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***ICT Infrastructure in Emerging Asia: Policy and Regulatory Roadblocks.*** Edited by Rohan Samarajiva and Ayesha Zainudeen. New Delhi: Sage Publications India; Ottawa: International Development Research Centre, 2008. Pp. 333.

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Drawing on research carried out by LirneASIA, an information and communication technology policy and regulation capacity organization active in the Asia-Pacific, the book sets out to explore the principal challenges to increasing access to telecommunications in South and Southeast Asia. Containing contributions from a range of telecoms experts and industry players, it refers to data and case studies from: Bangladesh, Indonesia, India, Sri Lanka, and Nepal.

Notwithstanding the technical language, the questions the book poses and the arguments it puts forward will be of interest not just to telecoms policy-makers, regulators, and policy-makers, but also a wider readership that is interested in the policy-making process, the effects of technology, and the role of institutions in shaping outcomes.

Starting from the contention that connectivity, defined as “the opportunity to engage in electronically-mediated communication, information retrieval ... and publication” is positive, the book then looks at what technological and regulatory barriers impede greater access to telecommunications services. Influenced by the work of Mohamed Yunus and C. K. Prahalad, the book is particularly interested in exploring what demands and needs consumers from the poorest sections of society, termed the Bottom of the Pyramid (BOP), have insofar as telecoms services. In particular, the book seeks to understand why access has not expanded more quickly in the region given liberalization of the telecoms sector, falling costs associated with economies of scale and, most importantly, huge unmet demand.

The book is structured in four parts, each looking at a different aspect of the telecoms sector and containing specific questions.

The first section, “Demand at the Bottom of the Pyramid”, seeks to uncover what BOP consumers

want with regards to telecoms services by drawing on extensive primary data gathered in Sri Lanka and India. The first chapter by Zainudeen looks at the choices made by BOP consumers between fixed, mobile, and public access modes. Zainudeen and Iqbal look at strategies BOP consumers use in accessing telecoms and cutting costs. The chapter by Samarajiva et al. looks at the demand for telecoms services in conflict-afflicted areas, drawing on survey data from northern Sri Lanka.

This makes for interesting reading, as it is not often that policy-makers are given this type of “fresh” data. Consistent with the wider Making Markets Work for the Poor literature, the findings undercut commonly held assumptions of BOP consumers. The survey findings establish high demand for telecoms, willingness to pay given the correct price structures, and quite a high level of awareness and sophistication among BOP consumers. While BOP consumers do not often use conventional cost-cutting strategies seen elsewhere, this may be more to do with the constraints under which telecoms services are accessed rather than a lack of sensitivity to cost. Demand for telecoms services is even higher in conflict-afflicted areas than elsewhere, as people need to contact family members frequently and organize remittances.

The second section, “Access, Against All Odds”, looks at expanding access to a broader range of consumers and seeks to explore the question whether technological advances in themselves are sufficient to increase access, or whether an enabling policy and regulatory environment is also necessary. In particular, the section looks at how non-state actors have found unexpected solutions through initiative and policy “work-arounds”. Knight-John looks at the business model of the Grameen Village Phone programme in Bangladesh, which has been able to provide access to 45 per cent of villages in that country. Iqbal and Purbo look at community-led efforts in Indonesia to delicense a frequency for Wi-Fi use, and Goswami looks at the potential for greatly increased access to ICT in Indonesia as a result of this.

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The findings of these chapters are very interesting from a policy point of view as they show that, in spite of its much-lauded potential for change, technology cannot be a silver bullet. Rather, for technological advances to be optimized, they must be accompanied by a hospitable policy and regulatory environment. On a more empowering note, the case studies also show that, in spite of hostile policy frameworks, individual effort and ingenuity can, through “work-arounds”, by-pass regulatory bottlenecks. Thus, collective action and capable institutions shows that policy heroes can be found — often in unexpected places.

The third section, “Regulation: To Stifle or Enable”, looks at issues of policy and regulation in the telecoms sector. Drawing on examples from Nepal by de Silva, India by Malik, and Sri Lanka by Singh and Samarajiva, the section looks at the tools used by regulators to try to open up telecoms markets and expand access through policies such as: forcing incumbents to share infrastructure; imposing universal service obligations; and allocating subsidies. In particular, the section explores the link between the effectiveness of these policies, in particular “smart” subsidies, and the regulatory framework within which they are expected to operate.

