LIRNE*asia* Provides Policy Input In Indonesia

Indonesia's telecom industry association and regulatory authority requested the participation of LIRNEasia at a seminar in Jakarta to address two key issues: 1) what telecom investors are looking for from the regulatory and policy environment in the country; 2) a review of current policy and regulatory challenges facing the Indonesian telecom sector.

LIRNEasia's policy intervention in Indonesia builds on the substantive work that the organization has carried out during the last year (2005-06) in that country. Since the first Rapid Reaction that provided assistance to Telecom Regulatory Body of Indonesia (BRTI; Badan Regulasi Telekom Indonesia) with activating the process of asymmetric regulation in a multi-operator environment (March 2005); LIRNEasia organized a Networking Meeting in Jakarta (October 2005) with assistance from its local partner MASTEL, the Infocom Society of Indonesia. Preliminary findings from LIRNEasia's study on "Wi-Fi Innovation in Indonesia," that found Indonesian leased line prices to be among the highest in the region (48 times the price of a comparable link in India), were presented at the keynote address attended by key stakeholders from Indonesia's telecom sector, including the Director General of POSTEL and also at a press conference held in Jakarta. MASTEL pursued the issue of high leased line prices with policymakers in Indonesia on a number of occasions and this issue was also picked up by the Indonesian news media. The outcome was a benchmark study followed by a cost study initiated by BRTI on leased lines that resulted in the issuance of regulation calling for a 50 percent reduction of leased line prices in September of 2006. LIRNEasia is currently conducting a study on Indonesia, as part of a Six Country Indicator project, which looks at ICT sector and regulatory performance in the backdrop of regulatory reforms undertaken by the country.

The current invitation to address burning telecom policy issues in Indonesia comes in the context of LIRNEasia's significant engagement with telecom policy issues in Indonesia during the last year and interactions with key players in the sector in various forums, including the participation of Indonesian regulatory and operator staff at a regulatory course organized by LIRNEasia.

From LIRNEasia, Prof Rohan Samarajiva, Executive Director and Divakar Goswami, Director of Organizational Development & Projects were invited to make presentations on what shapes investment decisions in the telecom sector and on current policy and regulatory challenges facing the sector at the *Seminar Hari Bhakti Postel 2006* in Jakarta on September 21, 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.

In his presentation, *Enabling Investment: Lessons from the Region,* Prof Samarajiva provided the rationale for why investment was important for the telecom sector. Investment was not an end in itself but a means to greater connectivity due to network build-out and more communication services at a lower price.

Using the example of Sri Lanka, he demonstrated that growth in both mobile and fixed sectors was strongly correlated to appropriate reform actions. Tracking year on year growth of the fixed and mobile investments made in Sri Lanka's telecom sector from 1994-2005 demonstrated that investment was closely tied with appropriate reform actions. When significant reforms were implemented, investment rose considerably in the following years. When no reforms were undertaken investment tapered off as a consequence. Using the example of Sri Lanka, he showed how investment in the telecom sector came in waves. In 1997, when the incumbent in Sri Lanka was privatized and there was market entry, investments in the following years peaked as a result. This phenomenon was also lucidly shown with the case of India where telecom regulatory reforms spurred greater investment, which led to more growth in services and infrastructure that led to more competition which resulted in lower prices and triggered demand.

According to Prof Samarajiva, government cannot completely eliminate market risk order to attract investment. However, it can offer exclusivity to a monopoly provider but such a decision comes with long-term bad effects. In his view, the government must reduce regulatory risk which it can do by making market-entry rules rational and transparent. It can also undertake actions to improve regulatory environment and to make taxation and other general rules more coherent and transparent.

Using the example of Pakistan, Prof Samarajiva illustrated how effective government policies can lead to massive FDI inflow along with phenomenal increase in mobile and WLL phones. Because of its transparent and open licensing regime, Pakistan has 76 fixed local loop providers, 12 long-distance international providers and 92 wireless local loop providers. The resultant FDI growth from the market entry was high. The outcome in terms of teledensity growth was spectacular increasing nearly ten-fold from 2001 to 2006.

