

Preparing the groundwork for a new licensing regime?

LIRNEasia's presentation on transitioning to a Unified **Licensing Regime** at the Hari Bhakti POSTEL seminar in Indonesia in September 2006 showed how Indonesia's current licensing regime was **ill-equipped to deal** with convergence and the steps the Government needed to take to **evolve a technology-neutral** licensing framework. **Drawing on lessons** from India's experience with Unified **Access Regime**, LIRNEasia researcher, **Divakar Goswami**, presented the pros and **cons of moving** towards a more adaptive licensing framework. **The audience at the meeting composed primarily** of Indonesian policymakers and regulators who had shown some interest in the Unified **Access Licensing** during their visit to India, **asked** a number of questions about **the transition** and how to get a level playing field with the **new regime**. **The Indonesian government has presently** committed itself to transitioning to some version of an Unified Licensing Regime and is in the process of amending the relevant **laws and regulations**.

Indonesia international gateway licensing

At the ICT 2007 Summit held in Jakarta in May 2007, LIRNEasia pushed for the complete liberalization of the international gateway (IGW) to bring down international bandwidth prices and ultimately **lower internet retail prices**. Emulating the successful intervention on domestic leased-line prices in the previous research cycle, this **presentation showed how** international bandwidth prices in Indonesia were about 21 times the price compared to India by the route kilometer. **Divakar Goswami**, **contended** that the Government's plan of licensing one additional international operator would neither stimulate **international gateway infrastructure** nor bring down international bandwidth prices sufficiently. The policy recommendation was that Indonesia's **international gateway should be fully** liberalized. About a week after **the Summit**, DGPOSTEL, one of two ICT regulatory bodies in Indonesia, proposed an amendment to Article 35 of Regulation 20 that allowed **domestic leased-line providers** to connect directly to an international cable or set-up their own landing stations to land cables to provide **international private leased circuits (IPLCs)**. Voice was excluded from this service. The amendment was targeted for international data connectivity to **bring down international bandwidth charges**. Four to five of the domestic leased-line providers will benefit from this change.

This amendment falls short of full liberalization of Indonesia's IGW but is a positive step in reducing high bandwidth prices in Indonesia.

3.0 Review of Activities

- 3.1 Policy Engagement
 - Events
 - Industry and Government Interaction
 - Media Interaction
 - Rapid Response
- 3.2 Scholarly Engagement
 - Book Chapters
 - Book Reviews
 - Edited Books
 - Invited Conferences
 - Colloquia
 - Journal Articles
 - Industry Presentations
- 3.3 Capacity Building
 - CPR^{south}
 - Teaching
 - Training Courses
- 3.4 Honors and Recognitions
 - Honors
 - Community Engagement
- 3.5 Research Outputs
 - Research Projects
 - Research Papers
 - Research Meetings



APC Regional ICT Policy Consultation Meeting
Bangladesh

3.1 Policy Engagement Events

Addressable Satellite Radio Training

*Organized in association with WorldSpace
Moratuwa, Sri Lanka, 7 June 2006*

A one day training on standard operational procedures (2 person authentication rule), configuring DAMB-R2 Receivers, and using ANNY Network software to send messages. The workshop was conducted by S Rangarajan (Vice President Engineering) and Wilson Baker (Vice President International Projects, worldspace) and held at the Sarvodaya Disaster Management Center. Project Team: Nuwan Waidyanatha

Common Alerting Protocol Workshop I

Moratuwa, Sri Lanka, 21 July 2006

A workshop to train Sarvodaya First Responders (ICT-Guardians) in Common Alerting Protocol (CAP), and provide ICT Administration and User training to all Village and District First-Responders. The Hazard Information Hub Help Desk functions were introduced to the participants. The technology partners who designed and developed the ICTs were also given an opportunity to demonstrate their solutions. The ICTs were handed over to the Village First-responders. The Sarvodaya District Centers of the HazInfo Project were updated on the current status, Project Team: Nuwan Waidyanatha

Hazard Information Hub Monitor Training and Certification Course

*Moratuwa, Sri Lanka,
10 August-20 September 2006*

A course for the training and certification of the Hazard Information Hub Monitors, held at the Sarvodaya Disaster Management Center, to train Monitors on identifying an Event of Interest (EOI), confirm the EOI with Executives, construct and relay CAP messages. Project Team: Nuwan Waidyanatha

Common Alerting Protocol Workshop II

Moratuwa, Sri Lanka, 13 September 2006

A workshop held to raise awareness among village Information and Communication Technology guardians and District Coordinators of the ICTs being evaluated in the HazInfo Project. Project Team: Nuwan Waidyanatha

Sharing Knowledge on Disaster Warning, with a Focus on Community-Based Last-Mile Warning Systems

Moratuwa, Sri Lanka, 28-29 March 2007

A Forum on practical solutions for communicating risk information to rural communities. Knowledge was shared about end-to-end hazard detection and alerting systems that serve grassroots communities in the South Asia region; feedback was obtained on the outputs of the 'Evaluating Last-Mile Hazard

Information Dissemination' (HazInfo) research project and the Sarvodaya Community Disaster Management Center 'Public/Private Partnership Information Communication Framework.' Project Team: Nuwan Waidyanatha

Telecom Reform Course on Catalyzing Change: Strategies to Achieve Connectivity and Convergence (11th LIRNE.NET Course on Telecom Reform)

*Organized in association with ConnectAsia Forum Pte. Ltd., Singapore
Singapore, 25 February-3 March 2007*

A seven-day executive training course aimed to prepare regulators to face the challenges that lie ahead to achieve connectivity and convergence. It was attended by 33 participants from 13 countries. The course included the 'World Dialogue on Regulation (WDR) Expert Forum on ICT Sector and Regulatory Performance Indicators' (See below). The course included a team assignment involving data and communication skills (See Capacity Building Section for more information). Project Team: Harsha de Silva, Helani Galpaya, Tahani Iqbal, Prashanthi Weragoda, Shamistra Soysa and Dimuthu Ratnadiwakara.



World Dialogue on Regulation (WDR) Expert Forum on ICT Sector and Regulatory Performance Indicators

Organized in association with the Institute of South East Asian Studies, Singapore, 2-3 March 2007

An expert forum which brought together national regulatory agencies (NRAs) and national statistical organizations (NSOs), operators and industry representatives. The objective was to present and discuss the possibilities of more accurate and meaningful data collection and reporting which meets the needs of developing countries in Asia. The Forum was attended by eighty eight people from twenty three countries. Of the participants, thirty were from NRAs, thirteen from NSOs, eighteen from operators and industry associations, six from international organizations and nineteen from research and civil society organizations. Project Team: Harsha de Silva, Helani Galpaya, Divakar Goswami, Payal Malik, Joseph Wilson, Lorraine Carlos Salazar and Shamistra Soysa.

8th South Asia Forum on Infrastructure Regulation (SAFIR) Core Training Program

Kandy, Sri Lanka, 31 March 8 April 2007

A seven day residential training course on infrastructure regulation, covering pipeline industries (water and natural gas), electricity and telecom. The course had 36 partici-

pants from Bhutan, India, Pakistan and Sri Lanka. A total of 21 speakers from Argentina, the United Kingdom, India, Pakistan, South Africa and Sri Lanka were invited (See *Capacity Building Section for more information*). Project Team: Helani Galpaya, Prashanthi Weragoda, Shamistra Soysa, Dimuthu Rathnadiwakara and Lara Alawattemgama.

Industry and Government Interaction

Public Lecture: Responsive Innovation for Disaster Mitigation
Colombo, Sri Lanka, 20 July 2006

Gordon Gow (University of Alberta; Communications System Consultant on the HazInfo project) delivered a public lecture. The lecture was held at the Sri Lanka Foundation Institute and was free, and open to the public. Team: Nuwan Waidyanatha, Gordon Gow.

Telecom use on a Shoestring:
Findings from a Study of the Financially Constrained in South Asia
Colombo, Sri Lanka, 16 August 2006

At the request of Dialog Telekom, LIRNEasia made a presentation on the findings of the 2005 Teleuse@BOP study to members of the GSM operator's marketing team, including the head of Corporate Planning. Team:

Ayesha Zainudeen and Helani Galpaya.

Teleuse on a Shoestring 2:
A Study of the Financially Constrained in Asia
Colombo, Sri Lanka, 31 October 2006

LIRNEasia showcased the preliminary findings of its 2006 Teleuse@BOP study to the CEOs, MDs and marketing teams, among others of local telecom operators. Team: Harsha de Silva, Rohan Samarajiva and Ayesha Zainudeen.

Teleuse on a Shoestring 2:
A Study of the Financially Constrained in Asia
Colombo, Sri Lanka, 15 November 2006

At the request of Dialog Telekom, LIRNEasia made a presentation of the preliminary findings of its 2006 Teleuse@BOP study to its Corporate Planning and Marketing teams. Team: Harsha de Silva, Rohan Samarajiva and Ayesha Zainudeen.

Telecom use on a Shoestring 2:
Benefits of Direct Telecom Access at the Bottom of the Pyramid
Colombo, Sri Lanka, 31 January 2007

At the request of the Sarvodaya Telecentre Family Project Office, LIRNEasia made a presentation on the findings of 2006 Teleuse@BOP study to the Project Office team. Team included Rohan Samarajiva and Ayesha Zainudeen.

Connecting the Rural Millions:
Findings from a Multi-Country Study of Teleuse@BOP
New Delhi, India, 22 March 2007

LIRNEasia made a two-hour presentation on the Indian findings of the 2006 Teleuse@BOP study findings to the office of the Universal Service Obligation Fund (USOF), Department of Telecom (DoT), Government of India. The audience included the USOF Administrator and several of the staff of the USOF office, as well as other senior members of the DoT. Team: Rohan Samarajiva, Payal Malik and Ayesha Zainudeen.