This section will be of utility to policy-makers in general, above and beyond the core grouping at which this book is aimed, in particular because it shows the often perverse and unexpected results of policy-making. For example, the chapter on India shows that, while intended policies to increase telecoms access in rural areas did expand supply somewhat, subsidies by the government had, on aggregate, a negative effect by strengthening the position of the state-owned incumbent, rather than fostering competition. The Nepali case chronicles how, in spite of persistence in the face of adversity, wider governance issues came to undermine a project to widen access to telecoms in rural areas. These case studies are particularly useful in reframing the policy-making model, which is often assumed to take place in rarified conditions, towards a more realistic setting that is often characterized

by a significant degree of conflict and unpredictability.

The fourth section, interestingly, invites contributions from regulators and market observers. Thus, the General Manager of Regulatory Affairs of Sri Lanka Telecom Limited, the former Principal Advisor of the Telecom Regulatory Authority of India, and a consultant specializing in public utility reform in Thailand put forward their point of view. There are several common strands that cross their interventions. First, they all stress the innovative role of the end-users, not just as consumers, but also as innovators and producers. Second, they all stress the role of the market forces in fostering dynamism and creativity — particularly given appropriate incentives.

In sum, this is an important book, and not just for telecoms operators and regulators. By asking different questions and using fresh data from unexpected sources, this book contributes to debates on policy-making, the role of institutions, and the interplay between technological advances and the policy context within which they work.

We are forced to accept that our assumptions about what BOP consumers want and need are that — assumptions. We are also shown that while policy-makers have control over what policies are formulated, they — and we — are often in the dark about the effects of the policies themselves. Given this, particular care should be exercised in examining the underlying regulatory framework within which policies are enacted, as the effects may well be unexpected. In addition, on a more empowering note, positive change can come from unexpected quarters, groups, and institutions — and with enough effort and innovation policy “work-arounds” can be achieved.

My only wish is that this book had included a concluding chapter that charts some steps forward for policy-makers, regulators, and civil society groups. The decision to not include a concluding discussion was clearly a conscious one, as this book aims to challenge conventional wisdom in a variety of areas and open the floor for debate. Notwithstanding that, the book’s findings do have direct implications for policy that could be re-

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stated (much as de Silva does in Chapter 10) for the enlightenment of the over-worked and technology-challenged bureaucrats that would most benefit from the book's findings.

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***Infrastructure Development in the Pacific Region.*** Edited by Akira Kohsaka. New York: Routledge, 2007. Pp. 256.

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This volume has an overview and eleven country chapters comprising Australia, Canada, China, Hong Kong, Japan, Korea, Malaysia, New Zealand, the Philippines, Singapore, and the United States. It is based on a study by the Pacific Economic Outlook (PEO) Structure, a task force under the Pacific Economic Cooperation Council (PECC) for projections and quantitative analysis. It is replete with statistics and figures, with six chapters' empirical estimates confirming the positive relationship between infrastructure-growth nexus and productivity.

Two trends are clearly underscored: private sector participation in infrastructure development punctuated somewhat by the Asian financial crisis and non-physical infrastructure including human and knowledge-based capital besides traditional infrastructure. Information communication technology has revolutionized electronic highways for over-the-wire or electronically mediated connectivity. The volume aims to draw implications for policy incentives to support a broader set of alternative providers of infrastructure, further challenged by diverse developmental stages in the PECC region and changing role of government with public-private partnerships in infrastructure.

The overview chapter addresses the knowledge-based economy in the context of new technologies which impinge on institutions both in functions and modalities of infrastructure provision.

Privatization and contracting-out have implications on ownership, management, finance and other operations. The overview on the current infrastructure status in the region draws on the World Bank for information and studies given its role in financing infrastructure. In addition, the PEO estimates of output elasticity of infrastructure investment suggest strong spillover effects with Japan as a case study.

Among some policy issues raised, public investment is a declining trend among mature advanced economies in contrast to more privatization since the 1980s in developing economies, especially in non-physical, soft infrastructure in the knowledge-based economy. It is heartening to know that the Pacific emerging market economies have caught with the advanced economies on new infrastructure, though the gap between emerging markets and other developing economies remains in terms of output in personal computers. What seems remiss in the overview as hard-to-knit-together highlights of country chapters for overall PECC-wide policy implications is perhaps compensated by specific country details of uneven quality.

Typically as for all chapters, Australia by Tony Makin and Satya Paul starts with the historical context and role of government at different levels as the traditional infrastructure provider, with the private sector more involved in a range of public private arrangements. Data from national accounts are supplemented by a review of empirical studies of public infrastructure on productivity growth under different approaches (production, cost and profit functions), noting a general equilibrium model for social rates of return is beyond the chapter.

Kim Storey on Canada estimates the economic impact of infrastructure, noting different types of infrastructure (energy, transportation, telecommunications and social) under various levels of government and highlighting the importance of provincial and local levels especially in health care and education. Estimates of the economic impact of infrastructure for 1961–2000 have reasonable results. Like other advanced economies, Canada ponders how best to renew