.lk

Sri Lanka

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Introduction

'Smart people, smart island' was the promotional tag-line for the ambitious e-Sri Lanka programme that Sri Lanka launched in 2003 as a major ICT development initiative. It provided a vision and a roadmap based on the premise that 'ICT is a foundation medium for the equitable distribution of opportunity and knowledge....' Proponents talked of Sri Lanka being on the threshold of a new wave of social and economic development built on peace, equity and social harmony (ICTA 2003).

When 2006 ended, however, that promise lay unfulfilled as the 2002 ceasefire was no longer able to prevent the two decade long ethnic conflict from erupting again, and the peace process was on hold. In fact, this became a 'double whammy' because the country suffered substantial loss of life and property damage from the Indian Ocean Tsunami of December 2004, the recovery from which is prolonged and incomplete. Social and political instability, and the over-stretching of the state to cope with multiple emergencies, has forced many development efforts to be scaled down or deferred.

Thus, Sri Lanka is once again pursuing development under duress, a condition it has known well during the past 30 years. It is within this broad context that ICT development is taking place.

Technology infrastructure

Telephony

Since the telecommunications sector was liberalized and deregulated in the early 1990s, both the telecommunication and information infrastructure of Sri Lanka have recorded a steady and healthy growth. The Central Bank of Sri Lanka recognizes the telecom sector as one of the most liberal, competitive and fast growing sectors in the economy. Its 2005 annual report notes that vigorous competition prevailed among the three fixed phone operators, four mobile phone operators, 32 external gateway operators, 29 data communication and Internet service providers, four paging operators, two payphone operators and two trunk radio operators (CBSL 2006).

The total telephone subscriber base of around 120,000 land phones when reforms started in 1990 has now increased by more than tenfold. The number of land phone lines (both fixed and WLL) stood at 1,509,000 in June 2006 (TRCSL 2006). However, the growth rate has not been consistent during this period. A steady increase that was recorded for a few years following initial reforms climaxed with a growth rate of 53 per cent in 1998. It gradually decreased to single digit growth rates in the period 2001–04, when the overall economic growth rate itself slowed down. Telecom growth has picked up again from 2005, when land phones using the CDMA technology were introduced.

The subscriber network expanded by 45 per cent in 2005, with the fixed access network growing by 26 per cent and the number of mobile telephone subscribers increasing by 54 per cent. The vast expansion and stiff competition has driven operators to offer more affordable user rates, enabling more low income groups and rural residents to access these services. Meanwhile, the introduction of CDMA has reduced the urban–rural disparity in telephone service penetration (CBSL 2006).

It is mobile telephones that have transformed the Sri Lankan telecommunications sector beyond recognition. Mobile services

have experienced exponential growth, from 71,000 subscribers in 1996 to 4,284,256 subscribers in June 2006 (TRCSL 2006). These growth rates did not dip even when the overall economy went through periods of lean or zero growth. The number of mobile phones surpassed the number of land phones in 2002 and by end 2005, three out of every four phone connections in Sri Lanka were mobile.

By June 2006, the teledensity (number of phones per 100 inhabitants) rates were 7.5 for fixed phones and 21.5 for mobile phones. Overall teledensity was 29.1 (TRCSL 2006). While this is impressive for a South Asian country with a per capita GNP of USD 1,189, it should not distract from many gaps that remain in telecom coverage, service quality and dependability.

Meanwhile in August 2006, Sri Lanka became the first South Asian country to introduce commercial 3G services for mobile telephony—another first by Dialog Telekom, the largest mobile operator in the country.

