

# ICT indicators: LIRNEasia's perspective

Rohan Samarajiva

[www.LIRNEasia.net](http://www.LIRNEasia.net); rohan [at] lirneasia.net

International Seminar on ICT Statistics

Seoul, July 19-21, 2010



This work was carried out with the aid of a grant from the International Development Research Centre, Canada and the Department for International Development, UK.

**IDRC**  
International Development  
Research Centre



**CRDI**  
Centre de recherches pour le  
développement international

**DFID** Department for  
International  
Development

# Our mission

*To improve the lives of the people of the emerging Asia-Pacific by facilitating their use of ICTs and related infrastructures; by catalyzing the reform of laws, policies and regulations to enable those uses through the conduct of policy-relevant research, training and advocacy with emphasis on building in-situ expertise*

# Why we work on indicators

- How do we know whether the reforms we are catalyzing are yielding good results?
- Good results defined as improved performance in the form of
  - Higher connectivity (voice & data)
  - More value for money (price & quality bundles)
  - Greater choice
- We prefer benchmarking wherever possible, so that relative performance can be measured
- We know that sector performance is not a direct proxy for policy-regulatory performance
  - Therefore, we also look for indicators of policy-regulatory performance too

# Preference for benchmarking → PMID indicators & ITU definitions

- As catalysts, we do not wish to substitute for IGOs, governments and industry bodies
- As researchers, we do not wish to do same thing over and over
- Therefore, we always start from international consensus reflected in PMID and ITU documents
  - Critiquing as appropriate, suggesting improvements, proposing ways of filling gaps
  - When the relevant authorities adopt the correct indicator, we step back

## Zimbabwe tops Pakistan, India and Sri Lanka in ICT Opportunity, according to ITU

Written by [Rohan Samarajiva](#) on [February 17, 2007](#) – [5 Comments](#)

The ITU has just released [Measuring the Information Society 2007: ICT Opportunity Index and World Telecommunication/ICT Indicators](#). This report includes the annual data on basic telecom indicators, which many rely on for research, writing and policy formulation. Contrary to the title, the data are from 2005, but still, this is one of the few sources of comprehensive data where all countries are represented.

This particular report also ranks countries by something called the ICT Opportunity Index. According to this ranking, Zimbabwe (Rank = 127) has greater ICT opportunities than Pakistan (139), India (133) and Sri Lanka (128).

Readers of this website are generally aware of the rapid growth of telecom in these three countries, and India is pretty much a brand name for ICT these days. How Zimbabwe, with one of the worst records of misgovernance in the world can do better than these three countries is a subject worthy of debate.

For the record, Zimbabwe was heading for 1500% inflation in January 2007 according to [African sources](#), and its [diplomats had not been paid for months](#). The telecom sector in Zimbabwe seems to be [in crisis](#) as well.

So, the question are, is the ITU's ICT Opportunity Index flawed? If yes, how? If not, should Pakistan, India and Sri Lanka strive to emulate Zimbabwe's monetary and telecom regulatory practices?

Posted in [General](#) | Tagged [India](#), [Information Society](#), [Pakistan](#), [Sri Lanka](#), [Zimbabwe](#)

5 Comments to "Zimbabwe tops Pakistan, India and Sri Lanka in ICT



### Related Posts

1. [Sri Lanka and Pakistan rise in BPO ranking headed by India, but by enough? Where is Bangladesh?](#)
2. [Network Readiness: Sri Lanka advances; In Pakistan and Nepal retreat; Bangladesh h... its bottom place](#)
3. [Documenting the Capabilities of Measuring Statistics in India](#)
4. [India still tops on BPO; Sri Lanka stalled d... to war](#)
5. [South Asia slipping in e-readiness? Pakistan... the exception](#)

### Recent Comments

- Tweets that mention Internet vs books or Internet plus books? » LIRNEasia - a regional ICT policy and regulation think tank active across the Asia Pacific -- Topsy.com on Internet vs books or Internet plus books?
- Inaugural Public Lecture: Change of Focus; Recovery to Mitigation ... | Telecom Regulation on Inaugural Public Lecture: Change of Focus; Recovery to Mitigation
- Tweets that mention Disaster Mitigation:

# What we have done to improve indicators

- Thematic focus on indicators, starting in March 2006
  - Big push on basket indicators
  - Prepared a manual and database for use by regulatory agencies
  - Expert fora with NRA and NSO participation
- Indicators, continued, since 2008
  - Benchmarking leased-line & broadband prices; international voice and roaming prices
  - Broadband quality of service experience
    - Looking to novel solutions reflective of nature of Internet
  - Now working on mobile broadband

# Example of LIRNEasia's benchmarking work: BB, wholesale & retail

Oct 2009

Table 1- Broadband Prices in Emerging Asia in USD<sup>2</sup>

Country <sup>3</sup>	Annual cost, 2Mbps, 2km DPLC (tail cost)	Annual cost, 2Mbps, 100km DPLC <sup>4</sup>	Annual cost, 2Mbps Broadband business connection (unlimited download)	Annual cost, 256kbps Broadband business connection (unlimited download)	Annual cost, 256kbps Broadband residential connection (unlimited download)	Price per GB, for 2Mbps, 5-10 GB data limit (Business)	Price per GB, for 256kbps, 5-10 GB data limit (Business)	Price per GB, for 256kbps, 1-4 GB data limit (Residential)	Price per GB, 1Mbps speed, 1GB data limit mobile internet	Value of 1 USD in local currency as at September 20, 2009 <sup>5</sup>
<b>South Asia</b>										
Afghanistan	6	7	11,700 <sup>8</sup>	4,200 <sup>9</sup>	4,200 <sup>10</sup>					50.10
Nepal	11	11	1,423 <sup>13</sup>	230 <sup>14</sup>	230 <sup>15</sup>					78.43
Bangladesh	786 <sup>16</sup>	3,502 <sup>17</sup>		598 <sup>18</sup>	256 <sup>19</sup>					70.25
Pakistan	56 <sup>20</sup>	2,807 <sup>21</sup>	289 <sup>22</sup>	116 <sup>23</sup>	116 <sup>24</sup>		3 <sup>25</sup>		2 <sup>26</sup>	83.11
India	348 <sup>27</sup>	3,607 <sup>28</sup>	899 <sup>29</sup>	147 <sup>30</sup>	147 <sup>31</sup>	3 <sup>32</sup>		6 <sup>33</sup>	8 <sup>34</sup>	48.93
Sri Lanka	4,656 <sup>35</sup>									
Bhutan	999 <sup>36</sup>									
Maldives	15,065 <sup>40</sup>									
<b>East Asia</b>										
Philippines	392 <sup>56</sup>		753 <sup>57</sup>	250 <sup>58</sup>	199 <sup>59</sup>					47.82
Indonesia	3,025 <sup>60</sup>	8,520 <sup>61</sup>		741 <sup>62</sup>		21 <sup>63</sup>		8 <sup>64</sup>	16 <sup>65</sup>	9718.17
Mongolia	(2880) <sup>66</sup>	(2880) <sup>67</sup>	5880 <sup>68</sup>	1200 <sup>69</sup>	1200 <sup>70</sup>				3 <sup>71</sup>	1418.61

With 70+ footnotes in the most recent publications



# Engagement with PMID, ITU, NSOs, NRAs

- From 2005 meeting at WSIS, engaged with PMID and ITU
  - Asian representative on multi-regional panels at ITU Indicators events
- Strong participation at KADO event focusing on the composite index DOI in 2006
- Training for NRA/NSO representatives in collaboration with ITU
- Senior Research Fellow Payal Malik's engagement with OECD and Indian NSO
- Participated in design of questions for Sri Lanka NSO
  - Hopefully will be involved design of questions for census in 2011





**LIRNEasia researchers, from left to right, presenting on India, the Philippines, Pakistan and Indonesia at Digital Opportunity Forum 2006 in Seoul**



LIRNEasia is a regional ICT policy and regulation think tank active across the Asia Pacific (About)

Home	About	Projects	Capacity-building	Photos	Contact	Archives	Search
------	-------	----------	-------------------	--------	---------	----------	--------

## Sri Lanka's Computer Literacy Survey Questionnaire

Written by [Sriganesh Lokanathan](#) on August 2, 2006 – 9 Comments

Sri Lanka's Department of Census and Statistics will be conducting a household computer literacy survey in October 2006. The questionnaire for the survey has been posted on their website for comments. Comments have been requested by August 14, 2006.

