DOI Applied to Indonesia: Assessing ICT Policy & Regulatory Environment

Presentation at Digital Opportunity Forum, Seoul, August 31-September 1, 2006

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Overview of findings

- DOI methodology is overall robust but data quality and availability is a serious problem.
- Among low-income ASEAN countries, Indonesia ranks highest.
- To score higher on DOI, Indonesia needs to:
  - *Opportunity*-Extend mobile coverage using Universal Service fund; lower prices by stimulating competition by transitioning to unified licensing regime;

Overview of findings

- *Infrastructure*-Revise licensing framework to allow infrastructure competition; introduce new entrants in the fixed sector.
- *Utilization*-Unbundle local loop to stimulate broadband rollout; license exempt 5.725-5.85Ghz for WIMAX; lower leased line & international bandwidth prices.

Indonesia’s DOI Score

	ITU 2003-2004 data	Goswami 2004-2005 data	ITU 2005 DOI score
Digital Opportunity Index	**0.31**	**0.27**	**0.33**
Opportunity	**0.84**	**0.66**	
Percentage of population covered by mobile cellular telephony	0.85	0.26	
Infrastructure	**0.05**	**0.11**	
Utilization	**0.03**	**0.03**	

DOI Methodological issues

- Percentage of population covered by mobile cellular is a flawed indicator:
  - No common methodology being used by operators
  - Not verifiable, hence incentive to overstate
- Need for a more robust indicator for mobile coverage, something countable like BTS.
- OECD low user basket has little relevance for developing countries that have, in many cases, higher average use.

DOI Methodological issues

- Need common definition of who a mobile subscriber is. Based on VLS data and using same inactivity period for prepaid users.

Data Problems

- Greater coordination needed between NRA and National Statistical Organization (NSO).
- Non-availability of household level data like ownership of fixed phones, PC and Internet access.
- Developing countries have a large proportion of PCs, Internet access and fixed phones in offices. Any assumptions on household ownership is problematic.

Indonesia's Telecom Market Structure

Telecom services	Telecom operators
Fixed wireline local	Exclusive right 1996-2010 PT Telkom (Prematurely ended in 2002, but only in theory)
Fixed domestic LD	Exclusive right 1996-2005 PT Telkom (Prematurely ended in 2003, but only in theory)
Fixed wireless local	Limited competition (PT Telkom, PT Indosat and Bakrie Telecom)
Fixed international	Monopoly from 1995-2004 (PT Indosat) Currently, duopoly (PT Telkom) and third license under consideration.

