

Rural Telecommunications

(3) Current Aspects

– Information Society in 2012 -

Jun-ichi TAKADA

Department of International Development Engineering
Tokyo Institute of Technology

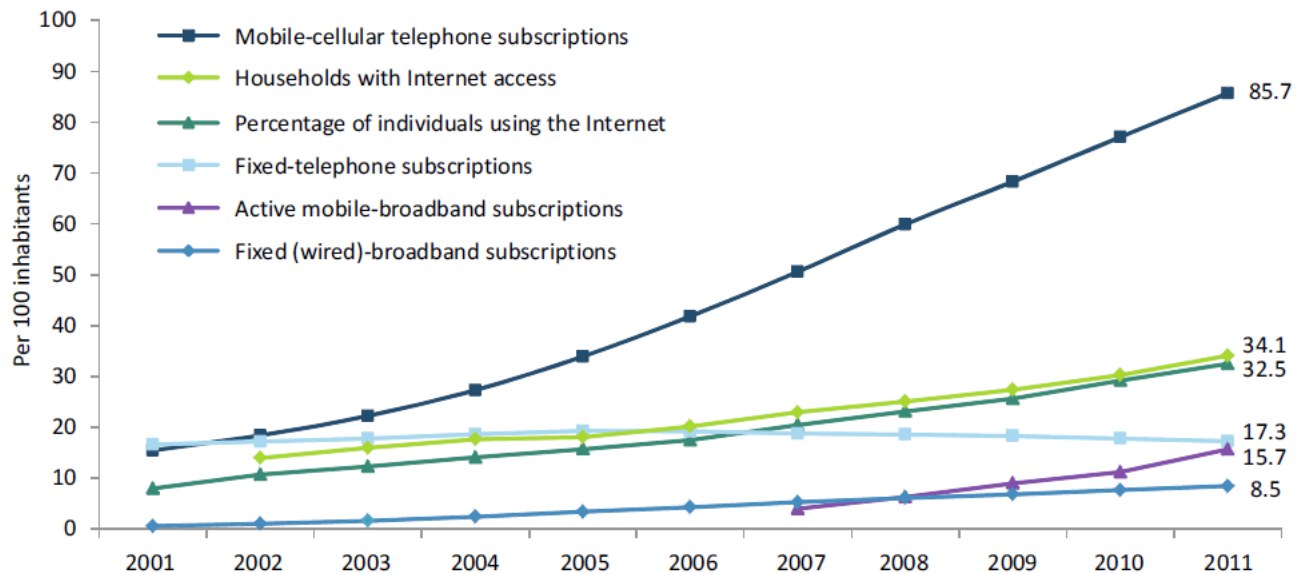
Reading Assignment

Measuring the Information Society 2012, October 2012.

- http://www.itu.int/ITU-D/ict/publications/idi/material/2012/MIS2012_without_Annex_4.pdf
- Read page 1-37 (up to Section 2.3). Consider the answers to the following questions while reading:
 1. What are the recent trend of ICT developments?
 2. What are the elements of IDI and why are they considered?
 3. What kind of disparities can you find?

Recent trend of ICT developments

Chart 1.1: Global ICT developments, 2001-2011



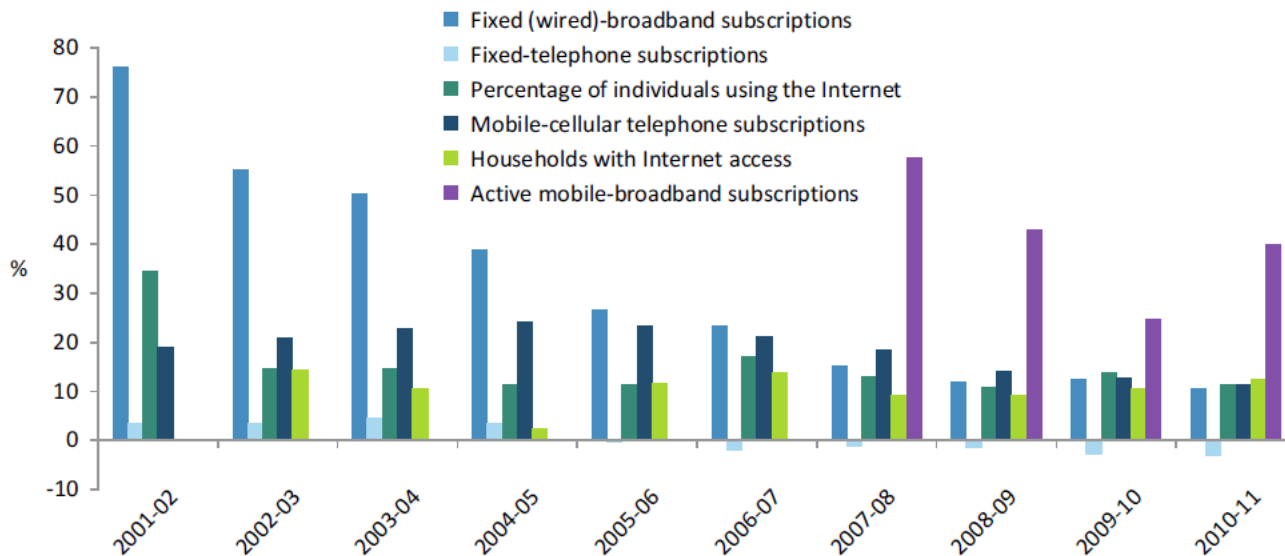
Source: ITU World Telecommunication/ICT Indicators database.