In his presentation, *Telecom Reforms in Indonesia: Current Achievements and Challenges*, Divakar Goswami started out by highlighting the impressive performance by Indonesia in bridging the digital divide in terms of its improvement in its Digital Opportunity Index (DOI) scores during 2001-2005 period. Indonesia's good performance during that period was due to competition fueled growth of cellular mobile sector that led to improved access at more affordable prices. From 2001-2005, Indonesia's mobile penetration has grown seven folds and stands at 21.6 percent at the end of 2005. However, growth in the fixed line sector has been stagnant where the

incumbent, PT Telkom, is the monopoly provider. Where new entrants have been introduced in the Fixed Wirless Access (FWA), there is a growth spurt (CAGR 2002-2006 380%) primarily led by Esia (Bakrie Group) and Telkom Flexi (Pt Telkom) using CDMA technology. Internet connectivity that relies primarily on fixed infrastructure like leased lines and last-mile fixed line access to customer homes is poor.

The current sector performance data for Indonesia does not capture the positive developments due to recent policy and regulatory actions, for example:

1) The recently concluded 3G auction that has been well-received for the transparent and consultative manner in which it was held. Two 3G operators have started pre-commercial operations and the three others are expected to follow by early next year.
2) The new cost-based interconnection regime that has been introduced, which mandates cost-oriented interconnection and provides enforcement "teeth" to the regulators, will promote fixed-line competition and ensure greater transparency in this contentious area.
3) The proposal by BRTI to implement a phased reduction of leased line prices based on cost calculations may help lower Internet retail prices and help diffusion of Internet connectivity.

Despite all these positive developments in Indonesia's ICT sector, Indonesia ranks 105 out of 180 countries according to the DOI composite score from 2005. The rankings have been brought down by the slow growth of fixed lines which has affected fixed teledensity and Internet penetration. In 2005, 60 percent of Indonesia's villages still lack a telephone. Rural teledensity is as low as 0.2 percent. Poor broadband growth due to lack of competition in broadband services like ADSL and no regulatory requirement for local loop unbundling has lowered the Usage component scores of the DOI.

When Indonesia is compared with other ASEAN countries in terms of ICT infrastructure development and affordability of mobile services, it performs better than Cambodia, Laos and Vietnam but much worse than Philippines, Thailand, Malaysia and Singapore. The challenge confronting Indonesian policymakers is to develop effective strategies to speed up rollout of ICT infrastructure and services so that the large numbers of Indonesian who are currently disconnected have the option of using communication services to improve their lives. With network build-out, Indonesia can also move up one rung in the ASEAN ICT hierarchy and improve its DOI ranking.

Least-cost subsidy auction (LSA) to disburse USO fund and a transition to a Unified Licensing Regime (ULR), were two strategies that were proposed to Indonesian policymakers for rolling out communication services in commercially

unviable areas and for stimulating greater competition in both fixed and mobile sectors, respectively.

Least Cost Subsidy Auction (LSA)

Indonesia's unique geography imposes a challenge for providing connectivity to a large number of islands, some which are sparsely populated. Although cellular mobile operators or the fixed operator may have a national license, they have not ventured out to large swathes of the country (especially East of Java) because providing services in those areas is commercially unviable. Until recently, the Indonesian government has been providing support from the state budget to a number of satellite and fixed operators for providing telephone service in high cost areas. However, in September 2005 the Ministerial regulation No. 15 was issued that required all telecom operators to contribute 0.75 percent of gross revenues towards a universal fund. The USO fund would be used to provide telephone to 40,000 unconnected villages using least cost subsidy auction. However, the ministerial decree has yet to be issued that would specify the design of the LSA and how it would be held. LIRNE*asia*, sees this as a window of opportunity to propose certain measures that may result in the best possible outcome through a truly competitive and transparent bidding process.