Media Interaction

Web

Hello... how do the poor use their phones?

Bollyfirst.com, 2 May 2006
<http://www.bollyfirst.com/india-news/11112004.htm>

Wi-Fi 'Innovation' in Indonesia

Information Policy, 20 May 2006
http://policy.typepad.com/informationpolicy/2006/05/_wifi_innovation.html

Pushing Buttons: Sri Lankan expert to chair ICT Forum in Korea

Lanka Business Online, 30 August 2006
http://www.lbo.lk/fullstory.php?newsID=1229002750&no_view=1&SEARCH_TERM=5

India tops in bridging digital divide

Sify Business (via The Hindu BusinessLine), 18 September 2006
<http://sify.com/finance/fullstory.php?id=14292572>

India ranks first in bridging digital divide

i4d Magazine (via Business Line), 18 September 2006
<http://www.i4donline.net/news/news-details.asp?newsid=5651>

Philippines is 'SMS capital of the world'

Hindu Business Line, 6 October 2006
<http://www.thehindubusinessline.com/2006/10/06/stories/2006100601361200.htm>

AirPockets: Violence, infrastructure bottlenecks, hurts Sri Lanka's BPO sector

Lanka Business Online, 7 October 2006
http://www.LankaBusinessOnline.com/fullstory.php?newsID=1432643763&no_view=1&SEARCH_TERM=5

Shangri La: Lack of land stands in the way of Lanka's BPO business

Lanka Business Online, 10 October 2006
http://www.LankaBusinessOnline.com/fullstory.php?newsID=1190159201&no_view=1&SEARCH_TERM=5

Grameen and telecommunication

Information Policy, 14 October 2006
http://i-policy.typepad.com/informationpolicy/2006/10/grameen_and_tel.html

Mobile operators eligible for Indian USO Fund

E-Quench.org, 28 November 2006
<http://i-quench.org/edevelopment/?cat=21>

Communications would have saved lives in 2004 tsunami, says expert

University of Alberta, Express News, 14 December 2006
<http://www.expressnews.ualberta.ca/article.cfm?id=8095>

Pakistan: Leader in providing regulatory services on-line

Dharti Pakistan news blog, 20 December 2006
<http://www.dhartipakistan.com/2006/12/20/pakistan-telecommunications-regulatory-survey/#more-47>

Sri Lanka shuts down phones amid fighting

Zeenews.com, 18 January 2007
<http://www.zeenews.com/articles.asp?aid=348710&sid=SAS>

RP's poorest spend \$2 a month on mobile phones—study

INQUIRER.net, 20 January 2007
http://technology.inquire.net/infotech/infotech/view_article.php?article_id=44458

Keep politics, telecom regulations separate, RP told

INQUIRER.net, 21 January 2007
http://technology.inquirec.net/infotech/infotech/view_article.php?article_id=44710

Missed call virus bugs telecom firms

Rediff.com, 3 February 2007
<http://inhome.rediff.com/money/2007/feb/03/call.htm> see also <http://www.lirneasia.net/2007/02/missed-calls-in-the-news/> for notes re. corrections

Over half of low income group rely on others

Zeeneews.com, 8 February 2007
<http://www.zeeneews.com/znews/articles.asp?aid=280017&ssid=204&sid=LIF>

Pak Betters India

Business World, 11 February 2007
<http://www.businessworldindia.com/jan2207/news07.asp>

Ring Cut: Sri Lanka mobile missed calls boost communication, cut telecoms revenue

AFP, 24 February 2007
http://www.LankaBusinessOnline.com/fullstory.php?newsID=2135889537&no_view=1&SEARCH_TERM=5

SL mobile missed calls boost contact, cut telecoms revenue

New Age Business (via AFP),
 24 February 2007

<http://www.newagebd.com/2007/feb/25/business.html>

Missed calls: free secret code for interactive communication

Jang Group Online (via AFP), 4 March 2007
<http://jang.com.pk/thenews/mar2007-weekly/cyber-04-03-2007/index.html>

Only 9 per cent use their own mobile phones

India News Online, 26 March 2007
<http://news.indiamart.com/news-analysis/only-9-per-cent-use-15157.html>

BOP families to trigger mobile penetration in Asia

CXOToday.com, 27 March 2007
http://www.cxotoday.com/India/News/BOP_Families_To_Trigger_Mobile_Penetration_in_Asia/551-80050-913.html

78% of people living in rural India not heard about Internet: Study

Albotech.com, 27 March 2007
<http://www.albotech.com/News/2209.asp>

Column on Lanka Business Online:

Choices by Rohan Samarajiva
 (Most of the articles have been translated into Sinhala and published in Ravaya, the Sinhala weekly review)

Wishful thinking: Infrastructure: Back to basics?

13 April 2006

http://www.lankabusinessonline.com/fullstory.php?newsID=876275017&no_view=1&SEARCH_TERM=24

Penny 4 U: Traffic congestion: On the road to Seoul or London?

22 May 2006
http://www.lankabusinessonline.com/fullstory.php?newsID=1845627343&no_view=1&SEARCH_TERM=24

Wishing well: Toll or troll?

21 June 2006
http://www.lankabusinessonline.com/fullstory.php?newsID=984227178&no_view=1&SEARCH_TERM=24

Mixed signals: To appoint or advertise?

3 July 2006
http://www.lankabusinessonline.com/fullstory.php?newsID=2146526699&no_view=1&SEARCH_TERM=24

Different strokes: Kiri or kekiri?

11 July 2006
http://www.lankabusinessonline.com/fullstory.php?newsID=222878524&no_view=1&SEARCH_TERM=24

Comedy of errors: Work with the Disaster Act or fix its flaws?

25 July 2006
http://www.lankabusinessonline.com/fullstory.php?newsID=472386413&no_view=1&SEARCH_TERM=24

Confused ideologues: Geography or ideology?

16 October 2006
http://www.lankabusinessonline.com/fullstory.php?newsID=1834247156&no_view=1&SEARCH_TERM=24

Luxuries: Essential or luxury?

23 October 2006
http://www.lankabusinessonline.com/fullstory.php?newsID=1423554958&no_view=1&SEARCH_TERM=24

Why not? Half full or half empty?

15 November 2006
http://www.lankabusinessonline.com/fullstory.php?newsID=1077562948&no_view=1&SEARCH_TERM=24

If only: Going North or going South?

22 November 2006
http://www.lankabusinessonline.com/fullstory.php?newsID=519031178&no_view=1&SEARCH_TERM=24

Infopreneurs or irisiyakarayasa?

'Rusiyavata vadiya lokuyi irisiyava'
 3 December 2006
http://www.lankabusinessonline.com/fullstory.php?newsID=587650095&no_view=1&SEARCH_TERM=24

Risky business: Airline or airport?

4 January 2007
http://www.lankabusinessonline.com/fullstory.php?newsID=557675595&no_view=1&SEARCH_TERM=24

http://www.lankabusinessonline.com/fullstory.php?newsID=2020236857&no_view=1&SEARCH_TERM=24

Priceless link: Calls or gold?

8 March 2007
http://www.lankabusinessonline.com/fullstory.php?newsID=2020236857&no_view=1&SEARCH_TERM=24

Preferred option: Fixed or mobile?

28 March 2007
http://www.lankabusinessonline.com/fullstory.php?newsID=266482601&no_view=1&SEARCH_TERM=24

Radio and TV

Interview with Rohan Samarajiva (on HazInfo project).
 CBC's *As it Happens* program,
 26 December 2006
 (Available at: http://www.cbc.ca/radioshows/AS_IT_HAPPENS/20061226.shtml)

Interview with Rohan Samarajiva on disaster warning in Sri Lanka, focusing on LIRNEasia's HazInfo project.
 Channel 1 (MTV) *Biz First in Focus*,
 hosted by Harsha de Silva,
 26 December 2006

Interview with Gordon Gow on HazInfo project.
 CBC Radio One Edmonton,
 26 December 2006

26 December 2006

Interview with Rohan Samarajiva along side Rajendra Singh, former Indian telecom regulator, on the findings of the TRE study by LIRNEasia.
 Channel 1 (MTV) *Biz First in Focus*,
 hosted by Harsha de Silva,
 23 March 2007

Print

Cell phones: Poor man's gadget
 The Times of India, 30 April 2006
 (Available at: <http://timesofindia.indiatimes.com/articleshow/msid-1510698,curpg-1.cms>)

India tops in bridging digital divide

The Hindu Business Line (India),
 17 September 2006
 (Available at: <http://www.thehindubusinessline.com/2006/09/18/stories/2006091802130200.htm>)

Penyelenggara Internet keluhlan tariff sewa jaringana

(Internet Providers Criticize Leased Line Tariffs), Bisnis Indonesia,
 26 September 2006
 (Available at: <http://www.lirneasia.net/2006/10/apjii-leased-lines-bisnis/>)

Sri Lanka looks at riding the BPO wave

The Island (Sri Lanka), 10 October 2006

National ICT Week kicks off linking gov. bodies: BPO the main focus this week to creating better awareness, establishing better infrastructure

The Daily Mirror Financial Times (Sri Lanka), 10 October 2006
(Available at: <http://www.dailymirror.lk/2006/10/10/ft/21.asp>)

The way to go

The Hindu Business Line, 23 October 2006
(Available at: <http://www.thehindubusinessline.com/ew/2006/10/23/stories/2006102300100200.htm>)

LIRNEasia to fly Lankan high at ITU Telecom World 2006 event

Daily Mirror Financial Times (Sri Lanka), 7 December 2006
(Available at: <http://www.dailymirror.lk/2006/12/07/ft/2.asp>)

Pakistan Bests India in telecoms regulation

Hindustan Times, 20 December 2006
(Available at: http://www.hindustantimes.com/news/181_1874656_0002.htm or, see <http://www.lirneasia.net/2006/12/treindia/>)