Public vs Private services of telecommunications

- Transition in 80's and 90's
- Telecenter vs Internet café as well
- Private services
 - Draw competition to improve service and to reduce cost.
 - Additional cost due to distribution.
 - Government can not control
 - > concentration into urban area
 - Government provide the minimum service.
 - Subsidy for rural coverage -> “universal service tax”

Recent trend of ICT developments

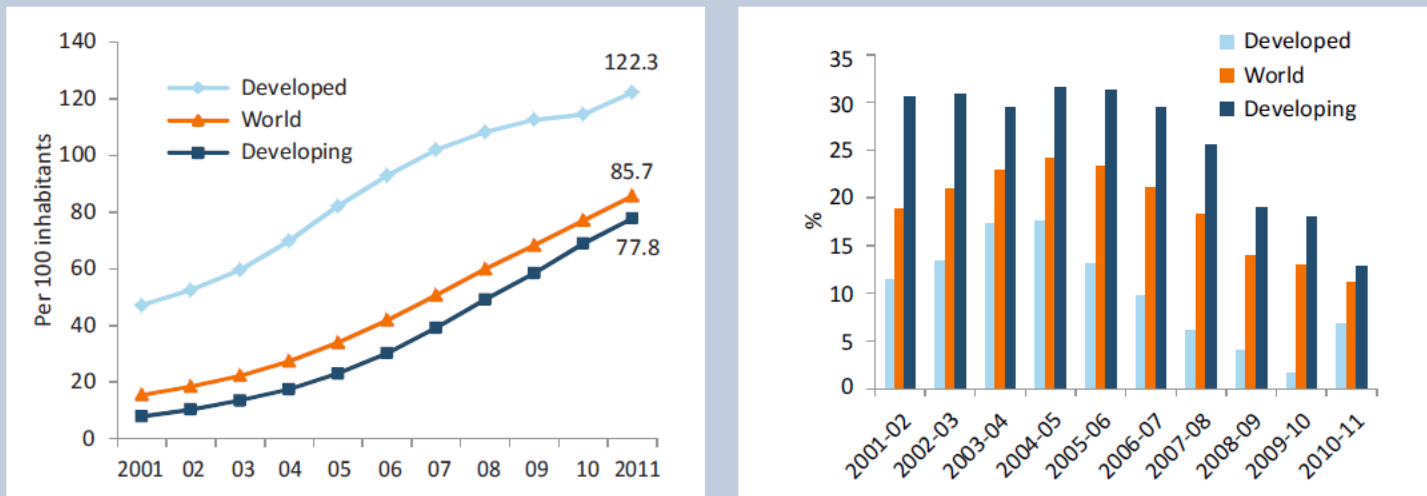
Chart 1.2: Global ICT developments, annual change, 2001-2011



Source: ITU World Telecommunication/ICT Indicators database.

