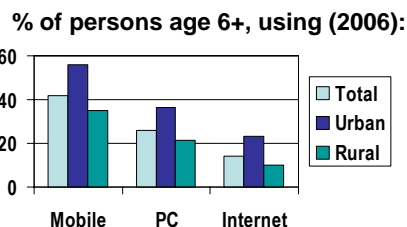
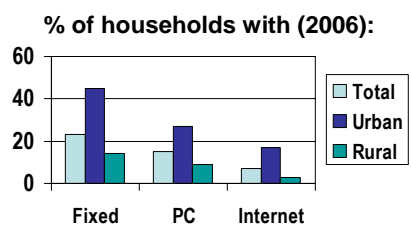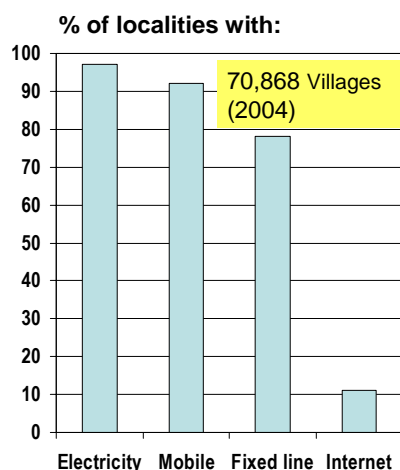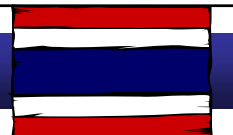## Recommendations & conclusions

- Government agency responsible for ICT compile existing information
  - Often available from NSO but not "user-friendly" (e.g.):
    - Language
    - Disaggregated
    - Hard to locate
- Locality data should be broken down by population
- Mobile coverage broken down by technology
- Other WSIS targets

Thailand

% of localities with:

70,868 Villages (2004)

% of households with (2006):

Legend: Total, Urban, Rural — Fixed, PC, Internet

% of persons age 6+, using (2006):

Legend: Total, Urban, Rural — Mobile, PC, Internet

Source: National Statistics Office, AIS, SRRU.

End

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