Preparing for the next disaster

Column in Montage (Sri Lanka)
by Rohan Samarajiva, January 2007

Lower mobile prices: Through profit regulation or competition

Op-Ed article in Bisnis Indonesia by Divakar

Goswami, 10 January 2007
(Available at: http://www.bisnis.com/servlet/page?_pageid=127&_dad=portal30&_schema=PORTAL30&vnuw_lang_id=2&ptopik=A57&cdate=10-JAN-2007&inw_id=498356)
see also

<http://www.lirneasia.net/2007/01/lower-mobile-prices-through-profit-regulation-or-competition/>

Falling behind in telecom

Column in Montage (Sri Lanka)
by Rohan Samarajiva, February 2007

Sustainability Proyek Harus Dipikirkan

Interview with Divakar Goswami in MAJALAH E-INDONESIA, Vol. II / No. 17 / Edisi 15 January - 14 February 2007
(Available at: http://www.majalahindonesia.com/divakar_goswami.htm)

Japanese language coverage of AFP 'Ring Cut' story

AFP BB news, 24 February 2007
(Available at: <http://www.afpbb.com/article/1365291>)

Feature: 'Ring cut' phone use a growing phenomenon

Taipei Times (via AFP), 25 February 2007
(Available at: <http://www.taipeitimes.com/News/biz/archives/2007/02/25/2003350026>)

Sri Lanka: Cutting it: Mobile phone use

is taking off in Sri Lanka – though not, perhaps, in ways that service operators might have hoped

Global Technology Forum, Global News Analysis, 28 February 2007
(Available at: http://ebusinessforum.com/index.asp?layout=rich_story&doc_id=10213&title=Sri+Lanka%3A+Cutting+it&channel_id=4&categoryid=30)

Thai language coverage of Teleuse@BOP media workshop held in Singapore, 28 February 2007

Telecom Journal (Thailand), 17 March 2007
(Available at: <http://www.tj.co.th/telecomjournal/modules/news/article.php?storyid=565>)

Telecom giants eyeing rural market

NDTVProfit.com (India), 23 March 2007
(Available at: <http://www.ndtvprofit.com/homepage/storybusinessnew.asp?template=&whichstory=n&id=37204>)

In India, only 9% use their own mobile-phone

The Financial Express (India), 24 March 2007
(Available at: http://www.financialexpress.com/fe_full_story.php?content_id=158816)

Internet still an obscure term in India, says study

The Financial Express (India), 26 March 2007
(Available at: http://www.financialexpress.com/fe_full_story.php?content_id=159009)

Changing Policy

Beyond Tunis: Flightplan 1.5, Global Knowledge Partnership, 2006

Violence, infrastructure bottlenecks, hurts Sri Lanka's BPO sector

Offshoring Times, date unknown
(Available at: http://www.offshoringtimes.com/Pages/2006/BPO_news1275.html)

News Conferences

Release of TRE 2006 Survey Results

New Delhi, India, 20 December 2006

The results of the first Telecom Regulatory Environment (TRE) survey applied across six Asian countries were released to the media.

Media Workshop on 2006

Teleuse@BOP Study
Singapore, 28 February 2007

The results of the 2006 Teleuse@BOP study were released at a Media Workshop, attended by media from five countries.

HazInfo Project Media Conference:

Sharing Knowledge on Disaster Warning With a Focus on Community-Based Last-Mile Warning Systems

Colombo, Sri Lanka, 30 March 2007

A media conference was held to enlighten the media and the general public of the progress made on disaster warning with a focus on community based last-mile warning systems, followed by an open public forum. The media conference was held at the Institute for Construction Training and Development (ICTAD) 'Savsiripaya' and was attended by local media as well as key stakeholders.

Rapid Response Program

Three activities were undertaken over the period:

Helani Galpaya provided comments and input on Sri Lanka's Department of Census and Statistics questionnaire design, for the household computer literacy survey in August 2006. The survey was implemented in October 2006.

Helani Galpaya also visited the Bhutan Telecom Authority (BTA) from 1-2 September 2006. Given the entry of two new (private sector) newspapers into the market, and the upcoming democratic elections (and related campaigning through the media), the BTA was faced with having to decide what type of media regulation it would

undertake. LIRNEasia, made recommendations in this regard, proposing a workshop with the participation of all players to discuss their options; self-regulation by the participants was also discussed.

Rohan Samarajiva and Divakar Goswami were invited to make presentations on what shapes investment decisions in the telecom sector and on current policy and regulatory challenges facing the Indonesian ICT sector at the Seminar HariBhakti Postel 20-06 in Jakarta on 21 September 2006. The Seminar was organized by MASTEL, representing a wide spectrum of ICT industry representatives and by BRTI, the Indonesian regulatory authority. The audience consisted of commissioners from BRTI, policymakers from the Ministry of Communication and Information, representatives from the operators, industry associations and civil society groups.

Reform of India's universal service policy

In response to a consultation paper issued by the Telecom Regulatory Authority of India (TRAI) in 2004 on how to improve India's rural connectivity, LIRNEasia made recommendations for the reform of the country's universal service policy. In addition, early drafts of LIRNEasia's research on the implementation of India's universal service policies were shared with TRAI staff. The key elements recommended were that the Universal Service Obligation (USO) Fund be made available to wireless operators, not just the wireline incumbent, and also that infrastructure sharing be mandated. In its recommendations to the Department of Telecom (DoT), TRAI incorporated some of these recommendations. Further recommendations were made by LIRNEasia when it presented the Indian findings of the 2006 Teleusa@BOP study at the USO Fund office in New Delhi in March 2006. The two-hour presentation, made at the request of the USO Fund office, was attended by the Fund Administrator and his staff, as well several members of the Telecommunications Commission, the government's highest policy body in telecom.

3.2 Scholarly Engagement Book Chapters

Contributions to: Melody, W. H. and Mahan, A. (Eds.) (2007). *Diversifying Participation in Network Development and research from WDR research Cycle3*. Montevideo: LIRNE.NET

Moonesinghe, A., de Silva, H., Silva, N. and Abey Suriya, A. Telecom Use on a Shoestring: Expenditure and Perceptions of Costs amongst the Financially Constrained

Knight-John, M., Zainudeen, A., and Khan, A. S., An Investigation of the Replicability of a Microfinance Approach to Extending Telecommunications Access to Marginal Customers

Wattegama, C., Benchmarking National Telecom Regulatory Authority websites of Asia-Pacific Region (A web survey conducted by LIRNEasia)

de Silva, H., and Tuladhar, R. K., Conditions for Success of Least Cost Subsidies: The Experience of Nepal

Wattegama, C. (2006). Sri Lanka chapter – eCyber Communities in Rural Asia—A Study of Seven Asian Countries, pp 40-69. Singapore: Asia Media Information and Communication Centre

Wattegama, C. (2007). Sri Lanka: The Role of Media in a Catastrophe: A Good Samaritan in the Clothes of a Communicator?

Media's Challenge: Asian Tsunami and Beyond, pp 182-194. Singapore: Asia Media Information and Communication Centre

Sriramesh, K. and Wattegama, C. (in press), The role of ICTs in Risk Communication in the Asia Pacific – Digital Review of Asia Pacific. Co-published by PanAsia Networking Programme of IDRC, Orbicom and Southbound

Carlos Salazar, L., Lardizabal-Vallarino, S. and Andam, Z. R. (in press). The Philippines Country Chapter. In Digital Review of Asia Pacific. Montreal: Orbicom Network of UNESCO Chairs in Communications

Carlos Salazar, L. with Lardizabal-Vallarino, S. (in press). ASEAN Subregional Chapter. In *Digital Review of Asia Pacific, 2007*. Montreal: Orbicom Network of UNESCO Chairs in Communications.

Book Reviews

Wattegama, C. (2005). Book Review: 'The End of Poverty: Economic Possibilities of our Time,' by Jeffrey D. Sachs. The Southern African Journal of Information and Communication, Issue 6, pp112-117. Johannesburg: LINK Centre

Edited Books

ICT Infrastructure in Emerging Asia: Policy and Regulatory Roadblocks, edited by Rohan Samarajiva & Ayesha Zainudeen (in press)

An edited volume which brings together LIRNEasia's 2004-2005 research, and examines the policy and regulatory barriers to the expansion of information and communication technology (ICT) infrastructure in emerging markets, based on Asian experience. This edited volume brings together scholars, practitioners and former regulators and policy makers to address the problem of expanding ICT connectivity in emerging Asia. Project Team: Rohan Samarajiva, Ayesha Zainudeen, Harsha de Silva, Harsha Vardhana Singh, Divakar Goswami, Mariam Hameed, Mahinda Herath, Tahani Iqbal, Malathy Knight-John, Payal Malik, Onno Purbo, Rajendra Singh, Visool Phongsathorn and Siddhartha Raja.

Invited Conferences**APC Regional ICT Policy Consultation Meeting**

Organized by the Association for Progressive Communication (APC)
Dhaka, Bangladesh. 19-21 April 2006

Ayesha Zainudeen presented the findings of the 2005 Teleuse@BOP project and Rohan Samarajiva made a presentation on what civil society can do in ICT policymaking and regulation.

Access to Knowledge (A2k) Conference

Organized by the Yale Law School
New Haven, USA. 21-23 April 2006

Rohan Samarajiva made a presentation on wireless communication and development.

IEG Conference on Effectiveness of Assistance for Natural Disasters

Organized by the World Bank Independent Evaluation Group (IEG)
Colombo, Sri Lanka. 21 April 2006

LIRNEasia's partner in the HazInfo Project, Sarvodaya represented the non-governmental sector at the conference.

Apectel33 Meeting

Organized by the Government of Canada and other private and public organizations
Calgary, Canada. 23-28 April 2006

Divakar Goswami made a presentation on leased line data; Rohan Samarajiva presented findings from the 2005

Teleuse@BOP study.