Recent trend of ICT developments

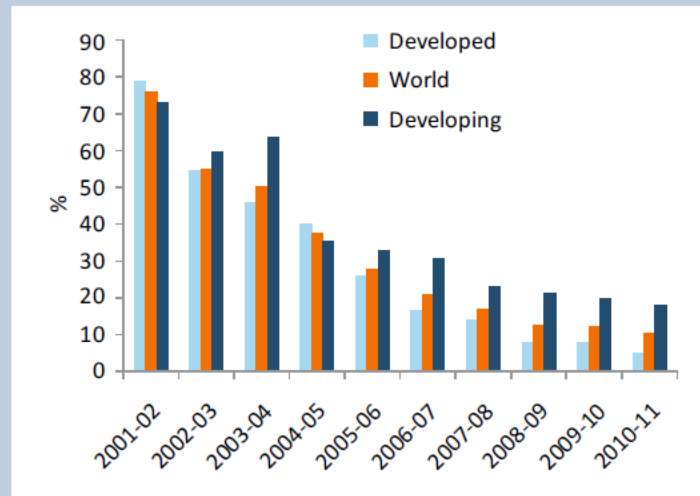
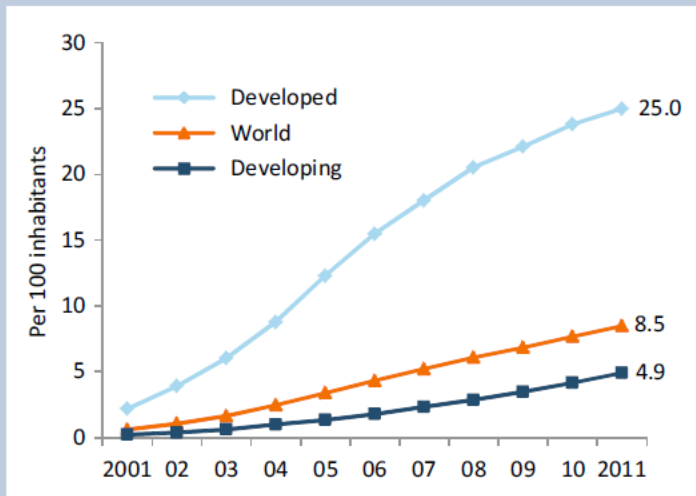
Chart 1.3: Mobile-cellular subscriptions, 2001-2011, world and by level of development, penetration (left) and annual growth (right)



Source: ITU World Telecommunication/ICT Indicators database.

Recent trend of ICT developments

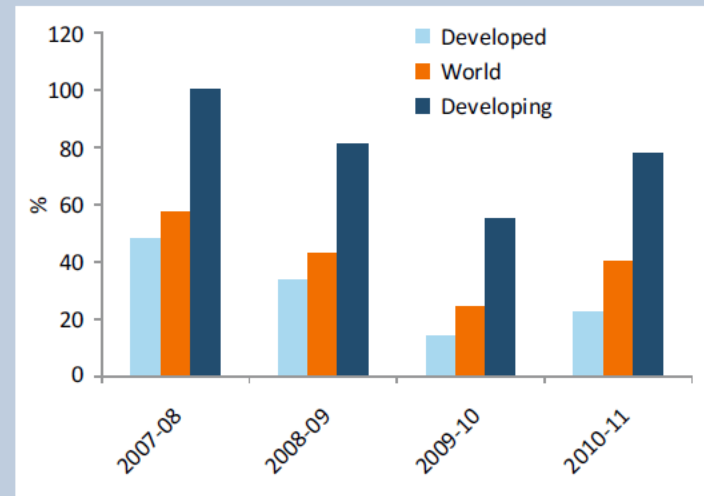
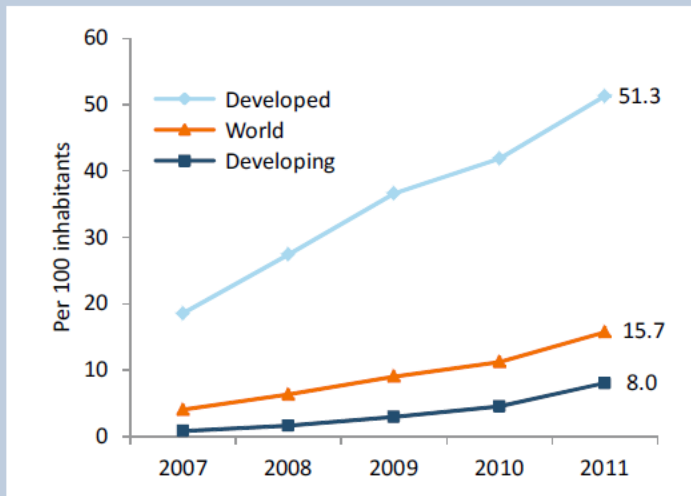
Chart 1.4: Fixed (wired)-broadband subscriptions, 2001-2011, world and by level of development, penetration (left) and annual growth (right)



Source: ITU World Telecommunication/ICT Indicators database.