Least cost subsidy auction is an efficient mechanism for providing the required financial support to make provision of service in an area that was previously commercially unviable, viable. In a LSA design, the operator who bids the least for subsidy support is the winner of the auction. Inverse-bidding allows considerable cost saving as has been the case in some South American countries that have used it effectively. In Chile, operators invested six private dollars for each dollar of subsidy that was received from the state. In Peru, each subsidy dollar attracted two private dollars[1]. However, when LSA is not properly designed, there may be little savings. This was the case in India where the incumbent firm bid exactly the benchmark in many cases and won 75 percent of the auctions[2].

A LIRNE*asia* study (Malik & De Silva 2005) on India's LSA found that if an access regime is not put in place that allow all bidders non-discriminatory access to the incumbent's backbone infrastructure, it may be difficult to attract sufficient bids from competitive providers. This is because the incumbent (usually) owns the backbone that is available in high cost areas and if it refuses to lease out its infrastructure to access providers, it is unlikely that the latter would participate in the auction in the first place. Hence, an access regime needs to be in place that mandates cost-based, non-discriminatory access to

[1] Rohan Samarajiva "Redefining universal service: Policy and regulatory actions," ITU paper, 2002. Available: www.itu.int/TELECOM/ast2002/cfp/pap_5195.doc

[2] Payal Malik & Harsha De Silva "Diversifying Network Participation: Study of India's Universal Service Instruments," WDR Paper 504, 2005. Available: http://www.regulateonline.org/content/view/575/31/

the backbone infrastructure BEFORE the LSA is held. In case such a regime cannot be put in place, the second best solution would be to make the incumbent operators with the most extensive backbone, ineligible to participate in the LSA and to receive USO funds. If either of these steps is not taken, operators who do not own backbone infrastructure but would like to build the access network would be competing on an uneven playing field with the incumbent and the results obtained from the LSA would be sub-optimal.

Participation in the LSA should be technology neutral. Restricting participation to fixed line operator means bidding will not be open to competing, lower-cost technologies like CDMA and GSM. Mobile subscribers in Indonesia outnumber fixed by nearly 4 times and offers lower-per-line cost.

Initially, India restricted USO program to fixed providers but revised this recently (August 31, 2006) by inviting mobile operators to install 10,000 towers in specified sites using LSA.

Indonesia's policymakers must allow existing FWA and Mobile operators to participate along with new entrants (cooperatives, regional firms etc.) in the LSA for USO funds.

Backbone networks, which are a key infrastructure for connectivity, are inadequately and unevenly deployed in the country. Even in densely populated islands like Java and Bali, fiber optic based backbone networks do not reach large parts of the islands. In order to address this lacuna, the Indonesian government has been toying with a $1.5 billion project of building a fiber ring connecting all the major islands together. However, this project has not yet taken off and may not for a long time because funding of this project may be financially unviable under Indonesia's current budgetary conditions.

Recently, however, the Indonesian Communication Minister has proposed to open up the backbone market to private investment using LSA. As has been mentioned above, before the LSA is held there needs to be an access regime in place that specifies modalities for access to the new backbone infrastructure that would be rolled out. An access regime for the backbone networks will be key to network development and competition. Before the auction is held, the conditions and procedures for raising backbone access fees should be specified to prevent operators from bidding low with the objective of recouping their loss by raising access fees.

Unified Licensing Regime (ULR)

There are a number of problems with Indonesia's licensing framework that the regulator has recognized and is trying to remedy by simplifying the license structure and by introducing "modern" licenses. However, these measures are piecemeal without looking forward to the industry trend towards convergence. Already, the contours of future problems are becoming apparent with FWA

providers who are providing "mobility by stealth" in violation of their license conditions that only allow them to provide fixed-like services. BRTI is threatening to take action against them. The underlying problem of treating each technology differently even when they are providing substitutable services, endures. Under convergence, a regulatory regime must be technologically neutral so that it allows innovative services and technologies to develop. The regulatory regime must be flexible enough to deal with FWA service versus GSM problem that has arisen today and the 3G versus mobile Wimax that may emerge tomorrow.

