Indicators Measuring Digital Divide & Demography

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Joseph Wilson
Associate Professor of Law
Lahore University of Management Sciences
Lahore, Pakistan

LIRNEasia
Learning Initiatives on Reforms for Network Economies

www.lirneasia.net

What is Digital Divide: Regulators' Definition

- **Pakistan Telecom Authority**

  *Digital divide is the division between those who have **access** to ICT and are **using** it and, those who do not.*

- **Telecommunications Regulatory Commission of Sri Lanka**

  Digital divide refers to the *gap* in access to information and communication. Ability to provide equal access to *ICT :* main telephone lines, mobile telephones, personal computers, email and internet facilities

- **Commission on Information and Communications Technology (CICT) of Philippines**

  Digital Divide refers to the difference between the *"information have communities and those who do not"* through appropriate ICT facilities and services

- **National Electronic and Computer Technology Center & Ministry of Science Technology and Environment of Thailand**

  Social disparity and lack of opportunity derived from development of information technology is known as 'digital divide'

Why Measure Digital Divide?

- Digital divide:
  - creates political inequality and hinders social integration
  - manifests itself in the structure of economic, educational and cultural inequalities, and has the vicious cycle of regenerating further information gap
  - could act as a cause of intergenerational conflicts
  - could impede productive investment into informatization

Importance of Measuring ICTs

- The Geneva Plan of Action (GPA) and the Tunis Agenda for the Information Society (TAIS) underlines the need for more comprehensive and reliable statistical information to track the digital divide.

  Appropriate indicators and benchmarking, including community connectivity indicators, should clarify the magnitude of the digital divide, in both its domestic and international dimensions, and keep it under regular assessment.

Definitional Issues

- The definitions for measuring Digital Divide employed the terms ICTs without defining what ICT means
- Reference to access and utilization
- Primary indicator is tele-density
- Some countries measure geographical coverage – rural/urban

Six Country Data on Digital Divide

Indicator	India	Indonesia	Pakistan	Philippines	Sri Lanka	Thailand
Density: Urban v Rural- Fixed (wire-lines + fixed wireless)	✓		✓	✓		
Backbone map		✓				
Mobile coverage map per operator			✓			
Base Station map per operator				✓		

Digital Divide Data Collection

- Maps unavailable for almost all countries except for Indonesia which provided backbone map.
- Market sensitive information
- Fixed Tele-density does not provide a clear depiction of rural and urban divide

Need for Comprehensive and Standardized Definition

- Wilhelm Greyling summarizes the various definitions of digital divide, which include differences due to:
  - Geography -- rural and urban areas
  - race
  - economic status
  - gender and
  - physical ability, access to information through the Internet, and other information technologies and services, as well as in the skills, knowledge and
  - abilities to use information, the Internet and other technologies.

Comprehensive Picture for Efficient Policy-making

Policy Initiatives Narrowing Digital Divide: USO/USF(Pakistan)

- USF will fund:
  - Infrastructure
  - Tele-centres and their Locations
- Ministry of Information and Technology, Pakistan aims to cover :
  - 85% of population by 2010
  - 95% of population by 2015
- USF will be controlled and monitored by MoIT, and
- Administered by an independent but wholly state-owned company **'Universal Service Fund Guarantee Limited'**
- Subsidies can be provided to USF contractors, on need basis: technology, networks and so on
- However, Contractors will have to pay for spectrums, which entails large sum of investment, this may act as a barrier for Small and Medium size enterprises which serve rural vicinities and may hamper proliferation of wireless services

Recommendations for USO/USF

- OECD recommendation of making certain frequency bands license-exempt must be incorporated by MoIT, Pakistan.
- **This policy must be encouraged in the Region**.
- Measure USF/USO disbursement and allocation of resources in each country of the region

Digital Divide is Measured Through Access to ICTs

- (Divakar's Session on ICTs – but nonetheless)
- A Host of Composite Indices are out there to Calculate ICTS.
- The DOI is measured by using indicators in three different categories, which are:
  - Opportunities (O) : identifies the areas of development that have/haven't been tapped
  - Infrastructure (I): measures roll-out of infrastructure as well as type of technology
  - Usage (U): refers to the actual versus potential usage benefits achieved

DOI Indicates Opportunities within the Divide – BOTH within and between countries

- DOI allows for comparisons of countries' rankings, in overall DOI scores, different categories (Opportunity, Infrastructure and Utilization) and individual indicators.
- This enables policy-makers to compare a country's performance with global and regional averages and also with its peers so as to gauge its strengths and weaknesses in different areas.
- With use of indicators such as Opportunity, Infrastructure and Utilization and their sub-indicators under the DOI, areas of opportunities for investment can be identified
- Each opportunity log would bridge the divide

Recommendations

- Need to gather based on:
  - Geography -- Access to rural and urban areas
  - Race/ethnic minorities
  - economic status
  - gender and
  - physical ability, access to information through the Internet, and other information technologies and services, as well as in the skills, knowledge and
  - abilities to use information, the Internet and other technologies
- Need for Coordination among governmental agencies (e.g., MoIT, FBS, PTA)
- Certain frequency spectrum made available free of charge

PART II - Demographics

Basic Demographic Indicators

- ✓ Total Population of Country
- ✓ Number of people per household
- ✓ Number of households in country
- ✓ Avg. Gross National Income/year ($)
- ✓ Estimated growth rate for population