The document can be found [HERE](#)

The documents includes instructions on how to send comments.

Posted in [General](#) | Tagged [Computer Literacy Survey Questionnaire Sri Lanka](#), [Sri Lanka](#), [Sri Lanka's Computer Literacy Survey Questionnaire Sri](#)

### 8 Comments to "Sri Lanka's Computer Literacy Survey Questionnaire"

You can follow all the replies to this entry through the [comments](#) feed.

*Marcus Wijewardena*

August 9, 2006 at 6:23 pm | [Permalink](#)

There are questionnaires that can be improved by modifications, but unfortunately not this. It is a pity that Dept of Census and Statistics comes up with such low quality work.



### Related Posts

1. Sri Lanka: Is Computer Literacy a politically dependent variable?
2. Sri Lanka's Computer Literacy: Target 60%; Achieved 19.5% - ICTA
3. Computer sales in Pakistan, B'desh and Sri Lanka
4. \$100 laptops to debut with Thai kids
5. Teleuse and Living Conditions in the North & East (Sri Lanka)

### Recent Comments

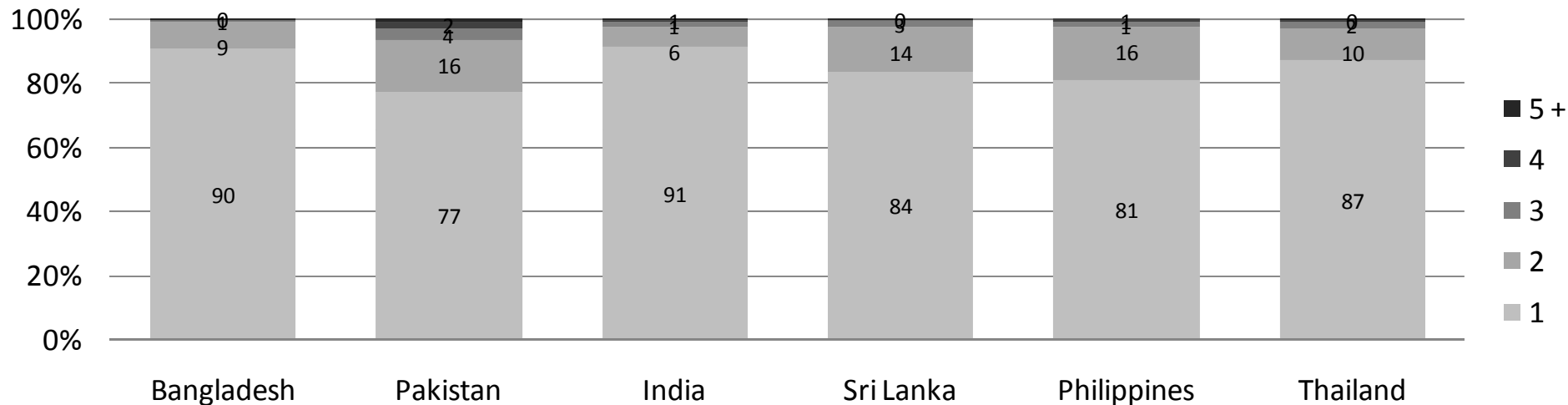
- [Inaugural Public Lecture: Change of Focus; Recovery to Mitigation ...](#) | Telecom Regulation on Inaugural Public Lecture: Change of Focus; Recovery to Mitigation
- [Tweets that mention Disaster Mitigation: Time](#)

# Based on our research, we believe that supply-side indicators are becoming less accurate

- Increasingly, telecom services markets are becoming FMCGs [fast moving consumer goods]
  - Indicators developed under monopoly conditions are becoming less relevant
    - Mobile “connections” are being counted without a proper, uniformly implemented definition (active for 3 months rule implemented in the breach)
    - What does a subscription mean in the context of widespread ownership of multiple SIMs?
    - With bucket pricing and discounts, conventional price data are increasingly inaccurate