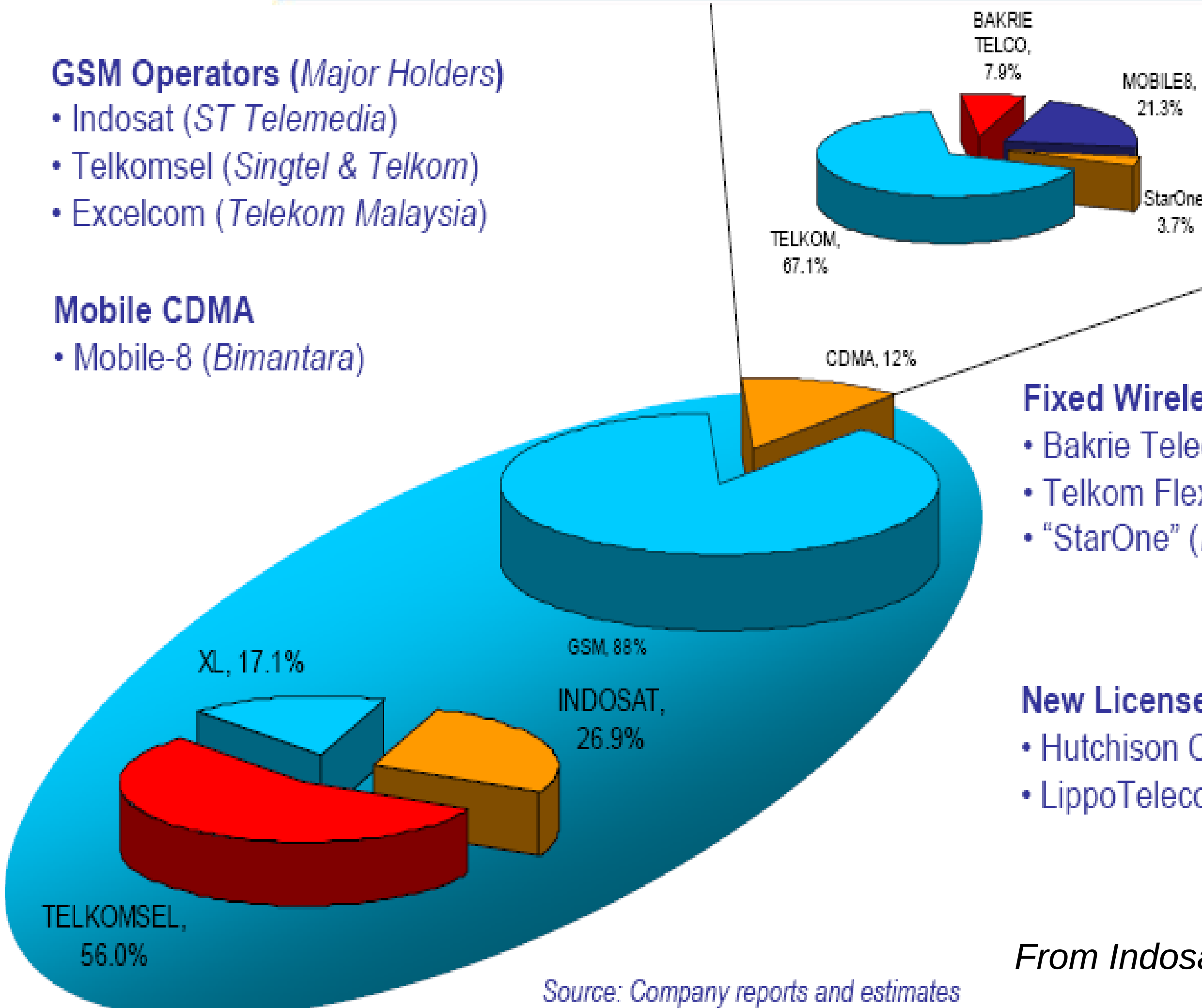
Indonesia's Telecom Market Structure

Telecom services	Telecom operators
Mobile GSM	Competitive (Telkmosel, Excelkomindo, Indosat)
Internet Service Provision	(Quasi?) Competitive Currently 124 ISPs official, 54 unlicensed

Mobile Market Structure

GSM Operators (*Major Holders*)
- Indosat (*ST Telemedia*)
- Telkomsel (*Singtel & Telkom*)
- Excelcom (*Telekom Malaysia*)

Mobile CDMA
- Mobile-8 (*Bimantara*)



