GLOBAL INFORMATION SOCIETY WATCH 2008

Focus on access to infrastructure

Association for Progressive Communications (APC), Hivos and the Third World Institute (ITeM)

Global Information Society Watch

2008

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Printed by
CinnamonTeal Print and Publishing

Printed in India

Global Information Society Watch 2008
Published by APC, Hivos and ITeM
2008

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ISBN: 92-95049-65-9
APC-200812-CIPP-R-EN-P-0058

REGIONAL REPORT

South-East Asia

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Introduction

This report explores connectivity and access dimensions of the information society vision in South-East Asia, by presenting a scaleable framework for comparing the maturity of different information societies. South-East Asia is home to some of the fastest growing economies of the world, and some leading information and communications technology (ICT) companies; it adds its own tone and texture to the diffusion of ICTs worldwide. The region exhibits a wide diversity of telecom and broadcast environments, ranging from teledensity-poor Laos and Cambodia, to advanced info-societies like Singapore, where provision of basic universal telecom access is no longer an issue.

For the diverse countries of the region, focusing on the vision of the information society must occur in parallel with and buttress other socioeconomic goals – after all, the digital divide is in part a reflection of socio-political and economic divides generally. Overcoming the divide must therefore be concomitant to other targets, such as the Millennium Development Goals (MDGs) regarding hunger, poverty levels, education, gender inequality, infant mortality, health services and environmental resources.

Frameworks for analysing digital info-structure

The comparative framework used in this report is called the "8 Cs" of the digital economy, based on eight parameters beginning with the letter C: connectivity, content, community, commerce, culture, capacity, cooperation and capital. There are two ways of looking at ICTs: as an instrument, and as an industry. As an instrument, affordable and usable ICTs can indeed transform the way societies work, entertain, study, govern and live – at the individual, organisational, sectoral, vocational and national levels. As an industry, ICTs represent a major growing economic sector covering hardware, software, telecom/datacom and consulting services (see Table 1).

Table 1: **The 8 Cs of the information society**

	ICTs as an instrument	ICTs as an industry
Connectivity	How affordable and widespread are ICTs (e.g., PCs, internet access, software) for the common citizen?	Does the country have ICT manufacturing industries for hardware, software, datacom solutions and services?
Content	Is there useful content (foreign and local) for citizens to use in their daily lives?	Is content being generated in local languages and localised interfaces? Is this being accessed/used abroad?
Community	Are there online/offline forums where citizens can discuss ICT and other issues of concern?	Is the country a hub of discussion and forums for the worldwide ICT industry?
Commerce	Is there infrastructure (tech, legal) for e-commerce for citizens, businesses and government? How much commerce is transacted electronically?	Does the country have indigenous e-commerce technology and services? Are these being exported?
Capacity	Do citizens and organisations have the human resources capacity (tech, managerial, policy, legal) to effectively harness ICTs for daily use?	Does the country have the human resources capacity (tech, managerial, policy, legal) to create and export ICTs and set standards?
Culture	Is there a forward-looking, open, progressive culture at the level of policy-makers, businesses, educators, citizens and the media in opening up access to ICTs and harnessing them? Or is there nervousness and phobia about the cultural and political impacts of ICTs?	Are there techies, entrepreneurs and managers proactive and savvy enough to create local companies and take them global?
Cooperation	Is there adequate cooperation between citizens, businesses, academics, non-governmental organisations (NGOs) and policy-makers to create a favourable climate for using ICTs?	Is there a favourable regulatory environment in the country for creating ICT companies, allowing mergers and acquisitions, and links with the diaspora population?
Capital	Are there enough financial resources to invest in ICT infrastructure and education? What is the level of foreign direct investment (FDI)?	Is there a domestic venture capital industry? Are they investing abroad as well? How many international players are active in the local private equity market? Are there stock markets for public listing?