Recent trend of ICT developments

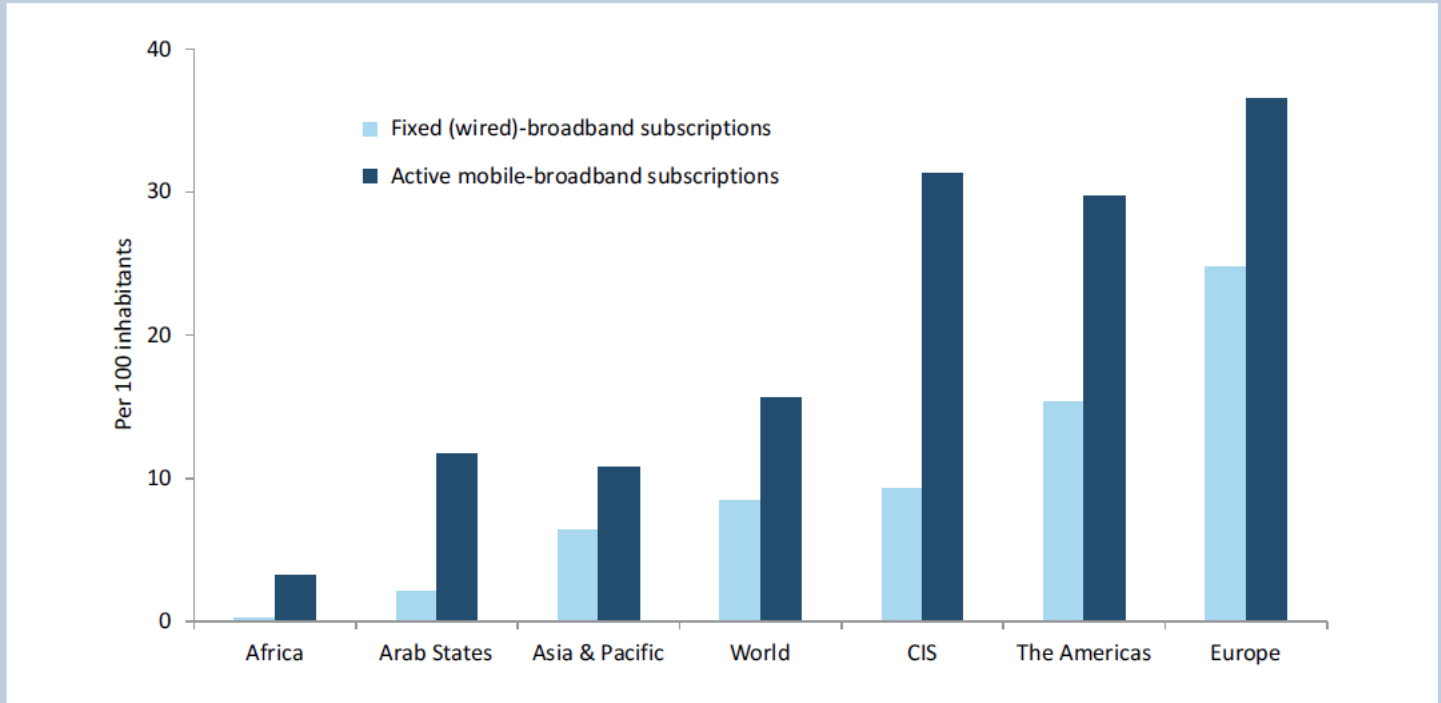
Chart 1.5: Active mobile-broadband subscriptions, 2007-2011, world and by level of development, penetration (left) and annual growth (right)



Source: ITU World Telecommunication/ICT Indicators database.