# Own more than one (active) SIM at BOP: PK 12% (2006) → 23% (2008): TH 1% ('06) → 12% ('08)

Multiple SIM ownership (% of BOP mobile owners)



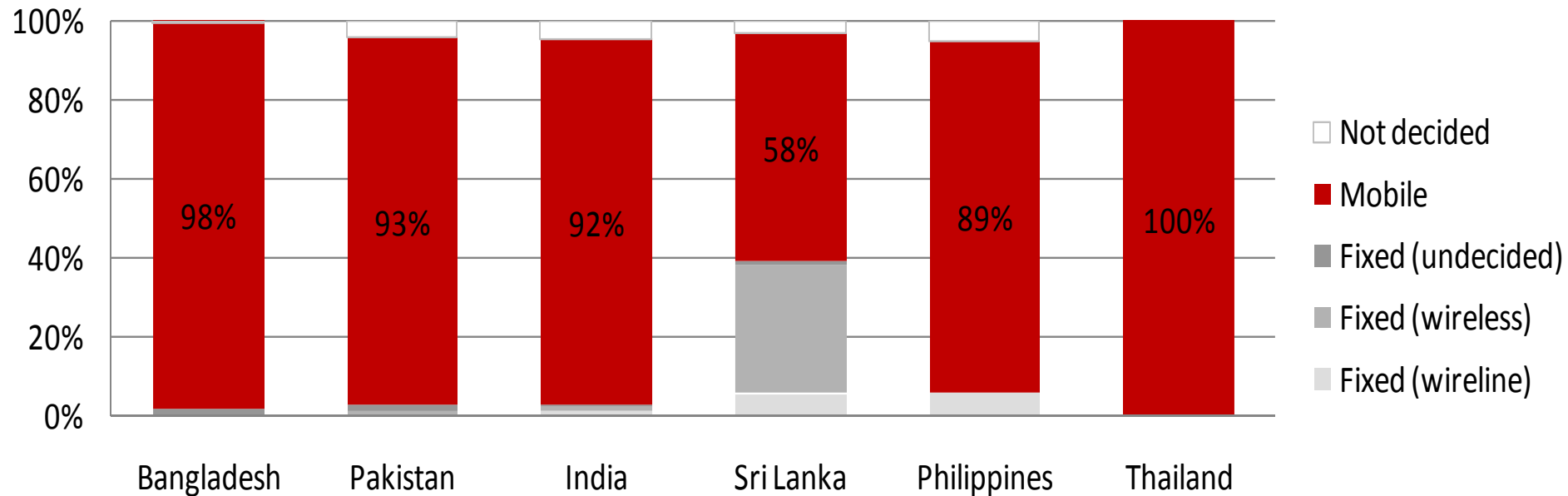
	Bangladesh		Pakistan		India		Sri Lanka		Philippines		Thailand	
	2008	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008	
More than 1 SIM	10%	12%	23%	5%	8%	9%	17%	9%	18%	1%	12%	

# Solutions to the all important “what is a mobile connection?” question

- Ideal: NSOs conduct regular, large-sample studies like in FMCG
- 2<sup>nd</sup> best: retail audits as in FMCG industries
- LIRNEasia does not use terms like “mobile teledensity” or mobile/100 inhabitants
  - Our term is **Mobile SIMs/100**

# 10,000 sample, 6 country survey of BOP in 2008: 92% of non-owner users plan to get mobiles

Type of phone planning to buy (% of potential BOP owners)



# What we believe should be given priority as core indicators

- Mobile broadband is the future
  - Current connectivity definition (PMID A5, read with ITU 271mb\_access) has to be revised to more accurately capture terminal devices that actually use broadband, rather than have the capability of using broadband
  - Quality indicators must be developed urgently
    - LIRNEasia is working on this, but not quite ready to propose a solution; complex problem because quality varies depending on number of users at BTS and depending on whether the user is
      - Stationary
      - Nomadic, or
      - Mobile