Table 2: **Digital infrastructure in South-East Asia**		
Country	Notable aspects of digital infrastructure and policies	Key challenges
Cambodia	1. National ICT policy formulation by national ICT development authority 2. International civil sector support for ICT projects and policies	1. Interdepartmental alignment on ICT initiatives 2. Local content in Khmer language
Indonesia	1. National education network 2. WiMAX trials for broadband internet access 3. Rapidly growing mobile penetration (11 operators, 100+ million subscribers)	1. Expanding digital access outside key islands like Java 2. Relatively low government spending on ICTs 3. Lack of interdepartmental coordination for ICT policy
Laos	1. Opening up of FDI to create telecom infrastructure 2. Growing mobile penetration (already exceeding landline)	1. Political/commercial isolation 2. Low telecom penetration in rural areas 3. Inadequate pace of regulatory reform 4. Low involvement of Laos diaspora in ICT initiatives
Malaysia	1. Strong government support for knowledge society vision, multimedia "super corridor" 2. Commercial WiMAX initiatives for broadband internet access 3. High mobile penetration	1. Political turbulence; impacts on free speech (e.g., arrest of bloggers)
Myanmar	1. Greater Mekong sub-region information superhighway project	1. Restrictive government policies towards free flow of information
Philippines	1. PLDT's Asian-American cable gateway 2. Cross-sector support for medium-term Philippine development plan (2005-2010) and Philippine cyber-services corridor programme 3. Support for voice over internet protocol (VoIP), ICT training, business process outsourcing (BPO) industries, telecentres 4. Widespread usage of mobile phones; short message service (SMS) capital of the world	1. Internet access in rural areas 2. Low broadband penetration
Singapore	1. "Intelligent Nation 2015" project, national broadband network 2. Active courting of global ICT industry 3. Strong government agencies, e.g., InfoComm Development Authority (IDA), Media Development Authority (MDA)	1. Overcoming broadband divide between upper and lower income groups 2. Dealing with issues of inappropriate content, digital piracy
Thailand	1. Active support from National Telecommunications Commission (NTC) 2. Healthy competition between infrastructure players 3. Licences issued for third generation (3G), WiMAX	1. Improving internet access outside major cities like Bangkok 2. Low broadband penetration 3. Political turbulence affecting investor climate
Vietnam	1. Regulations permitting more FDI in ICT sector 2. 60% mobile phone penetration, mobile virtual network operators (MVNOs); country has a very young population fuelling demand 3. Launch of first telecom satellite for Vietnam	1. High tariffs, low broadband usage

Digital info-structure access in South-East Asia

The 8 Cs framework can be used to tease apart some of the key challenges in implementing the vision of knowledge societies in South-East Asia. These include increasing ICT diffusion and adoption, scaling up ICT pilot projects, ensuring sustainability and viability of ICT initiatives, creating ICT industries, and systematically analysing research on the global information society. Table 2 shows some key aspects regarding ICT access and policy in South-East Asia.

The digital divide in the developing countries of South-East Asia (such as Laos and Cambodia) is most evident at the phase of connectivity. Steps to reduce this digital gap include lowering tariffs on the import of computers and modems, creating community internet access centres (with leased lines and shared devices) and other public access initiatives (such as public phone kiosks), and bringing access rates down by creating a favourable climate of competition between internet service providers (ISPs) and mobile operators.

A key challenge in the newly emerging economies of South-East Asia lies in creating a level playing field between government-owned or government-funded and private sector service providers. Costs of dial-up and leased lines are dropping, but could become more affordable. Organisational adoption of intranets and extranets is only slowly emerging in some countries in the region. Much potential lies in the

Table 3: **Classification of Asia-Pacific information societies based on the 8 Cs framework**		
Type	Characteristics	Examples
Restrictive	1. ICT infrastructure is very limited 2. ICT usage is tightly controlled by government 3. Awareness of ICT among general population is very low	North Korea
Embryonic	1. ICT infrastructure is just being rolled out 2. Donor agencies are active in funding and providing human resources 3. Most ICT activity is driven by diaspora, NGOs	Afghanistan, East Timor
Emerging	1. Internet infrastructure exists in urban areas 2. Local capacities exist for ICTs 3. Policy bodies are being formed 4. Widespread digital divide exists 5. E-commerce is not yet widely prevalent	Nepal, Bangladesh
Negotiating	1. Widespread internet/wireless infrastructure exists 2. Local capacities and markets exist for ICTs, e-commerce 3. Government is "negotiating" benefits and challenges of new media (authorities exercise strong control over online content, search engines; political and cultural censorship of internet is practised)	China
Intermediate	1. Sizeable markets for internet, e-commerce, wireless exist 2. Digital divide is still an issue, donor agencies are active 3. Political climate is generally free of censorship for traditional and online media	India, Philippines
Mature	1. Large-scale penetration of internet, wireless 2. Mature business models for online content 3. Political climate is generally free of censorship for traditional and online media	Australia, New Zealand
Advanced	1. Large-scale penetration of broadband and wireless internet (including 2.5G, 3G) 2. Political climate is generally free of censorship for traditional and online media 3. Some ICT companies are major players in global market (e.g., wireless content models* are being exported)	Japan, South Korea

* The re-packaging of domestic content for wireless channels in other countries.

hands of public sector units, such as the power grid and railway authorities, who have existing secure cable connections across the region.