Recent trend of ICT developments

Chart 1.6: Fixed (wired)- and active mobile-broadband subscriptions, by region, 2011



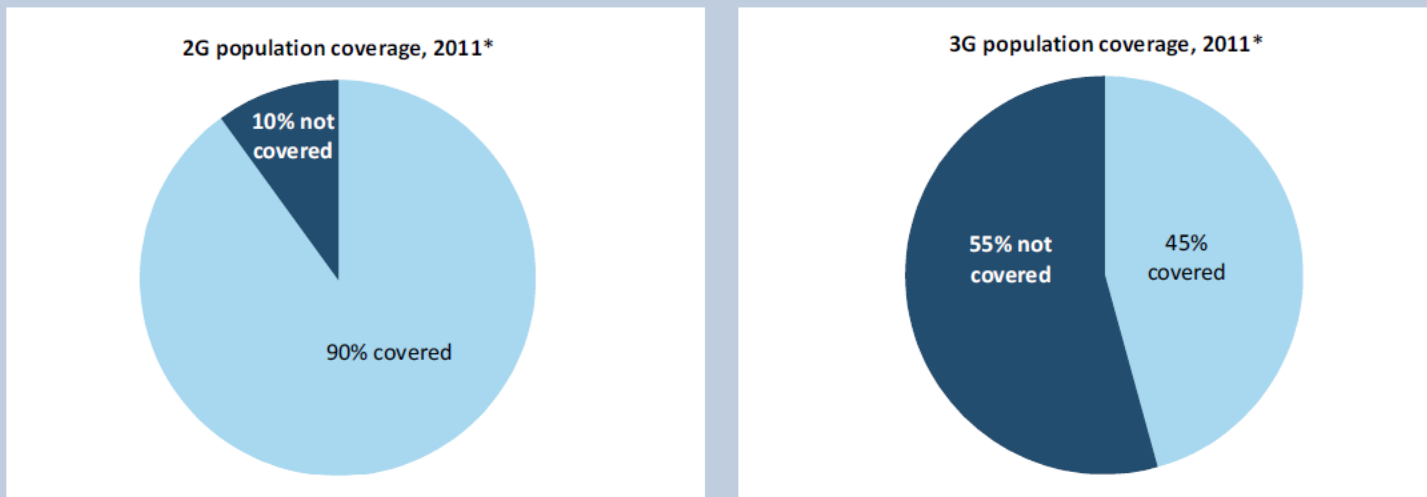
Leap-Frog

Skipping the stage

- Developed country
 - Fixed phone -> mobile phone
- Developing country
 - Xxx -> Mobile phone

Recent trend of ICT developments

Chart 1.7: Population covered by 2G/3G services, 2011*

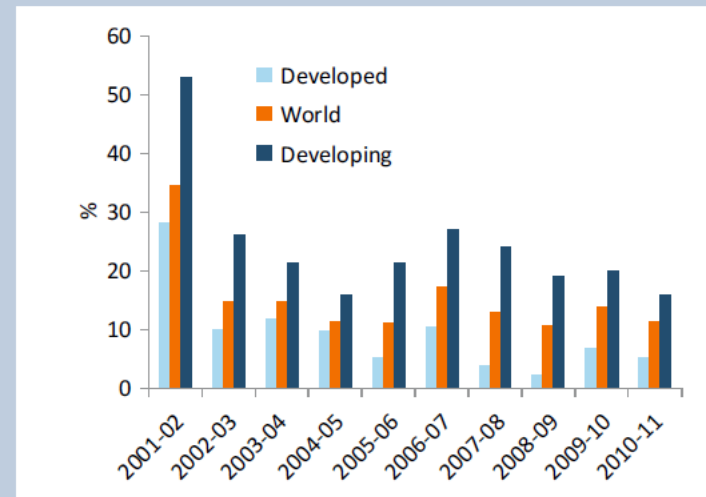
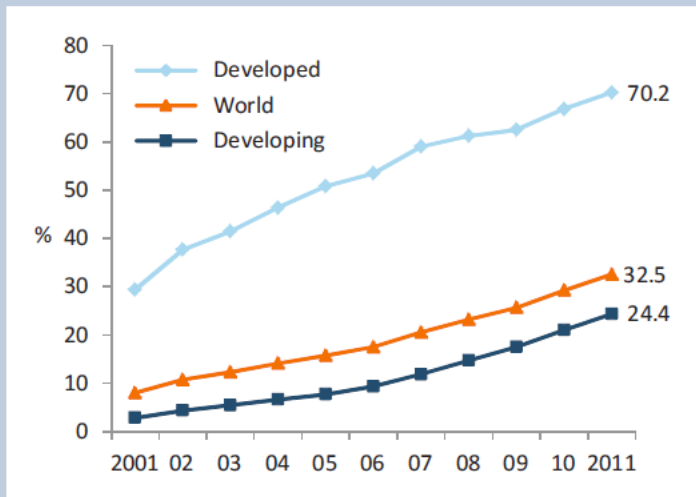


Source: ITU World Telecommunication/ICT Indicators database.