International Forum, Global Knowledge Partnership

Organized by Global Knowledge Partnership (GKP)
Colombo, Sri Lanka. 9 May 2006

Rohan Samarajiva made a plenary presentation 'Action research on last-mile hazard information.'

Research ICT Africa (RIA!) Annual Meeting

Organized by Research ICT Africa (RIA!)
Dhaka, Senegal. 28 May-2 June 2006

Rohan Samarajiva made two presentations, one on TRE assessment and the other on wireless technology.

Evaluating Social Programs: Executive Training

Organized by the Massachusetts Institute of Technology (MIT) Poverty Action Lab
Massachusetts, USA. 30 May-2 June 2006

Harsha de Silva participated in the course on an MIT scholarship.

ITS (International Telecommunications Society) 2006

Organized by the Beijing University of Posts and Telecommunications (BUPT), Center for E-commerce, HKUST Business School (HKUST) and China Consulting Center for Science and Technology (CCCST)
Beijing, China. 12-16 June 2006

Payal Malik presented a paper on India's Universal Service Instruments; Malathy

Knight-John presented a paper on the replicability of the Grameen micro-finance approach to extending rural access and chaired a session on Spectrum Regulation and Transaction.

Using ICTs for Effective Disaster Management, Asia Forum

Organized by the Commonwealth Telecommunication Organization (CTO)
Colombo, Sri Lanka. 26-28 June 2006

Rohan Samarajiva made a presentation on the lessons learnt from the 2004 Indian Ocean Tsunami and also served as a panelist for the 'Cost of Disasters' session and chaired the first day's sessions; Nuwan Waidyanatha made a presentation on 'Last-Mile Hazard Warning Dissemination: A Research Project' and was a panelist for the 'Disaster Mitigation' session.

International Symposium Organized by the Sabaragamuwa University, Sri Lanka

Belihuloya, Sri Lanka. 7 August 2006

Rohan Samarajiva made a dinner presentation entitled 'The university in the age of the Internet'

Digital Opportunity Forum

Organized by the Korean Agency for Digital Opportunity and Promotion (KADO)
Seoul, South Korea. 1 September 2006

Rohan Samarajiva gave the keynote speech, 'Bridging the Divide: Building Asia-Pacific

Capacity for Effective Reforms' and acted as the Chairman of the Forum. Payal Malik, Divakar Goswami, Joseph Wilson, and Lorraine Carlos-Salazar, the lead researchers working on assessing ICT sector performance and analyzing the reform process in India, Indonesia, Pakistan and the Philippines respectively made presentations on the Digital Opportunity Index (DOI) applied to their respective countries. Divakar Goswami won one of the three 2006 DOF awards for the best presentations at the Forum.

Disaster Management Forum

Organized by Institute of Policy Studies (IPS)
Sri Lanka and Oxfam America
Colombo, Sri Lanka. 17 September 2006

A workshop conducted to bring together stakeholders and share the findings of the review of 'Disaster Management: Policy and Practice'. The resulting IPS report is intended to assist the government, NGOs and other stakeholders to improve disaster management in Sri Lanka.

Coastal Community Resilience Initiative

Organized by the United States Agency for International Development (USAID)
Colombo, Sri Lanka. 20 September 2006

Nuwan Waidyanatha presented the HazInfo Project at the forum. Under the USAID-funded US Indian Ocean Tsunami Warning System (IOTWS) Program, Coastal Community Resilience (CCR) is a focused initiative

that promotes tsunamis and other hazard readiness through active collaboration of national and local emergency management agencies, coastal managers, training institutions, and local communities. Building on local knowledge and needs, this effort supports integrated and more standardized hazard awareness and mitigation efforts that improve public safety during emergencies and builds preparedness against recurring disasters.

5th World Telecom-ICT Indicators Meeting

Organized by the International Telecommunications Union (ITU)
Geneva, Switzerland. 11-13 October 2006

Helani Galpaya participated in the conference, as a part of LIRNEasia's Indicators project which is working toward the development of a manual of commonly acceptable telecom/ICT indicators. Participation at the meeting ensured that LIRNEasia created/used indicators, that are, to a great extent, in alignment with those collected by the ITU.

ITU/OASIS Workshop and Demonstration on Advances in ICT Standards for Public Warning

Organized by the International Telecommunications Union (ITU) and OASIS
Gordon Gov (University of Alberta)
Geneva, Switzerland. 19 October 2006

Communications Consultant for the HazInfo Project presented the CAP initiative in Sri

Lanka to the ITU. This included the preliminary findings that are involved the implementation of the CAP standard to support a local all-hazards warning system in Sri Lanka; the challenges of implementing a CAP-based information system for managing multi-lingual warnings across a set of five technologies in 32 tsunami-affected villages along the southern and eastern coast of Sri Lanka were discussed.

International Telecommunication Union Telecom World 2006

Organized by the International Telecommunications Union (ITU)
Hong Kong, China. 3-8 December 2006

Rohan Samarajiva and Divakar Goswami, chaired sessions at the first Telecom World event to be held in Asia. Goswami chaired a session entitled 'Building Digital Communities' that included keynote presentations by Dr. Sofyan Djaili, the Indonesian Minister of ICTs. Samarajiva's session entitled 'Universal, Ubiquitous, Equitable and Affordable' included keynotes by the Vice President of China Unicom, Dr Zhengmao Li, and Tom Phillips, the Head of Regulatory Affairs at the GSM Association.

ITU-ESCAP

Organized by the International Telecommunications Union (ITU)
Bangkok, Thailand. 12-15 December 2006

Peter Anderson (Simon Fraser University) and S. Ranagarajan (WorldSpace) attended the sessions and presented the HazInfo

Project and the AREA solutions at the conference. The conference was aimed at addressing interoperability between communication systems, public network utilization for emergencies, required enhancements for public infrastructure, and recent technology changes.

Communication Policy Research South (CPRSsouth)

Organized by LIRNEasia and National College of Public Administration and Governance (NCPAG), University of the Philippines, Dilman, Manila, Philippines. 18-21 January 2007

Payal Malik and Divakar Goswami presented a paper on 'Regulatory reforms and improved sector performance: A comparative analysis of Indonesia and India.' Helani Galpaya presented a paper on 'The Government Information Center (GIC) - a case study from Sri Lanka,' these papers were accepted through the abstract selection process.

Improving British Columbia Tsunami Warning

Organized by the British Columbia Provincial Emergency Program, Queen Charlotte Island, BC, Canada. 29 January-1 February 2007

Peter Anderson (Simon Fraser University) gave presentations and conducted consultations in seven Haida Gwaii communities of Queen Charlotte Island, on emergency communications and tsunami warning drawing upon on lessons learned from the

HazInfo Project. Experience in applying Sri Lankan 'last mile' warning techniques was shared with coastal villages along the Pacific coast of B.C, Canada, and within the B.C. Tsunami Integrated Preparedness Project (TIP), the main multi-stakeholder tsunami planning group.

Colloquia

Review of first cycle of LIRNEasia research program

18 May 2006

A review the first cycle of LIRNEasia's research program, and a discussion of the challenges ahead of with the new research program by Rohan Samarajiva.

A Common Alerting Protocol (CAP) message relay

18 June 2006

Presentation and discussion by Nuwan Waidyanatha with assistance from Nabil Seddigh, Rupinder Singh, Gordon Gow and Biswajit Nandy (in Canada, via Skype).

Assessing telecom knowledge capacity

6 July 2006

Presentation and discussion of the paper on 'Telecom Policy Research in Asia: A Framework for Assessing Knowledge Capacity' by

Sujata Gamage.

Baseline sector analysis of the BPO industry in Sri Lanka

13 July 2006

Presentation of the preliminary findings from the study by Dilshani Samaraweera.

Bridging the divide: Building Asia-Pacific capacity for effective reforms

10 August 2006

Presentation and discussion of the paper of the same title prepared for presentation at the Digital Opportunity Forum organized by KADO and ITU in Seoul, South Korea, by Rohan Samarajiva.

Digital Opportunity Index applied to Indonesia: assessing ICT policy and regulatory environment

22 August 2006

Presentation and discussion of the paper of the same title prepared for presentation at the Digital Opportunity Forum organized by KADO and ITU in Seoul, South Korea, by Divakar Goswami.

Real-time bio-surveillance for early warnings in Sri Lanka

12 October 2006

Presentation by Nuwan Waidyanatha, with participants via Skype: Artur Dubrawski

(AutonLabs), Gordon Gow (University of Alberta) and Shanmugarajah.

Six Country Multi-component Indicators Project: Indonesian country study

9 November 2006

Presentation of the Indonesia study under the Six Country Multi-Component Study by Divakar Goswami followed by discussion.

Sri Lanka's telecommunications sector: A tale of missed opportunities?

20 November 2006

Presentation of the Sri Lanka study under the Six Country Multi-Component Study by Malathy Knight-John and Indika Siriwardena followed by discussion.

An analysis of the reform of India's telecommunications industry policy, regulation and indicators

23 November 2006

Presentation of the India study under the Six Country Multi-Component Study made by Payal Malik (via Skype) followed by discussion.

Six Country Multi-component research project: Philippines case study

29 November 2006

Presentation of the Philippines study under the Six Country Multi-Component Study made by Lorraine Carlos Salazar (via Skype) followed by discussion.

LIRNEasia six Country Multi-Component study 2006-2007 – inception report:

Thailand. 30 November 2006

Presentation of the Thailand study under the Six Country Multi-Component Study made by Deunden Nikomborirak (via Skype) followed by discussion.

Pakistan: A success story

1 December 2006

Presentation of the Pakistan study under the Six Country Multi-Component Study made by Joseph Wilson (via Skype) followed by discussion.

Refining TRE methodology

23 March 2007

Presentation of revised TRE scores after refined methodology was applied, by Shamistra Soysa and Dimuthu Ratnadiwakara followed by discussion.