Internet

Sri Lanka was the first South Asian country to introduce unrestricted, commercial Internet connectivity in April 1995. Despite this head start, penetration has been slow and uneven in the 11 years since. The Telecommunications Regulatory Commission estimated the number of Internet and e-mail subscribers to be 125,800 as of June 2006. The actual figure could well be 2–3 times that, because this estimate does not take into account the shared corporate accounts. The International Telecommunications Union cited a figure of 1.3 Internet users per 100 inhabitants (ITU 2006a).[1]

Broadband in Sri Lanka is largely limited to the capital Colombo and a few key cities. Both ADSL and ISDN facilities are available in urban areas and one operator was testing WiMAX services in late 2006, with plans to introduce it in main cities in 2007. In areas not currently served by broadband, the only available option is to use a direct satellite link through a VSAT, but this is too expensive for most users including small and medium enterprises. It seems unlikely that broadband services will be rolled out to semi-urban and rural areas in the near future as the market potential is limited.

Limitations in international bandwidth has been a concern for a decade, but improvements are finally being made. The construction of a submarine cable system between India and Sri Lanka was initiated in September 2005. When commissioned, this system will enable Sri Lanka to secure fast telecommunications connectivity at cheaper rates with India and other South Asian countries. Meanwhile, the Sea-Me-We-4 (Southeast Asia–Middle East–West Europe-4) submarine cable project, commissioned in 2005 with 15 international partners,

is set to enhance the quality and bandwidth of Sri Lanka's telecommunication services (CBSL 2006). Submarine optical fibre cables also link Sri Lanka with India and from 2007 with neighbouring Maldives (LBO 2006a).

A main characteristic of the telecommunication and Internet infrastructure of Sri Lanka is that both are concentrated in the Greater Colombo area and a few other cities. For example, the Western Province (where Colombo is located) had 54 per cent of all fixed phones in mid-2006 (TRCSL 2006). Mobile phones have penetrated more widely, but there is no comprehensive signal coverage by a single operator. This imbalance was to be addressed under the e-Sri Lanka programme through a Regional Telecommunication Network covering five provinces, but this has not happened due to legal and other complications.

Key institutions dealing with ICT

The Information and Communication Technology Agency (ICTA) (http://www.icta.lk), which replaced the Computer and Information Technology Council (CINTEC), is the single apex body involved in ICT policy and direction. Established under ICTA Act No. 27 of 2003, the Agency is the implementing organization of the e-Sri Lanka Initiative. It was originally conceived as a 'sunset agency' with a fixed term of five years that runs out in 2008. However, at the time of writing, there were discussions whether it should continue beyond this timeframe.

The Sri Lanka Telecommunication Regulatory Commission (SLTRC) (http://www.trc.gov.lk), established under the Sri Lanka Telecommunication (Amendment) Act No. 27 of 1996, is the national regulatory agency for the telecommunications sector with the mandate to 'ensure that competition in the market is open, fair and effective'.

The Computer Society of Sri Lanka (CSSL) (http://www.cssl.lk) is the only professional body for ICT professionals in the country. Founded in 1976, CSSL works towards improving the professional status of its members.

The Sri Lanka Information and Communication Technology Association (SLICTA) (http://slicta.lk) is an association of ICT-related trade associations and professional bodies.

Legal and regulatory environment for ICTs

The Government ICT Policy 2005–08 is to be implemented 'to promote a formal framework that focuses on good governance, interoperability and standard'. It is intended for ministries, government departments, provincial councils, other levels of public administration and the local government authorities

(ICTA 2006d). However, ICTA sources said in November 2006 that the policy had not been adopted by the Cabinet of Ministers, and the agency had been asked to review and resubmit it.

Meanwhile, the telecom regulator is struggling with bigger issues that have remained unresolved for years, among them introducing an interconnection arrangement acceptable to all operators, and rationalizing the electro-magnetic spectrum for optimum use. The latter problem stems from both the shortage of spectrum and the difficulty in shifting existing users to clear the way for telecom operators' expansion plans. In June 2006, the cabinet of ministers agreed to clear spectrum in the 450 MHz, 800–900 MHz, 1800 MHz and 2 GHz radio frequencies, and distribute them among public telecommunication networks. Many government agencies had been given generous allocations of frequency in the past. Spectrum is yet to be set aside for the new fifth mobile phone operator (LBO 2006c)

As of November 2006, the regulator had not publicly addressed the transition from analog to digital broadcasting.