India is transitioning to a Unified Access Regime (UAR) after they faced similar problems when tariff convergence between fixed (CDMA) and cellular gave rise to product substitution[3]. TRAI, the Indian regulatory body recognized that the convergence of markets and technologies were realigning industry and called for a new regulatory regime. India has adopted a two phased regime transition starting with Universal ACCESS licensing regime for basic fixed & cellular services. The second phase would involve full transition of all services to the Unified Licensing Regime which would include national long distance, international long distance, Internet telephony etc.

UAR has simplified licensing in India and has provided a level playing field between operators using different technologies and made entry more transparent. The license fee, service area, rollout obligations remained the same under UAR for existing cellular service providers. The fixed operators paid the difference between the last GSM entry fee and what they paid for fixed license.

If a Unified Licensing Regime is implemented in Indonesia, it will lift significant barrier to fixed infrastructure development and foster greater competition in both fixed and mobile markets. Transition to Unified Licensing will allow CDMA operators full-mobility and introduce greater competition in the mobile sector and at the same time allow GSM operators to offer innovative fixed wireless services. The transition to a ULR can be a win-win situation for all the operators. Convergence between the mobile and fixed line network has already taken place in a number of countries and mobile operators in Indonesia can benefit by providing services to users irrespective of their location, access technology, and terminal. Variable interconnection rates between different services will also be rationalized under this regime.

ULR will also benefit operators like Esia (FWA) who are currently restricted to certain regions to expand wherever they think there is a business case to do so.

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[3] Rajendra Singh "Unified Licensing Regime in India," Workshop on convergent regulation, ITU, Geneva, 2005. Available: http://www.itu.int/ITU-T/worksem/conreg/abstract/conreg_0504_sapna_sharma_abs.pdf

ULR will also allow small operators to cover niche areas in particular rural, remote and less developed areas using innovative wireless technologies.

The transition to a ULR is not without its challenges. Currently, Indonesia is in the process of re-allocating frequencies due to limited availability of spectrum for current operations. In order to transition to ULR, policymakers must figure out where the extra spectrum will come from to accommodate the needs of more number of players. Indonesia will also need to weigh the merits of transitioning to a ULR in one phase or two.

A representative from a mobile operator asked whether transitioning to a ULR was like "regularizing" the license violations of the FWA operators and shouldn't the existing regulation and license be enforced instead. Goswami said ULR should not be looked at in terms of the current problem of the day (FWA vs GSM) but as a forwarding-looking framework that can deal with a myriad of competitive issues in a technology neutral manner. Since the move towards convergence is inexorable, it is better to have a licensing framework in place that can deal with the present and future rather than continue with a regime where new regulations have to be issued every time a new problem crops up. Furthermore, under the current regime it is difficult to enforce mobility by "stealth" and the ones who are most affected are mobile operators who have paid a much higher license fee than FWA operators to provide full mobile services. So it is in the interest of the mobile operators if a level playing is created under URL where the FWA providers are required to pay the same license fee as cellular operators to provide the same service.

A question was asked by a former chairman of MASTEL that if backbone infrastructure in Indonesia has not been adequately developed by the existing operators why would LSA attract new investment in this area. Goswami replied that if a number of measures mooted by Mr Sofyan Djalil, the Minister of Communication and Information, are carried out for the LSA, new investment will come in. The Minister proposed opening the LSA for backbone to not only existing operators with a network provider license but to anyone who would like to invest. The threat of new entry would be sufficient to get participation and financial commitments from existing backbone providers. Furthermore, the Minister dangled a carrot for the new backbone providers by allowing them to land and transit international calls from Indonesia. Many end to end carriers may find this proposition attractive enough to commit investment in Indonesia's backbone infrastructure.