Note: * Estimates.

Recent trend of ICT developments

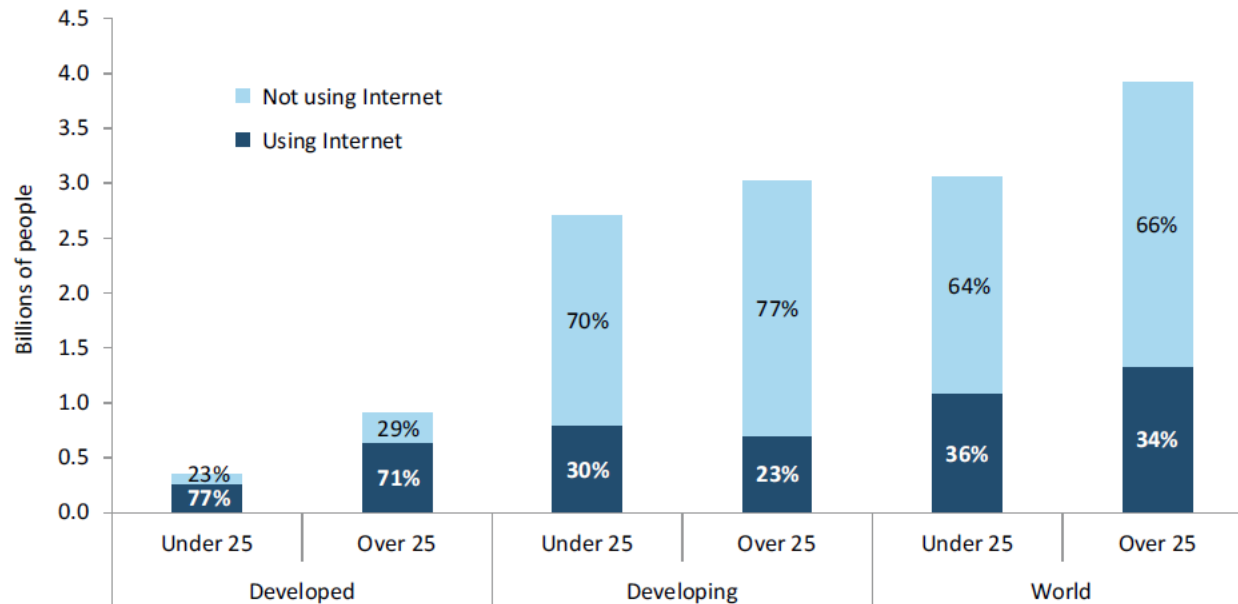
Chart 1.8: Percentage of individuals using the Internet, 2001-2011, world and by level of development, penetration (left) and annual growth (right)



Source: ITU World Telecommunication/ICT Indicators database.

Recent trend of ICT developments

Chart 1.9: Internet usage by age in developing and developed countries, 2011*



Source: ITU World Telecommunication/ICT Indicators database.

Gap about the Age

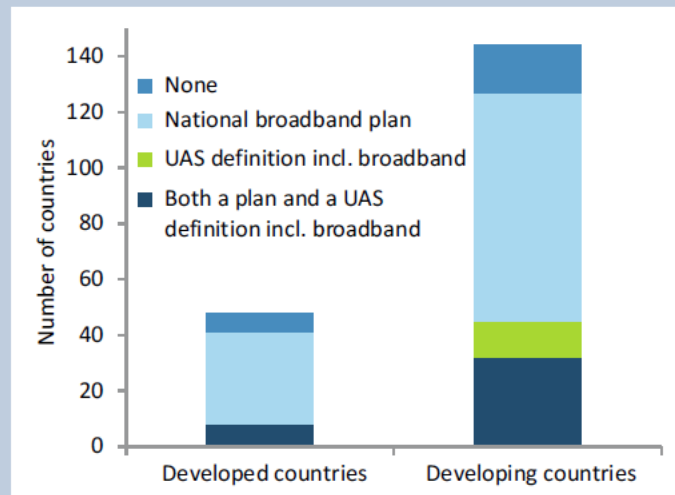
- Availability of equipment
 - Digital native vs Digital migrant
- Availability of connection
 - University and school (starting from primary)
- Digital divide
 - Generation gap
 - Others: rural/urban, income, literacy/language (unicode resolved some problems)