Journal Articles

Samarajiva, R. & Gamage, S. (2007). Bridging the Divide: Building Asia-Pacific

Capacity for Effective Reforms. *The Information Society - An International Journal*, Volume 23 Issue 2, 109.

<http://www.lirneasia.net/wp-content/uploads/2007/03/samarajiva-gamage-2007-dof.pdf>

Samarajiva, R. (2006). Preconditions for Effective Deployment of Wireless Technologies for Development in the Asia-Pacific. *Information Technologies and International Development (ITID)* - MIT Press, Winter 2006, Vol. 3, No. 2, Pages 57-71. At <http://www.mitpressjournals.org/doi/abs/10.1162/itid.2007.3.2.57>

Gunawardene, N. (2006). Bridging the Long 'Last-Mile' in Sri Lanka. *Media Development Journal*, UK, 17 November 2006. http://www.wacc.org.uk/wacc/publications/media_development/2006_4/bridging_the_long_last_mile_in_sri_lanka

Industry Presentations
World Bank launch of the Small Grants Program (SGP) 2006

Organized by the World Bank
Colombo, Sri Lanka. 6 April 2006

LIRNEasia's Webhamuva Project was showcased at the World Bank as an example of the previous year's funding

under the same program. Divakar Goswami made a presentation on the project and and highlighted some of the findings.

**Centre for Poverty Analysis (CEPA)
Twenty-seventh Open Forum**
*Organized by Centre for Poverty Analysis (CEPA)
Colombo, Sri Lanka. 5 July 2006*

Rohan Samarajiva was invited as a discussant on the presentation made by Anila Dias Bandaranaike (Director, Department of Statistics, Central Bank) on 'Living Conditions of the North and the East. Samarajiva brought forth findings from LIRNEasia's Teleuse@BOP (2005) study, which looked at telecom use at the bottom of the pyramid in Jaffna, during the period of the ceasefire.

Emerging Trends in the Telco Industry
*Organized by the CFA Institute of Sri Lanka
Colombo, Sri Lanka. 24 August 2006*

Rohan Samarajiva made a presentation on 'Emerging Telecom Trends.'

Telecom 2006: Convergence Revolution
*Organized by ESOMAR
Barcelona, Spain. 29 November-1 December 2006*

Harsha de Silva made a presentation on the findings of the 2006 Teleuse@BOP study, highlighting the great potential for over 140m new connections at the BOP in the five countries included in the study.

**Centre for Poverty Analysis (CEPA)
7th Annual Poverty Research Symposium**
*Organized by Centre for Poverty Analysis (CEPA)
Colombo, Sri Lanka. 6-7 December 2006*

Harsha de Silva and Ayesha Zainudeen presented a paper on 'Teleuse on a Shoestring: Poverty reduction through telecom access at the Bottom of the Pyramid.'

GSM>3G India
*Organized by Informa Telecoms & Media
Mumbai, India. 22-23 January 2007*

Harsha de Silva made a presentation on 'The Next Billion at the BOP' focusing on the Indian findings of the 2006 Teleuse@BOP, and the disparities between the urban and rural Indian bottom of the pyramid in terms of telecom use. Rohan Samarajiva was invited as a panel discussant on 'Widening Access for Rural Communities'.

Towards Mobile Information Society
*Organized by the Cellular Operators Association of India (COAI)
New Delhi, India. 21 March 2007*

Rohan Samarajiva made a presentation on 'Connecting the rural millions: Findings from a multi-country study of Teleuse@BOP'. He also served as a panel discussant on the topic of the 'Role of various stakeholders in propagating the growth of cellular mobile communications in rural area.'

Selected results of TRE survey

As a part of LIRNEasia's Indicators Project the Telecom Regulatory Environment (TRE) was assessed in six countries - India, Indonesia, Pakistan, Philippines, Thailand and Sri Lanka. The TRE is a perceptual index which gauges regulatory performance across six dimensions, based on internationally accepted elements of regulation identified by the WTO telecom regulatory Reference Paper (Market entry, management of scarce resources, interconnection, universal service, and enforcement of competition and regulatory rules) with an additional dimension: tariff regulation. It is based on perceptions of efficacy by four sets of representative and informed respondents and provides a useful diagnostic tool for assessing regulatory efficacy. The TRE instrument, originally developed by LIRNEasia and piloted in Sri Lanka, is being implemented in Latin America, the Caribbean and Africa. The key findings in the mobile and fixed sectors can be summarized as follows:

Mobile

- Pakistan and the Philippines emerged as having the best regulatory environments with Pakistan marginally ahead. India had the next best scores, followed by Indonesia and Sri Lanka.
- Pakistan had the best overall scores, but did particularly well on market entry and the management of scarce resources (spectrum).
- The highest scores for interconnection were obtained by Pakistan and Indonesia.
- India topped on tariff regulation and anticompetitive prices but was significantly behind in Universal Service Obligation in which the other four countries scored almost equally well.

Fixed

- Philippines topped the fixed sector followed by India and Pakistan respectively.
- Philippines scored the highest on market entry, management of scarce resources, interconnection and enforcement of anticompetitive practices.
- The highest scores for tariff regulation were obtained by India.
- Indonesia and Sri Lanka topped the other countries in Universal Service Obligation.

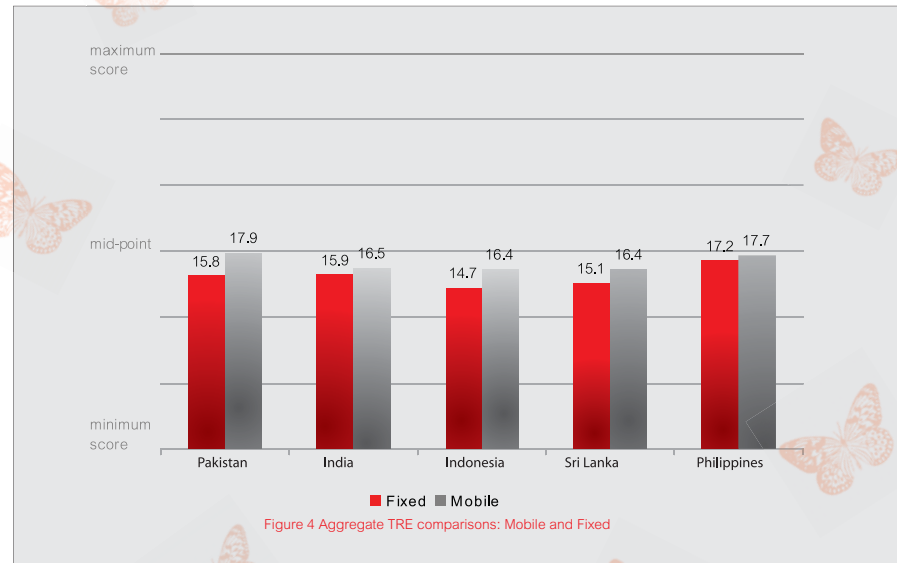


Figure 4 Aggregate TRE comparisons: Mobile and Fixed

3.3 Capacity Building CPRsouth

This activity is a central part of LIRNEasia's capacity building efforts. It involves the establishment of Communication Policy Research: South (CPRsouth), an annual conference which is intended to provide a focus for intra-Asian (and intra-South) connections among scholars engaged in ICT policy and regulation research.

CPRsouth Inaugural Conference Manila, Philippines. 18-21 January 2007

The inaugural conference of CPRsouth focused on 'Research for Improving ICT governance in the Asia Pacific.' It highlighted research studies from all over the Asia-Pacific. The audience was made up of 83 participants from 25 countries, including young scholars, mid-career researchers, senior scholars, and observers. Twenty-one paper presenters were selected, representing the South Asian, Southeast Asian and the Pacific regions including researchers from Lao, Samoa and Vietnam; of the selected presenters, 33 percent were females and 67 percent males. Most of the participants were from universities and research organizations. Twenty Young Scholars (mainly graduate students) participated in the Pre-conference Tutorials, which focused on teaching the basics of ICT policy and research. Knowledge mapping work to identify email recipients of the call for abstracts was carried out from mid-May 2006 onwards. Project Team: Sujata

Gamage, Tahani Iqbal, Prashanthi Weragoda

The following research presentations were made by LIRNEasia:

- 'Telecom Regulatory Environment (TRE) assessment: A six-country comparison' by Rohan Samarajiva.
- 'A knowledge network for communication policy research in the Asia-Pacific?' by Sujata Gamage.
- 'Teleuse on a shoestring: Beyond universal access' by Ayesha Zainudeen.
- 'A brief synthesis of the six-country case studies' by Harsha de Silva.
- The Six Country Studies were also presented as an example of policy relevant research, by Payal Malik (India), Divakar Goswami (Indonesia), Joseph Wilson (Pakistan), Malathy Knight John (Sri Lanka) and Saowalak Cheevasittyanond (Thailand).

CPRsouth Website Development

The official website of the organization has been established (www.cprsouth.org). The website is based on blog architecture, similar to that of LIRNEasia. It currently contains information about CPRsouth, as well as content relating to the inaugural conference of CPRsouth (including conference presentations and papers); it also contains information on the next conference, 'CPRsouth2: Empowering rural communities through ICT policy and research,' Decem-

ber 15-17, 2007 in Chennai, India. Project Team: Tahani Iqbal, Sujata Gamage.

Teaching

Rohan Samarajiva

- Honorary Professor at the University of Moratuwa, Sri Lanka (2006)
- MBA course in Infrastructure regulation, University of Moratuwa, Sri Lanka (2006)
- Visiting faculty at the TERI University, New Delhi, India (to date)

Harsha de Silva

- Economics of Infrastructure unit, MBA University of Moratuwa, Sri Lanka. (2006, 2007)

Training Courses

HIH Operational Procedures Training: Sarvodaya Disaster Management Center

Moratuwa, Sri Lanka. 19 July 2006

Gordon Gow (University of Alberta) conducted a training workshop for the Hazard Information Hub (HIH) Monitors and executive staff. The training covered the recom-

mended 'Guidelines for HIH' and gauging the feasibility of adopting the guidelines in Sri Lanka. Project Team: Nuwan Waidyanatha.