Digital content initiatives

In spite of the gradual diffusion of ICTs in Sri Lanka in the past 15 years, there is still a considerable dearth of digital and online content that is specifically related to Sri Lanka. In particular, the number of websites in the two local languages of Sinhala and Tamil are limited. It is unclear whether this is a cause or effect of the poor Internet penetration. The content that does exist has resulted largely from the initiative of individuals or small groups rather than through any concerted action on the part of government or national institutions.

The content on most Sri Lankan websites is provided entirely in English, in which no more than 10 per cent of the population is conversant. This includes many government websites (including that of the National Parliament) even though the Official Languages Policy stipulates that the government must communicate in all of the three official languages: English, Sinhala and Tamil.

One bottleneck preventing the development of local content is the lack of standardized fonts. Even though the Sinhala Unicode has been identified as the standard font, as of October 2006 none of the major operating systems—except for a few versions of Linux—supported it. Users will need to download and install Unicode compatible fonts before being able to read Sinhala content online. As of October 2006, none of the government websites could be read without going through this cumbersome process. As many non-technical users are unlikely to do this, even the limited Sinhala content online remains inaccessible to most people.

The situation is somewhat different with Tamil, as the latest versions of operating systems already support the Tamil Unicode. Tamil speakers also have the option of referring to content generated in India and Singapore, where Tamil is an official language.[2]

The absence of standardized Sinhala font has also inhibited the development of local language metadata (search engines, yellow pages, Web portals, etc.) and other applications such as digital dictionaries, SMS, databases and optical character recognition (OCR). Compared with other Asian languages with unique alphabets of their own, Sinhala metadata content is negligible.[3]

Struggling within these limitations, some Web developers have improvized ways to display Sinhala fonts without the users having to download and install various fonts. Newspaper websites such as www.lankadeepa.lk and www.rivira.lk, and political or news sites such as http://www.lankaenews. com/English/index.php, employ such alternative techniques. However, this is not a satisfactory solution as it can only be used for display purposes, and the content cannot be imported into any other application like Microsoft Word or Powerpoint. Some other sites (such as www.silumina.lk, www.lakehouse. lk/budusarana) make their content available in PDF format, which also has its own limitations.

Lanka Library (www.lankalibrary.com) is an English language Web portal that collects Sri Lanka-related material online. The portal categorizes the links under titles like history, archaeology, heritage, traditions and rituals, myths and mysteries, wildlife, natural resources, Buddhism, language and literature, travel and tourism, foods, education, and the like. There are also sections dedicated to the ethnic issue and the Asian Tsunami. Although it does not have much information and mostly provides links to external resources, it is a useful indexing system.

Similarly, www.kottu.org is an effort to link many blogs related to Sri Lanka. As of October 2006, it has syndicated more than 100 blogs and photoblogs. With no restrictions imposed by the compilers, it showcases a cross-section of blogs covering the full spectrum of political, religious and social opinions. Some popular personal blogs receive 300–500 hits per day.

Another interesting trend is the recent emergence of a large number of websites specially aimed at young readers. They are essentially bilingual; do not observe strict grammatical rules; and their content is mostly non-political and aimed at casual readers. They also offer audio and video content. Some examples are: www.kaputa.com, www.ananmanan.com, www.emanuka. com, www.sinhalaya.net, www.lankasri.tv, www.naagayaa. com, www.funlk.com, www.elakiri.com, www.anangaya.com,

www.123srilanka.com, www.clublk.us and http://tharunaya. com/index.htm. These websites, all individual efforts, reflect Sri Lanka-related non-political content development.

In recent years, there has been a proliferation of websites that present political news and views related to the Sri Lankan conflict which has raged for a quarter of a century. As can be expected, the views are highly divergent and sometimes provocative. Most are updated several times a day. Some examples: www. tamilnet.com, www.lankaweb.com, www.lankatruth.com and www.nitharsanam.com

When it comes to development-related digital content, the gaps are wider. A commendable initiative is the set of CD-ROMs containing agricultural information produced by the Department of Agriculture. Available in local languages, these provide information on cultivating 10 types of common vegetables and fruits.