Broadband Commission for Digital Development

Four targets for 2015

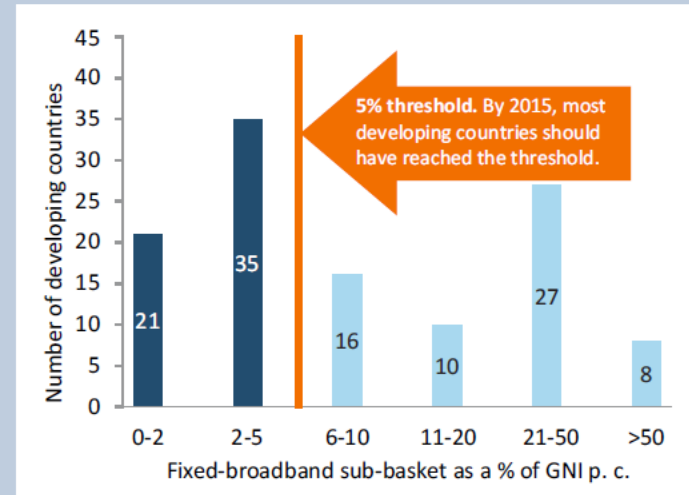
1. Making broadband policy universal
2. Making broadband affordable

Chart Box 1.1.1: National policy instruments in place to promote broadband, 2011



Source: ITU, Regulatory Knowledge Centre.

Chart Box 1.1.2: Fixed-broadband prices in developing countries, % of GNI per capita, 2011



Source: ITU.

Note: For further details on the methodology of the ICT Price Basket, see Chapter 3 of this report.

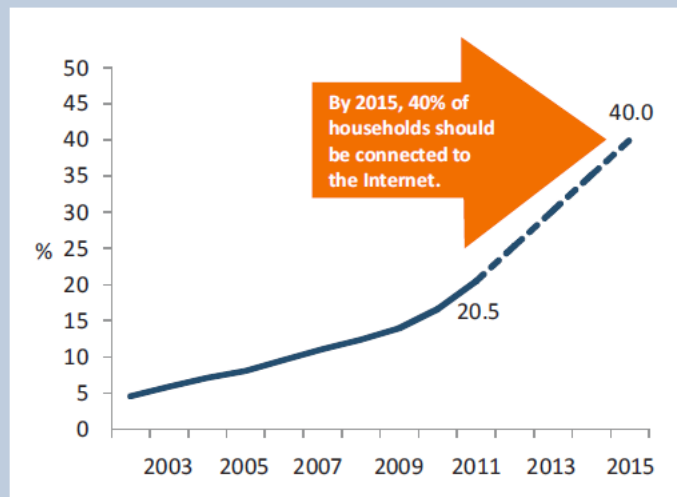
Broadband Commission for Digital Development

Four targets for 2015

3. Connecting homes to broadband

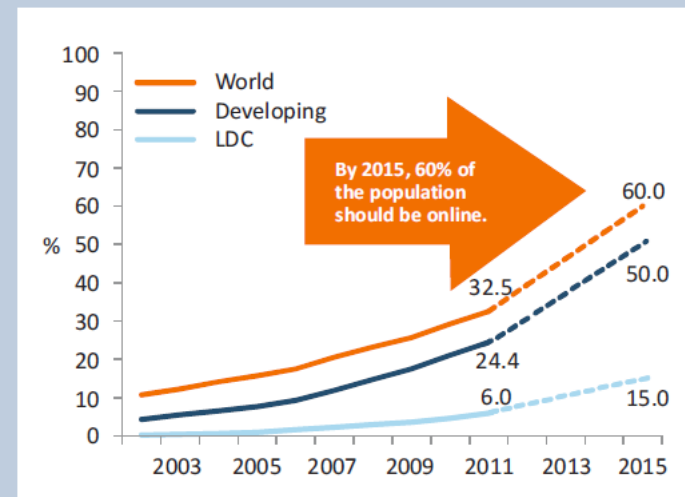
4. Getting people online

Chart Box 1.1.3: Percentage of households with Internet access, developing countries



Source: ITU.

Chart Box 1.1.4: Percentage of individuals using the Internet



Source: ITU.

ICT Development Index (IDI)

- To monitor and compare developments in ICT across countries
- Developed by ITU in 2008
- Objectives
 - Level and evolution over time of IC T developments
 - In both developed and developing countries
 - Digital divide
 - potential of ICTs to enhance growth and development

What are the elements of IDI and why are they considered?