Workshop to discuss the procedures for the live simulations

Moratuwa, Sri Lanka. 17 November 2006

All ICT Guardians, HazInfo Trainers, District Coordinators, and HIH staff participated in a workshop to discuss the procedures for the Live Simulations. The workshop was chaired by Peter Anderson (Simon Frasier University, the consultant monitoring the simulations and evaluating the HIH). HazInfo Trainers were educated on how to lead a team in observing community simulations, collecting data, and preparing simulation evaluation reports for each of the communities. District coordinators oversee the simulation exercises of the communities belonging to their districts. The divisional coordinators assist the district coordinator and take the responsibility of formally informing the local government, police, medical officers, health and government disaster management officials. Project team: Nuwan Waidyanatha.

Refresher course for trainers on training villages

Moratuwa, Sri Lanka. February 2007

A refresher course on training villages for the HazInfo Trainers was organized in

collaboration with Sarvodaya. Buddhi Weerasinghe, Natasha Udu-gama, and Nandana Jayasinghe made presentations and conducted discussions to enhance awareness. Project Team: Nuwan Waidyanatha.

Telecom Reform Course on Catalyzing Change: Strategies to Achieve Connectivity and Convergence (11th LIRNE.NET Course on Telecom Reform)

Singapore. 25 February-3 March 2007

A successful executive training course in telecom reform and regulation for 33 persons from 13 countries was held in Singapore, in partnership with ConnectAsia Forum Pte. Ltd. The seven-day executive training course aimed to prepare regulators to face the challenges that lie ahead to achieve connectivity and convergence and was designed for members and senior staff of Asian regulatory agencies. Among the participants were 13 persons from regulatory agencies, including three members of regulatory collegiums. Eleven persons from the management of telecom operators, and nine from research organizations, universities and civil society made up the balance. Twenty were men; and 13 women. The course had two components: a conventional lecture and assignment-based module of five days and one and a half days of research presentations (See *World Dialogue*

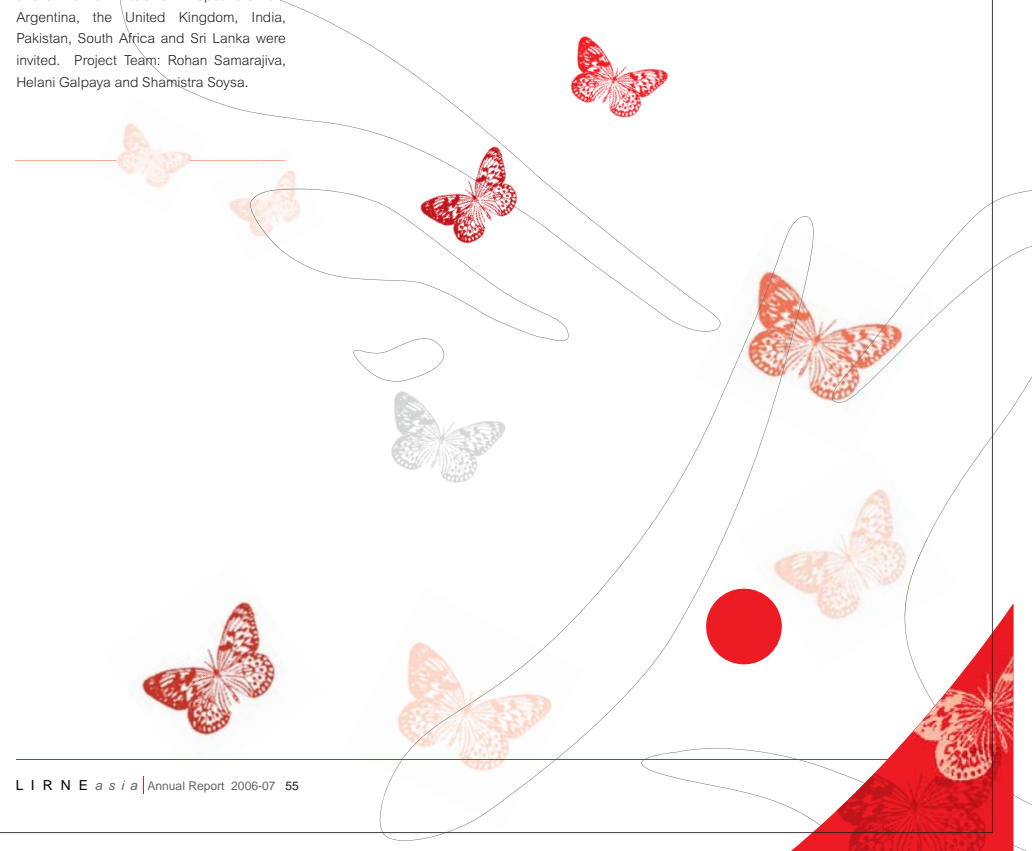
on Regulation (WDR) Expert Forum on ICT Sector and Regulatory Performance Indicators, in Policy Engagement Section for more information) and included a team assignment involving data and communication skills. A total of 28 speakers from research organizations, universities, regulatory agencies, operators, and international organizations (both ITU and World Bank) over a seven-day period conducted sessions. On two occasions, speaker William Melody conducted lectures via Skype from Denmark. Project Team: Rohan Samarajiva, Harsha de Silva, Prashanthi Weragoda and Tahani Iqbal.

8th South Asia Forum on Infrastructure Regulation (SAFIR) Core Training Program

Kandy, Sri Lanka. 31 March-8 April 2007

LIRNEasia was selected to be the Course Partner for the 8th and 9th South Asian Forum for Infrastructure Regulation (SAFIR) Core Course on Infrastructure Regulation. The residential program generally offers participants the opportunity to learn the fundamentals of regulations pertaining to infrastructure industries and regulatory economics as well as topical issues attendant to those industries, to share their experiences, to develop practical solutions to regional problems. The seven-day residential training course on infrastructure regulation covered pipeline industries

(water and natural gas), electricity and telecom. The Course was attended by 36 participants from Bhutan, India, Pakistan and Sri Lanka. A total of 21 speakers from Argentina, the United Kingdom, India, Pakistan, South Africa and Sri Lanka were invited. Project Team: Rohan Samarajiva, Helani Galpaya and Shamistra Soysa.



Last-Mile Hazard Warning System Pilot in Sri Lanka (HazInfo Project)

The HazInfo project started in December 2005 as an action research effort. This was a multi-partner, civil society initiative to develop a community-based approach to disaster risk reduction. Training of trainers, holding of live tests and table-top exercises were components of the research. During the next six months, the project will disseminate the lessons learned in the region.

The research was conducted in collaboration with Sri Lanka's largest community based organization, Sarvodaya. A hazard information hub (HIH) was established within the Sarvodaya Community Disaster Management Center (SCDMC) and a train-the-trainer program conducted by TVE Asia Pacific for Sarvodaya Shanti Sena [peace brigade] members. The Pilot established Last-Mile capability through training and technology at 32 tsunami-affected communities. The technologies included Addressable Satellite Radios for Emergency Alerting (AREA), Remote Alarm Devices (RAD), mobile phones (MOP), fixed phones (FXP) and Very Small Aperture Terminals (VSAT).

A simplified information flow for the Last-Mile Hazard Warning System (LM-HWS) is as follows: staff members at the HIH monitor hazard events around-the-clock using the Internet. When a potential threat is detected, the HIH activates its Emergency Response Plan (ERP) by issuing a message to the communities at risk using a combination of wireless ICTs to reach local first responders. Each community has assigned a person or persons to be responsible for managing the wireless device and monitoring it for incoming warning messages. This person is designated as a community ICT-Guardian (ICT-G). When the ICT-G receives a warning message at the HIH, they are responsible for activating the community-level ERP. The community response will vary depending on the content of the message, including its priority level. During activation, the ICT-G informs the ERP Coordinators (ERP-C), consisting of a First-Aid team, Evacuation team, Security team, and Message Dissemination team. The Message Dissemination team then relays the message village-wide through various methods, including word-of-mouth, ringing local temple bells, loudspeaker, and so forth. ICT-Gs also might receive government issued reports through local broadcast media.

The combination AREA+MOP and AREA+FXP, denoted as AREA +, were found to be most effective as an early warning technology. AREA performed even when the MOP (GSM) and FXP (CDMA) networks in the North-East were switched off during military operations. In addition, it is unique because it can be activated remotely from the HIH. However, the technology becomes cost-effective only with large numbers of terminals.

Two projects that will be developed from the pilot

- Development of 24/7 operations at the Sarvodaya HIH and making 1000 advanced Sarvodaya villages disaster resilient through training and technology
- Natural Language Common Alerting Protocol Broker – a research & development collaborative project with universities in Canada.