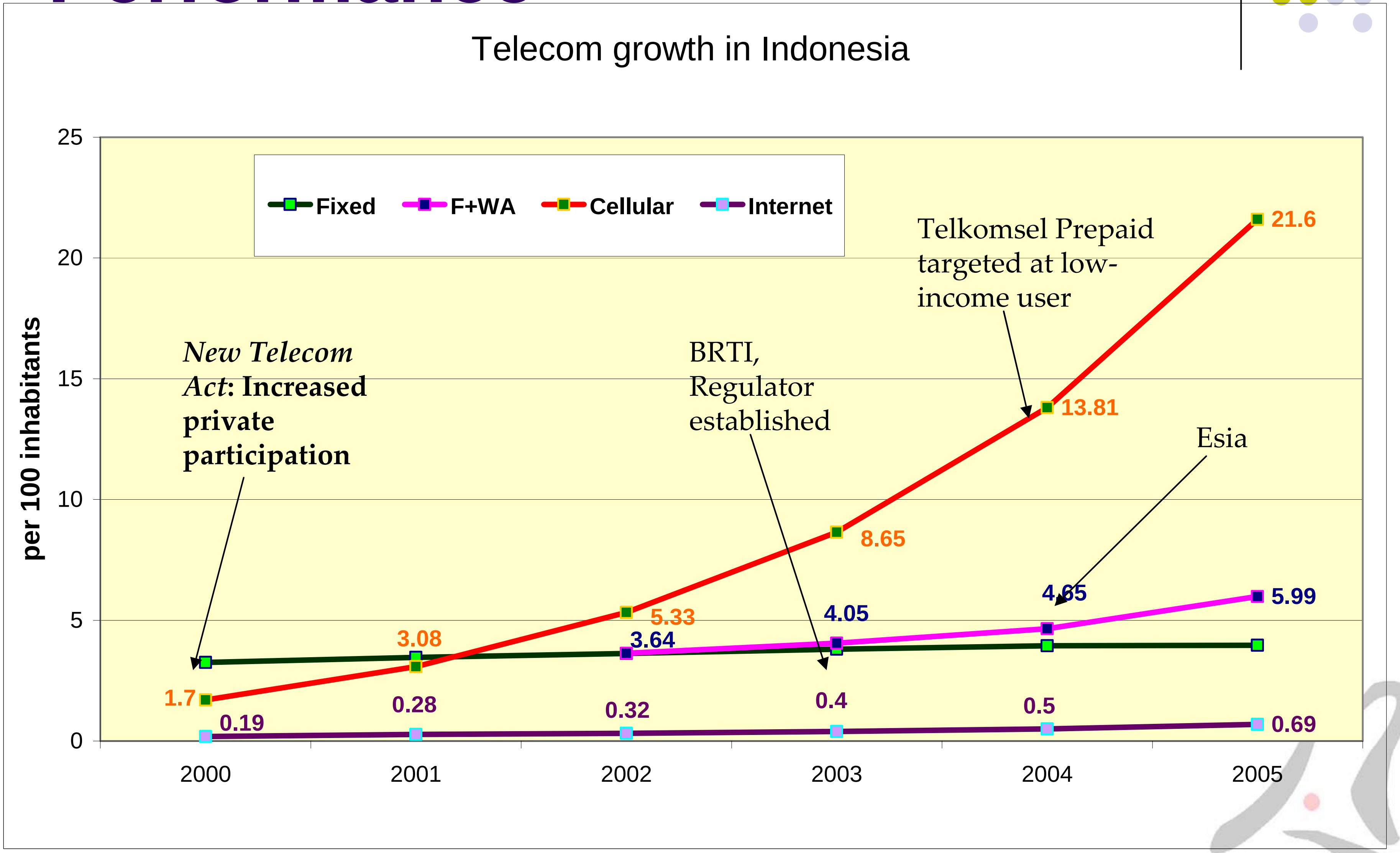
Fixed Wireless CDMA
- Bakrie Telecom (*Bakrie*)
- Telkom Flexi (*Telkom*)
- “StarOne” (*Indosat*)

New License Holders
- Hutchison CP Tel
- LippoTelecom (*Maxis*)