Special concerns arise in cross-country wiring for regions with mountainous terrain, large arid tracts, or with a high density of island space. Interesting developments to track on this front include the increasing feasibility of wireless access, ranging from cellular telephony and wireless local loop (WLL) to Wi-Fi/WiMAX networks and satellite links for voice and data traffic.

The digital divide also extends to content, in terms of number of websites, amount of local language content, and use of online content by key sectors such as government, education and healthcare. In today's world of social networking and broadband content, the boom in sites like YouTube, Facebook and MySpace seems to be inapplicable to some of the digitally challenged countries of South-East Asia. For instance, until very recently, a lack of standards for representing Khmer characters was a major obstacle for digital content growth in Cambodia. Other challenges arise in the case of languages for which internet domain names and email addresses must be typed in the Latin alphabet only and not in the local languages.

For the developing nations of South-East Asia, the extent of community stretches beyond local borders to the global diaspora population. Indeed, nations like India, South Korea and Taiwan are great examples where involvement from the diaspora community has helped bootstrap and globalise domestic ICT industries. This has yet to happen in a major way for countries like Laos and Cambodia.

As for capital investments in software, use of freeware and shareware packages and tools should be encouraged

where possible, instead of relying on costly proprietary software solutions. These tools include the use of the Linux operating system and Apache Web servers for digital publishing. More open source forums are needed in the region; the United Nations Development Programme's (UNDP) Asia-Pacific Development Information Programme (APDIP) launched some notable projects in this area, and the e-ASEAN forum has helped move towards synchronisation and harmonisation of regional ICT initiatives.

The growth of internet users in the Asia-Pacific region is gaining momentum as emerging markets leverage mobile phones as a new and widely available form of access, according to the International Telecommunication Union (ITU) Asia Pacific Telecommunication/ICT Indicators 2008 report.[1]

In upper-middle- and high-income economies of South-East Asia, ubiquitous access is progressing through a competitive race to provide ever faster fixed broadband speeds, and the deployment of mobile broadband technologies at ever lower prices. In most of the region's low- and lower-middle-income economies, mobile phones have become a substitute for the shortage of fixed lines and fixed-broadband access. Thailand has five million users accessing the internet with their mobiles, which accounts for 40% of the nation's entire internet user base. Malaysia and the Philippines also registered double-digit figures for the percentage of internet users relying on mobile phone access.

The cost of handsets will continue to be a barrier in least-developed countries (LDCs), and is key to breaking the psychological "USD 10 barrier" for affordability. Mobile telephony operators are going deep into LDCs with bundled offers for connection and handsets. The only way to penetrate those regions is by ensuring affordability.

For rural access, needs assessment of information and knowledge requirements and aspirations in rural communities should be at the heart of any rural ICT for development (ICT4D) initiative. Issues related to design of the user interface, information architecture, language of presentation and communication of the information via alternative media (e.g., community radio) should occupy a key position. Knowledge management, generation and propagation models should be actively studied to help rural communities move from the information layer to knowledge via village telecentres.

Key to growing rural mobile access is not just creating networks and making handsets available, but also providing a wide range of applications such as news, commercial content and transactional services. Other strategies include providing local content in various languages and creating simpler tariff plans.

Regional comparison

Based on the 8 Cs framework, the countries of the Asia-Pacific can be divided into eight categories: restrictive, embryonic, emerging, negotiating, intermediate, mature, advanced, and agenda-setting. ICT diffusion amongst the population, strength of online content and cultural sectors, and the projection of domestic ICT industries globally progressively increase along the spectrum, as does openness of political expression (see Table 3). ■

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1 See: www.commsday.com/node/258

GLOBAL INFORMATION SOCIETY WATCH 2008

GLOBAL INFORMATION SOCIETY WATCH 2008 is the second in a series of yearly reports critically covering the state of the information society from the perspectives of civil society organisations across the world.

GLOBAL INFORMATION SOCIETY WATCH or **GISWatch** has three interrelated goals:

- **Surveying** the state of information and communication technology (ICT) policy at the local and global levels
- **Encouraging** critical debate
- **Strengthening** networking and advocacy for a just, inclusive information society.

Each year the report focuses on a particular theme. **GISWatch 2008** *focuses on access to infrastructure* and includes several thematic reports dealing with key access issues, an analysis of where global institutions stand on the access debate, a report looking at the state of indicators and access, six regional reports and 38 country reports.

GISWatch 2008 is a joint initiative of the Association for Progressive Communications (APC), the Humanist Institute for Cooperation with Developing Countries (Hivos) and the Third World Institute (ITeM).

GLOBAL INFORMATION SOCIETY WATCH
2008 Report
www.GISWatch.org

ISBN 92-95049-65-9

APC Hivos ITeM