ICT Development stages

- 1.

- 2.

- 3.

ICT Development stages

1. ICT readiness

- reflecting the level of networked infrastructure and access to ICTs

2. ICT intensity

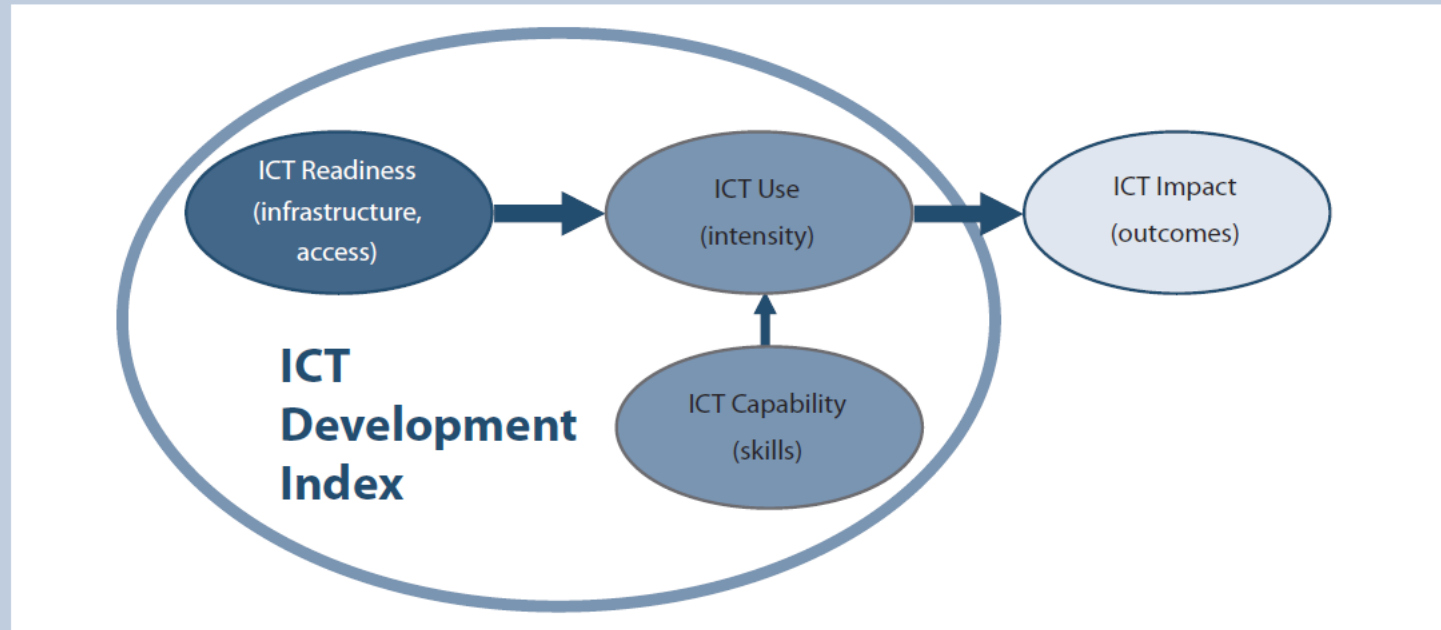
- reflecting the level of use of ICTs in the society

3. ICT impact

- reflecting the result/outcome of efficient and effective ICT use

Elements of IDI

Figure 2.1: Three stages in the evolution towards an information society



Source: ITU.

Elements of IDI

ICT access	Ref. value	(%)
1. Fixed-telephone lines per 100 inhabitants	60	20
2. Mobile-cellular telephone subscriptions per 100 inhabitants	180	20
3. International Internet bandwidth (bit/s) per Internet user	408'813*	20
4. Percentage of households with a computer	100	20
5. Percentage of households with Internet access	100	20

Elements of IDI

ICT use	Ref. value	(%)
6. Percentage of individuals using the Internet	100	33
7. Fixed (wired)-broadband Internet subscriptions per 100 inhab.	60	33
8. Active mobile-broadband subscriptions per 100 inhab.	100	33

Elements of IDI

ICT skills	Ref. value	(%)
9. Adult literacy rate	100	33
10. Secondary gross enrolment ratio	100	33
11. Tertiary gross enrolment ratio	100	33

Data Processing

- Preparation of the complete data set
- Normalization of data
- Rescaling of data to 0-10
- Weighting of indicators and sub-indices

What kind of disparities can you find?