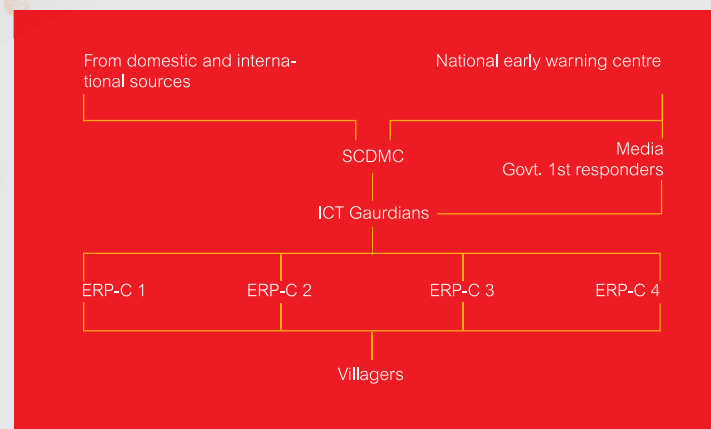
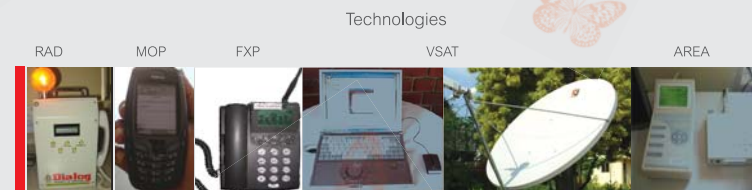


Figure 5 Community-based early warning chain in the HazInfo projects



3.4 Honors and Recognitions Honors

Boards and Other Memberships

Rohan Samarajiva

Chairman of the Board, Lanka Software Foundation (upto 2007)

Senior Advisor, Networking Grassroot Movement of Sarvodaya, Sri Lanka

Policy Advisor, Ministry of Telecommunications and Posts, Government of Bangladesh

Secretary and Director of External Programs, LIRNE.NET

Member, ICT Subcommittee of the Ceylon Chamber of Commerce

Board Member, Communication Policy Research South (CPRSouth)

Member, Management team, World Dialogue of Regulation for Network Economies (WDR)

Harsha de Silva

Member, Economic Affairs Subcommittee Ceylon Chamber of Commerce

Member, Power and Energy Subcommittee Ceylon Chamber of Commerce

Member of the Board of Management Sahanaya, the National Council for Mental Health in Sri Lanka

Host of 'Biz First in Focus,' prime time economics program on Maharaja Television, Sri Lanka

Sabbatical Visit

Peter Anderson, Associate Professor and Director of Telematics Research Lab Simon Fraser University, Vancouver, Canada completed a six-month sabbatical visit (in two parts) at LIRNEasia. An ICT and disasters expert, he was involved in the HazInfo Project.

2006 DOF Award for Best Presentation

Divakar Goswami won one of the three 2006 DOF best presentation awards for his presentation, 'The DOI applied to Indonesia: Assessing ICT policy and regulatory environment' at the Digital Opportunity Forum, organized by KADO (Korean Agency for Digital Opportunity & Promotion) and the ITU, from 31 August-1 September, 2006.

Scholarship to MIT Poverty Action Lab Executive Training

Harsha de Silva was awarded a scholarship to attend the MIT Poverty Action Lab Executive Training on Evaluating Social Programs in Massachusetts, USA, 30 May-3 June 2006.

Community Engagement

3R (Reduce-Reuse-Recycle) Initiative

This activity was officially launched on 30 March 2007 with a Bharata Natyam Recital by Rasika Khanna at the British School of Colombo Auditorium.

The initiative commenced in recognition that garbage dumping and littering are serious problems for all of us. There are various efforts to apply 3R but there is no concerted effort to disseminate information, educate the public, and advocate reasonable policies. The 3R initiative began with a newsletter that gives practical tips on 3R for businesses and individuals and will later go on to rate municipalities and businesses for their 3R. LIRNEasia also hopes to work with municipalities and government agencies to come up with reasonable 3R policies. Project Team: Sujata Gamage and Samangi Hewage.

Webhamuwa

Webhamuwa.com records the thoughts of displaced people in 50 tsunami affected Sarvodaya villages along the Sri Lankan coast, to ensure that their interests are taken into account when reconstruction and rehabilitation decisions are made. This project is supported by the World Bank. Project Team: Divakar Goswami

A baseline analysis of the Business Process Outsourcing industry of Sri Lanka

The global market for Business Process Outsourcing (BPO) services is estimated to amount to USD 11.5 billion and is expected to grow tenfold to USD 120 - 150 billion in the near future. India is already one of the world's largest players in the BPO market and accounts for 46 percent of the global market. Sri Lanka too is gradually emerging as a BPO destination.

The BPO industry is an IT enabled service that crucially depends on international connectivity. Recognizing the sector's potential for the country's economic growth, the Information and Communication Technology Agency (ICTA) of Sri Lanka at the urging of the ICT Subcommittee of the Ceylon Chamber of Commerce commissioned LIRNEasia to conduct a baseline sector analysis of the BPO industry in Sri Lanka. Upon assurance that the results would be in the public domain, LIRNEasia undertook the research.

The study used a semi-structured questionnaire to elicit the views of senior management from existing BPO companies in the country. To assure confidentiality and impartiality the market research firm, A. C. Nielsen Lanka (Pvt.) Ltd, was contracted to do the field survey.

The baseline study identified factors that attract BPO investments into Sri Lanka and also potential constraints to such investment growth.

Sri Lanka's BPO sector

Investment flows into Sri Lanka's BPO sector began in 2000, peaking in 2003 with the opening of the international telecom market. The inflow has been in three forms: foreign investments, local investments and joint ventures. Most BPO investments had come through the Board of Investment of Sri Lanka. By 2005, the pace of entry had slowed considerably.

The study revealed that sector employment was slightly over 4,000 in 2006, with a relatively young workforce mostly between the ages of 18 and 24 years (59 percent). While many join BPO companies after their Advanced Levels (51 percent) and 15 percent of BPO workers have degrees, companies are looking for fresh graduates.

Sri Lanka's main attraction is low costs. Low labour costs were given as the primary reason for setting up BPOs in Sri Lanka followed by low operating costs. Tax incentives was the third most cited reason for locating BPOs in Sri Lanka indicating that government incentives have been somewhat successful in attracting BPO investments, particularly foreign investments.

Sri Lankan BPOs take on a wide range of outsourced work, the most popular being accounting services. Forty three percent of BPO companies provided accounting services. Call-centre services and medical insurance processing were next at 19 per cent and 14 per cent, respectively. Most BPOs are geared to undertake at least two different types of services.

The industry is predominantly export oriented with 71 percent of the companies exporting 100 percent of their services. The leading consumer of Sri Lankan BPO services was the US, which is supplied by 69 per cent the BPOs. The UK was supplied by 63 per cent of BPO companies and 31 per cent exported to Australia. Other export markets were Sweden, New Zealand, Hong Kong, Singapore and Japan.

The survey also identified the main obstacles to growth and operations for BPOs in Sri Lanka. Civil and political instability ranked as the principal threat to BPOs in Sri Lanka with 67 percent of BPO companies identifying it as an obstacle, which explains the drop in new investment since 2005.

The public transport system ranked second with 57 percent of BPO companies naming it as an obstacle. Broadband facilities were identified as the third bottleneck (48 percent). BPO companies were also concerned about law and order and expressed dissatisfaction with efforts at maintaining Sri Lanka's image abroad. Electricity was not mentioned, but this was because all BPOs had invested in private generator capacity.

The leading skill requirement in the BPO labor market is English-language skills. Almost all BPOs (95 percent), including companies that are engaged in providing services other than call-center services, considered the ability to speak in English the most important requirement for their work. Other prominent requirements are accounting skills and technical knowledge.

The survey findings indicated that BPOs are experiencing difficulties finding suitable personnel. Nearly half the BPO employers (43 percent) were not satisfied with the supply of skilled personnel and 38 percent were not satisfied with the quality of those available. Education services were described as inefficient by 48 percent of the companies. Nearly all BPOs (95 percent) invest in compulsory and/or non-compulsory training of employees to meet skill and quality shortfalls.

Despite the various difficulties faced by BPO companies the sector is gearing to expand. A majority of BPO operators (95 percent) planned to increase employment in the near future and 76 percent were planning physical expansion and market development.

Findings also indicated the need to streamline regulations that govern the industry. Over one fourth (29 percent) of BPO companies reported start up delays due to government procedures and one third (33 percent) said interpretations of regulations pertaining to the sector are not consistent.

The BPO sector could also benefit from national and international promotional and marketing campaigns. Such activity could attract offshore investments and more outsourced work. However, domestic capacity constraints need to be addressed in parallel with marketing activity, for the sector to expand.

3.5 Research Outputs Research Projects

Diversifying Participation in Network Development Case Studies

Preparation of four country case studies under the 2005 WDR research theme. Final reports have been submitted to IDRC during the current period:

- *Diversifying network participation: Study of India's universal service instruments.* Project Team: Harsha de Silva and Payal Malik.
- *An investigation of the replicability of a microfinance approach to extending telecommunications access to marginal customers.* Project Team: Malathy Knight-John, Ayesha Zainudeen and Abu Saeed Khan.
- *Wi-Fi 'Innovation' in Indonesia: Working around hostile market and regulatory conditions.* Project Team Divakar Goswami and Onno Purbo.
- *Smart Subsidies: Getting the conditions right the experience of expanding rural telecoms in Nepal.* Project Team: Harsha de Silva and R.K. Tuladhar.

Telecom use at the Bottom of the Pyramid (Teleuse@BOP) (2005)

A three-country study of Bangladesh, India and Sri Lanka to understand the use of telecom services at the 'bottom of the pyramid' in South Asia. Substantive studies of 4 localities in Sri Lanka and 7 in India

were carried out in April and May of 2005, along with a literature-based study of Bangladesh. The survey comprised of 2,099 Indian respondents and 1,100 Sri Lankan respondents, and was conducted by TNS Lanka, assisted by the LIRNEasia counterpart team. Final reports were submitted to IDRC during the current period. Project Team: Ayesha Zainudeen, Rohan Samarajiva, Ayoma Abeysuriya (TNS Lanka), Harsha de Silva, Divakar Goswami, Mariam Hameed, Tahani Iqbal, Malathy Knight-John, Sriganesh Lokanathan, Avanti Moonesinghe, Neluka Silva, Chanuka Wattagama and Prashanthi Weragoda.

Asian Backbone Study

A study of backbone networks in the South Asia region, the terms and conditions of access, where they exist and the consequences of their absence or exclusionary access regimes. Project Team: Harsha Vardhana Singh, Rohan Samarajiva and Ayesha Zainudeen.