Demographic Data

- Almost all countries have calculated the given indicators required for basic demographic information
- Philippines needs to get data on *total households* and *number of individuals per household (the last census was done in 2001).*

Pakistan's Demographic Data

Total Population of Country	Collected using CIA World Fact-book. Government of Pakistan collects this indicator as a part of Economic Survey. There are differences in collection methods of the two sources, which is why the reported figure is different.
Number of people per household	Pakistan Integrated Household Survey 2005-06
Number of households in country	Collected through two sources: Pakistan Social and Living Standards Survey and Pakistan Demographic Survey. There needs to be a single source for this indicator
Avg. Gross National Income/year ($)	Pakistan Economic Survey 2006
Estimated growth rate for population	Federal Bureau of Statistics made this indicator available upon request.

Data discrepancy

- It was observed that there is a discrepancy in data reported by national and international agencies.

- For purposes of reference, Sri Lanka and Pakistan's data on *total population* are compared:

Pakistan's Total Population

Years	Economic Survey 2000-06	CIA Fact Book 2000-06	Difference in Millions
2000	139,760,000	141,553,775	**1.79**
2001	142,860,000	144,616,639	**1.76**
2002	145,960,000	147,663,429	**1.70**
2003	149,030,000	150,694,740	**1.66**
2004	150,470,000	159,196,336	**8.73**
2005	153,960,000	162,419,946	**8.46**
2006	156,770,000	165,803,560	**9.03**

Sri Lanka's Total Population

Years	NSO 2000-05	CIA Fact Book 2000-05	Difference in Millions
2000	19,359,000	19,238,575	**(0.12)**
2001	18,732,000	19,408,635	**0.68**
2002	19,007,000	19,576,783	**0.57**
2003	19,252,000	19,742,439	**0.49**
2004	19,462,000	19,905,165	**0.44**
2005	19,668,000	20,064,776	**0.40**

Basic Demographic and Digital Divide

Pakistan --Village Census:2007

- Pakistan plans to conduct Village Census covering all villages in Pakistan, wherein ICT related data will be collected.
- Socio-Economic survey
- Agricultural Census 2010

Table: Availability of household ICT Indicators in Asia and Pacific

	Indicator	Countries					
		Pakistan	Philippines	Sri Lanka	Thailand	India	Indonesia
Basic Accessoreies to ICT	1)Presence of elecricity	☺	☺	☺	☺	☺	☺
	2)Presence of radio	☺	☺	☺	☺	☺	☺
	3)Presence of fixed telephone line	☺	☺	☺	☺	☺	☺
	4)Presence of mobile phone	☺	☺	☺	☺	☺	☺
	5)Presence of TV	☺		☺	☺	☺	☺
	6)Presence of a Computer			☺	☺		☺
	7)Presence of Internet assess	☺		☺			☺
Internet access	8)Methods of access/bandwinth	☺		☺			☺
	for Internet access	☺		☺			
	9)Location of the most frequent use	☺		☺			☺
	of Internet						
	10) Frequency of Internet use	☺		☺			☺
ICT usage	11) Purposence of PC use			☺			☺
	12) Purpooses of Internet use			☺			☺
	13) Contcrete services/activities the						☺
	Internet is used for						☺
	14)Languages of visited Internet sites						☺
	15) Types of products/ services over						☺
	purchased over the Internet						
	16) Value of purchased goods/services						☺
	over the Internet						
Barriers to usag	17) Barriers to PC usage						☺
	18) Barriers to Internet usage	☺					☺
	20) Geographic location where the						☺
	Internet goods are purchased						

Note: ☺ is for plans to collect in one year, ☺ NSO plans to collect it in 3 years. Shaded are the countries with very high demand for ICT indicators

Source: Measuring ICT: The Global Status of ICT indicators, UN ICT Taskforce 2005

Table: Disaggegations for ICT indicators from General Household Surveys in Asia-Pacific Countries

Country List	Classification Variables							
	Age	Gender	Education	Income/ expenditure level	Location	Ethnicty	Economic activity	Health Status
India	☺	☺	☺	☺	☺			
Indonesia			☺	☺				☺
Hong Kong SAR of China	☺	☺	☺	☺			☺	
Singapore				☺				
Sri Lanka	☺	☺	☺					
Thailand								
Cambodia					☺			
Mongolia	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Macao SAR of China				☺				
Micronesia (Federated States)	☺	☺	☺	☺		☺	☺	
Total	**5**	**5**	**6**	**7**	**3**	**1**	**3**	**2**

Notes: - Only answers to the metadata questionnaire are considered

- Specific surveys to ICT households exist

-(1) means that the country has carried out an LSMS survey and that the ICT indicators provided may be disaggregated according to the variables investiagted in that survey

Source: **Measuring ICT: The Global Status of ICT indicators, UN ICT Taskforce 2005**

Challenge: The "Don't Haves" and the "Don't Want Tos"

- There is a need to identify groups based on age, education or ability who rely on 'others' to provide them with services
- Determine causes such as:
  - Absence of equipment, technology
  - Purchasing power
  - Ability: Local content, Physical disability, literacy
  - Reach: Geographic location
- Establish strategies that engage public and private partnerships, to bring these groups towards ICT adoption, thus, bridging the Digital Divide

Thank You!!!

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