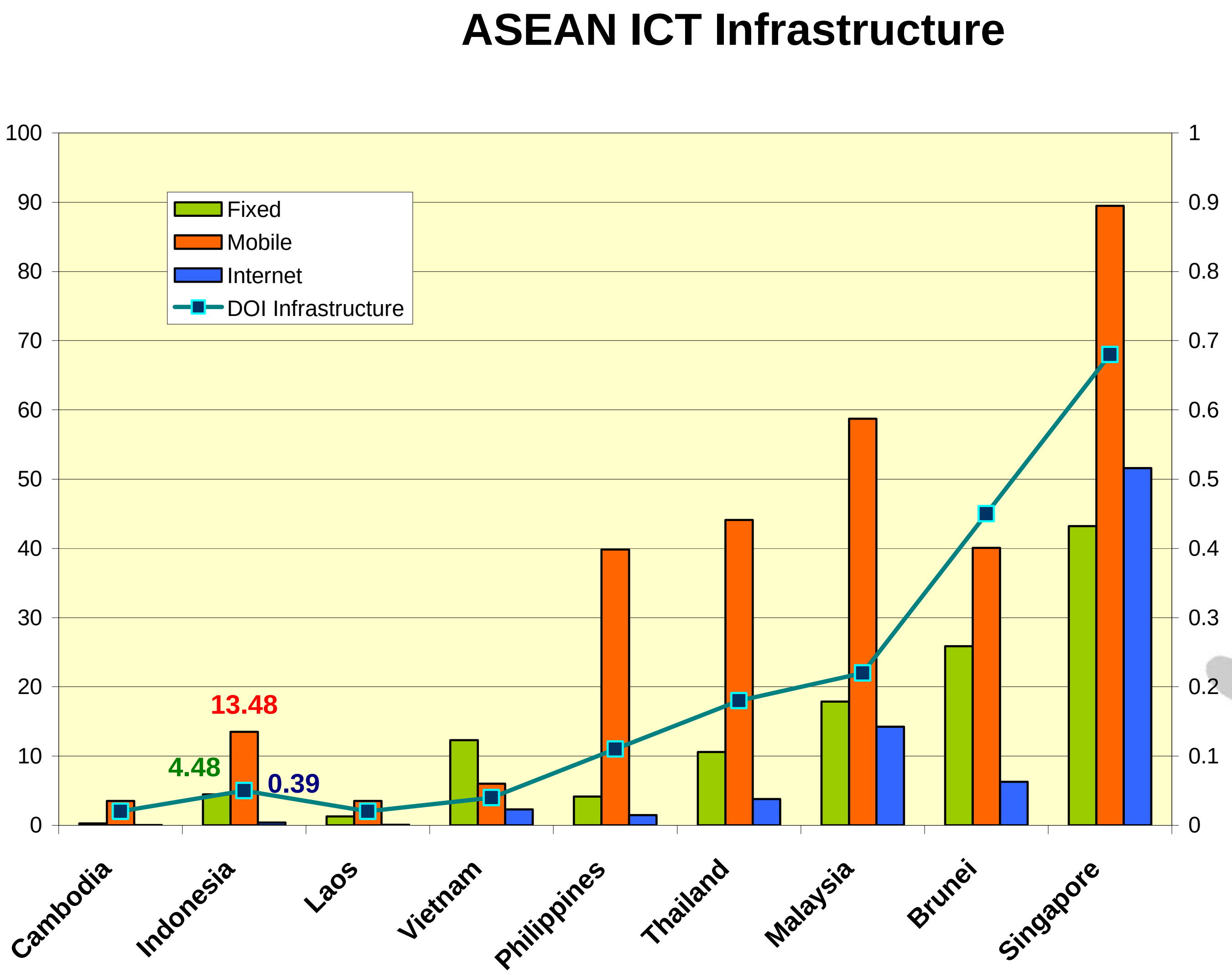
Source: Company reports and estimates

From Indosat presentation

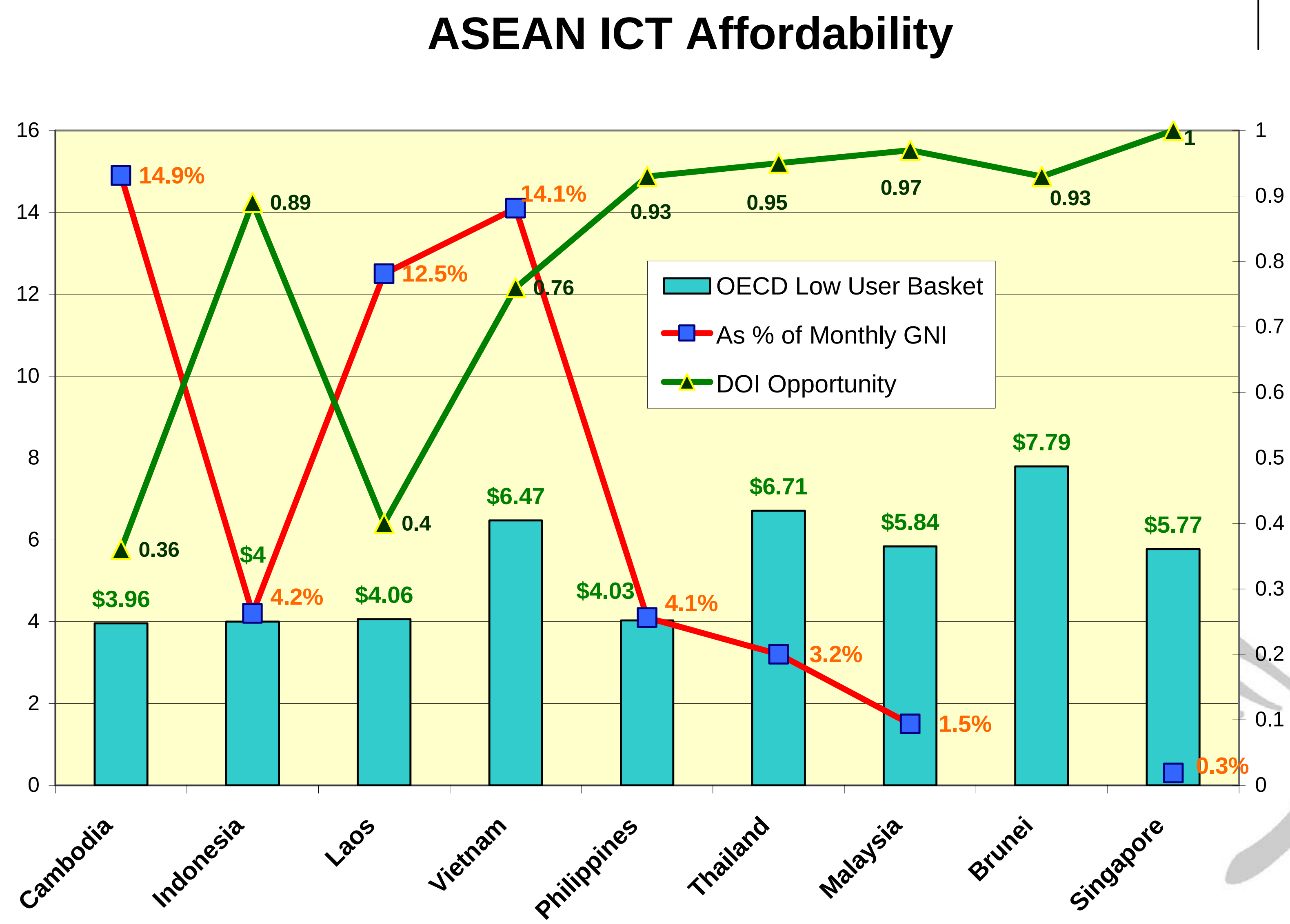
Indonesia's ICT Sector Performance



Indonesia Benchmarked with ASEAN



Indonesia Benchmarked with ASEAN



Strategies for Scoring Higher

Opportunity

- Allow mobile companies to participate in least-cost subsidy auction to extend mobile coverage
- Transition to Unified Licensing will allow greater participation in fixed sector and lower prices
- Revise current licensing framework to allow ISPs to build their own infrastructure
- Introduce competition in international gateway to lower international bandwidth prices
- Mandate incumbent to lower domestic leased line prices which are essential input for Internet service

Strategies for Scoring Higher

Infrastructure

- Political will to introduce competition in fixed line sector
- Granting full-mobility to CDMA operators under unified licensing will allow faster growth due to low-per-line technology

Utilization

- Lower Internet prices by introducing competition in broadband market—Unbundling of Local Loop
- ISPs using WIMAX can increase number of mobile broadband user. Should NOT license WIMAX technology
- Need to delicense 5.725-5.85, as many countries have already done, to allow ISPs, cooperatives, entrepreneurs to connect parts of Indonesia that have no fixed infrastructure.

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More info on Six Country Indicators Study:

www.lirne.net