Baseline Sector Analysis of the BPO Industry in Sri Lanka

A baseline sector analysis of the BPO sector in Sri Lanka, to assess its direct, as well as indirect impacts on the country, and to identify opportunities and constraints for its growth. LIRNEasia and the Information and Communication Technology Agency of Sri Lanka (ICTA) partnered to conduct the study. Data was collected by AC Nielsen

Lanka (Pvt.) Ltd. Project Team: Harsha de Silva, Sriganesh Lokanathan and Dilshani Samaraweera.

ICTS, Transaction Costs and Traceability in Agricultural Markets

Research into the potential of ICTs in implementing traceability programs among small farmers. The study is being conducted in collaboration with a USAID-funded initiative called Govi Gnana Seva (GGS) or Farmer Knowledge Service, specifically conceived to address the information asymmetry problem faced by rural farmers in Sri Lanka. Project Team: Harsha de Silva, Helani Galpaya, Shamistra Soysa and Dimuthu Ratnadiwakara.

Indicators Project (2006-2007)

Development of an indicators manual with key stakeholders, to arrive at standardized supply-side indicators relevant to developing Asia that can be adopted in the region. The study is being carried out in six countries (India, Indonesia, Pakistan, the Philippines, Thailand and Sri Lanka), and consists of the implementation of a Telecom Regulatory Environment (TRE) scorecard, an analysis of reforms that have been implemented in the respective countries, and a measurement of changes in sector performance, using the indicators being developed. Project Team: Harsha de Silva, Divakar Goswami, Malathy Knight-John,

Sriganesh Lokanathan, Payal Malik, Deunden Nikomborirak, Lorraine Carlos Salazar and Joseph Wilson.

Teleuse at the Bottom of the Pyramid (Teleuse@BOP) (2006)

A five-country study which builds on the Teleuse@BOP project undertaken in 2005. The study was conducted in India, Pakistan, the Philippines, Thailand and Sri Lanka, and comprised of a quantitative and qualitative component, including the innovative use of diaries to record telephone use. Fieldwork took place from July-August 2006, and was conducted by AC Nielsen affiliates in the respective countries. Several research presentations have been made based on the findings, and several conference papers have resulted. LIRNEasia is developing a book based on the findings of the study. Project Team: Ayesha Zainudeen, Harsha de Silva, Dimuthu Ratnadiwakara, Rohan Samarajiva, Kabir Hashim, Ranga Kamaladasa, and Sabrina Eliatamby.

Capacity and Field-building Program to Develop an Asia Pacific Knowledge Network on ICT Policy and Regulation

Studying researchers within LIRNEasia's areas of competence and interest, as a starting point to a larger systematic mapping of Asian researchers in the ICT field. This exercise will center on an annual research conference, 'Communication

Policy Research: South (CPRSouth)' that will provide a focus for intra-Asian (and intra-South) connections among scholars engaged in ICT policy and regulation research (See *Capacity Building Section*). While LIRNEasia will provide the required support functions for three years (subject to availability of resources), the governance of the conference and the associated field-building activities will be in the hands of a self-perpetuating but changing Board of Directors. Project Team: Sujata Gamage and Tahani Iqbal.

Evaluating Last-Mile Hazard Information Dissemination (HazInfo) Project

The evaluation of the suitability of five different ICTs deployed in varied conditions for their suitability in the last-mile of a national disaster warning system for Sri Lanka. Indicators of effectiveness that are being evaluated are reliability, reaction time, bi-directionality, and integration of ICTs into village life. Simulated drills have been conducted over a six-month period where hazard warnings were disseminated to individual villages in the quadrants and their hazard response will be systematically assessed. The villages' response to any naturally occurring hazard will also be evaluated during the entire project duration of twenty four-months. Gordon Gow (University of Alberta), Communications Consultant on the project, is currently

working with ITU-D (Development Sector) on a set of international guidelines for public alerting that will include an entire section devoted to results from the project in Sri Lanka. LIRNEasia is partnering with Vanguard Foundation, WorldSpace, Solana Networks, TVE Asia Pacific, Sarvodaya and Dialog Telekom on this project. Project Team: Rohan Samarajiva, Nuwan Waidyanatha and Natasha Udu-gama.

Assessing Local Capacity for ICT Policy and Regulation in the Pacific

A needs assessment and gap analysis of local capacity for ICT policy and regulatory, research, training, expert assistance and advocacy in Africa, the Caribbean and the Pacific Islands. As part of an *infoDev* funded project, LIRNEasia along with its research partners in Africa (RIA) and the Caribbean (DIRSI) conducted this study; LIRNEasia was responsible for the Pacific component of the study. The objective was to provide input to multilateral organizations for developing capacity building initiatives that are better designed to meet the needs of nations in the three regions. A comprehensive inventory of capacity building initiatives in the Pacific Islands was completed in the form of a searchable database and an accompanying narrative synthesizing the most significant findings. A needs assessment was conducted by visiting three Islands in the Pacific at different stages of the reform process,

Samoa, Fiji and Palau and supplemented by online surveys and telephone interviews with key stakeholders in other Pacific Islands and multilateral and ICT training organizations. The final phase of the project involved the identification of the gap between current capacity building initiatives and the priorities and needs of Pacific Island countries, and provision of recommendations on how best to bridge the capacity gaps. Project team (LIRNEasia): Rohan Samarajiva, Sujata Gamage and Divakar Goswami.

Research Papers

Moonesinghe, A., de Silva, H., Silva, N. and Abeyuriya, A. (2006). Teleuse on a Shoestring: Expenditure and perceptions of costs amongst the financially constrained. WDR discussion paper 0610, April 2006

Gamage, S. (2006). Telecom policy research in Asia: A framework for assessing knowledge capacity. Version 1.1. At: <http://www.lirneasia.net/wp-content/uploads/2006/07/Status%20TPR2005%20v1.1.pdf>

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hostile market and regulatory conditions, Version 2.0. World Dialogue on Regulation, May 2006. At: <http://www.lirneasia.net/wpcontent/uploads/2006/05/wdr0611.pdf>

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Component Study 2006-2007. WDR Discussion Paper WDR0701. At: <http://www.lirneasia.net/wp-content/uploads/2007/04/nikomborirak-2007-6cmcs-thailand.pdf>

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de Silva, H., Zainudeen, A. and Cader, S. (2006). Teleuse on a shoestring: Current impacts of telecom at the bottom of the pyramid and the next billion subscribers. Paper presented at Telecom 2006: ESOMAR World Research Conference Convergence Revolution, Barcelona. 29 November 1 December 2006.

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Samarajiva, R., Goswami, D., and Galpaya, H. (2007). Telecom Regulatory Environment (TRE) assessment: A six-country comparison. With contributions from Payal Malik, Joseph Wilson, Lorraine Carlos Salazar, Malathy Knight- John and Deunden Nikomborirak, Paper presented at CPR*south* 2007: Research for Improving ICT governance in the Asia-Pacific, Manila. 19-21 January 2007.

At: <http://www.cprsouth.org/index.html/files/Session%202,%20Paper%201,%20January%2019,%202007%20%20Rohan%20Samarajiva%20v1.1.pdf>

Malik, P and Goswami, D. (2007). Regulatory reforms and improved sector performance: A comparative analysis of Indonesia and India. Paper presented at CPR*south* 2007: Research for Improving ICT governance in the Asia-Pacific, Manila. 19-21 January 2007.

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Research Meetings

Mid-Cycle Research Review

Meeting

Habarana, Sri Lanka. 12-16 September 2006

A review meeting was held, to review the progress of the six-country study which attempts to measure ICT sector and regulatory performance as a part of the Indicators Project, as well as the progress of the 2006 Teleuse@BOP study. The objective of the meeting was to ensure that the studies were on track as well as make any mid-course

corrections if necessary. The researchers also provided substantive input for the indicators manual and conceptual paper, as well as for the 2006 Teleuse@BOP analysis. The meeting brought together LIRNEasia researchers from five countries, media experts, research partners from AC Nielsen and external observers from the ICT Agency of Sri Lanka for five intensive days of presentations, evaluation, discussion and planning. The meeting also involved a media-workshop for researchers, and the development of a dissemination plan for the current research cycle.

Teleuse@BOP 2006 key findings

In 2006, LIRNEasia conducted a large sample survey among telecom users at the bottom of the pyramid (BOP) in five emerging Asian countries, Pakistan, India, Sri Lanka, the Philippines and Thailand. More than 6,000 BOP users between the ages of 18 and 60 were surveyed. The key findings are summarized below:

Access at the BOP is high

The study revealed that more than 90 percent in *all five* countries had used a phone in the preceding three months; more than 75 percent at the *bottom of the pyramid* (BOP) in each country could get to a phone in less than 10 minutes.

Ownership potential at the BOP is high

There appeared to be great ownership potential at the BOP in the five countries, particularly in the South Asian countries studied. South Asian countries saw levels of telephone ownership at the BOP of 20-40 percent (while their Southeast Asian counterparts appeared to already have ownership levels higher than 60 percent). The ownership potential could be as high as 115 million non-owners getting connected between mid-2006 and mid-2008; more than 90 percent will be in Pakistan and India, potentially bringing penetration rates within the BOP up to as high as 70 and 50 percent, respectively. Additionally, among those who already owned a phone, 26 million across the five countries, planned to obtain a new connection within the period.

Affordability is the biggest barrier to ownership

Among those who didn't own a phone at the time of study in all countries, the biggest barrier was affordability. On average, Pakistanis and Indians at the BOP could only afford up to USD30 to get connected (a significant share of Pakistanis could in fact only afford USD10) while their Sri Lankan and Filipino counterparts could afford up to USD50 in initial connection costs. Monthly charges seemed to be less of a problem, with most able to afford about USD5 on a monthly basis.