# What we believe should be given priority as core indicators

- Leased-line (domestic and international) prices
  - Domestic units exist; international yet to be developed
- Investment (total, domestic, foreign) is an important indicator of performance
  - ITU 83 (fixed); 87 (fixed broadband); 841m (mobile); and 841f (foreign investment) exist but poor reporting
- Use indicators are important, especially in context of Budget Telecom Network Model
  - ITU 131 and 1313wm (fixed-fixed and fixed-mobile); 113wm (mobile); 133i (mobile broadband); and 133sms (SMS) exist but patchy reporting. Nothing for fixed broadband



# What we believe should be given priority as core indicators

- Mobile voice quality of service indicators
  - LIRNEasia not working on these, but TRAI is
- Fixed broadband quality of service indicators
  - LIRNEasia has developed, in collaboration with IIT Madras
  - Our crowd-sourcing approach has been adopted by FCC
- Best to get rid of vague “Internet users” (ITU 4212) indicator that is causing governments to input guesswork as data
  - Indonesia simply multiplies Internet connections by 10 to get this number; no basis for the multiplier

# The biggest problems are not defining indicators . . .

- It is getting national administrations to follow the rules and submit data on a timely basis
  - The very definition of timely has changed:
    - How many NRAs release data on a quarterly basis like India's TRAI?
    - Is it any longer valid to work in periods longer than 3 months?
    - Most recent data available from Sri Lanka NRA website is for 2009 2<sup>nd</sup> quarter (though ITU has for end 2009)
- It is getting meaningful reporting
  - For example, Sri Lanka still reports something called “Internet and email subscribers” and does not report broadband data of any kind
    - This despite foreign scholarships and training

# Telecom Regulator



**Telecom Regulatory Authority of India**

(An ISO 9001-2000 Certified Organisation)

- ▶ [Telecom Legislation](#)
- ▶ [Government Policy & Guidelines](#)
- ▶ [Press Releases](#)
- ▶ [Regulations](#)
- ▶ [Tariff Orders](#)
- ▶ [Recommendations](#)
- ▶ [Consultation Papers](#)
- ▶ [Directions](#)
- ▶ [Study Papers](#)
- ▶ [Performance Indicators Report](#)
- ▶ [Annual Report](#)
- ▶ [QOS - Independent agencies Audit/Survey Reports](#)
- ▶ [Next Generation Network \(NGN\)](#)
- ▶ [Request for Comments](#)
- ▶ [Format for collecting information from service providers / Stakeholders](#)
- ▶ [Service Providers and Consumer Groups](#)
- ▶ [Measures to Protect Consumer Interest](#)
- ▶ [Common Charter of Telecom Services](#)
- ▶ [Right to Information Act](#)

## Reports

SNo.	Title	Date of Release	Hits
1.	<b>The Indian Telecom Services Performance Indicator Report for the Quarter ending December 2009</b>	6 Apr 2010	6878
2.	<b>The Indian Telecom Services Performance Indicator Report for the Quarter ending September 2009</b>	7 Jan 2010	7197
3.	<b>The Indian Telecom Services Performance Indicators April-June 2009.</b>	1 Oct 2009	8512
4.	<b>The Indian Telecom Services Performance Indicators for Quarter Ending March 2009.</b>	13 Jul 2009	7782
5.	<b>The Indian Telecom Services Performance Indicators for Quarter Ending December 2008</b>	1 Apr 2009	8853
6.	<b>The Indian Telecom Services Performance Indicators for Quarter Ending September 2008</b>	13 Jan 2009	7264
7.	<b>The Indian Telecom Services Perfomance Indicators for Quarter ending June 2008.</b>	7 Oct 2008	7703
8.	<b>Indian Telecom Services Performance Indicators Report for the QE January 2008 to March 2008 - Corrigendum.</b>	30 Sep 2008	1896
9.	<b>TRAI released Quarterly Performance Indicators of Indian Telecom Services for the quarter ending March 2008.</b>	3 Jul 2008	8327
10.	<b>Trai releases Indian Telecom Services Performance Indicators for the quarter ending December 2007.</b>	10 Apr 2008	7040
11.	<b>TRAI releases Quarterly Performance Indicators of Indian Telecom Services for the quarter ending September 2007.</b>	1 Jan 2008	6715