Online services

Search engines

The absence of widely indexed and frequently updated local search engines has been felt for some years. This gap would be partly filled with the launch of Sri Lanka-themed search that Google introduced in early 2006 from www.google.lk. With its launch, all queries from within Sri Lanka to access the traditional www.google.com site are automatically directed to the new .lk site, from where two options are available: search the entire Web, or search pages from Sri Lanka.

e-Commerce

Eleven years of commercial Internet connectivity have not catalyzed much e-commerce activity in Sri Lanka and the number of operators and users—as well as the volume of transactions—still remains small.

One exception is Internet banking. Most commercial banks now offer Internet banking facilities to their customers, although with varying levels of interactivity and service. The total number of commercial bank customers registered for Internet banking was 24,650 by end 2003 (Central Bank 2004). An independent researcher estimated the number of active Internet banking accounts in 2003 to be in the range of 7,500 (Kasturiratna 2003). No later data are available.

In 2006, the Central Bank introduced an image-based cheque clearing system with LankaClear, the private operator entrusted with the task. This Cheque Imaging and Truncation (CIT) system helps reduce delays in clearing systems which earlier took up to nine days depending on the location of the drawer's and payee's banks. The new system does not move physical cheques to the central clearing facility; instead, a digital image of the cheque is transmitted. While expediting clearing, it also reduces the risk of losing checks during clearing (LankaClear 2006).

Probably the most widely used e-commerce service is the fixing of appointments with medical specialists through the site http://www.echannelling.com/. This trilingual service in some commercial banks and leading pharmacies which can be accessed online has reduced commuting by patients and their families who earlier had to make two visits for one consultation: first to make the appointment and then to see the doctor.

Apart from the infrastructure limitations and the lack of broadband services, online security concerns have also inhibited the growth of Internet banking and e-commerce in Sri Lanka. Lack of confidence in safeguards prevents many customers from transacting with their banks online. On the other hand, some complain of excessive security measures that make transactions tedious.

Meanwhile, commercial banks have complained that new stamp duties introduced since April 2006 on all credit card-based payments—as a new revenue source for the government – would discourage their customers from using the banking system and credit cards (LBO 2006b). This directly affects the over 600,000 credits cards in use.

e-Government

Placing government online has been slow and difficult in Sri Lanka. As of November 2006, there was not a single full-fledged citizen service where one could proceed from enquiry to the completion of a transaction entirely online. While many e-government initiatives have matured from simply providing information to allowing some level of interaction, none had reached transaction stage yet. According to ICTA, the first complete online e-Service would be the e-Motor Revenue License, due sometime in 2007.

Several factors have contributed to this situation. Lack of ICT literacy among public officials and an attitude that has long relegated IT functions to computer technicians have held back ICT integration. At citizen level, the low levels of Internet use and the absence of standardized local fonts limit the numbers who can transact with government online.

ICTA has a programme for re-engineering government with a vision 'to provide citizen services in the most efficient manner by improving the way government works by re-engineering and technologically empowering government business processes'. It promotes the strategic use of ICT in the public sector, and aims to implement ICT-enabled administrative policies that would, among other things, share electronic data across agencies, increase transparency in government operations and have an

'always-on, user-friendly, distance-neutral information and service facilities to citizens and businesses' (ICTA 2006a).

In fact, many e-government measures amount to complete administrative reform that would streamline government and improve efficiency. Sri Lanka has one of the largest public services for any Asian country, and reorienting the formidable bureaucracy takes time, effort and investment.[4] Many ways of reducing paperwork and a multiplicity of applications and approvals have been identified in planning for e-government. For example, the Department of Pensions has found that a retiring public servant may submit three instead of eight applications for this pension, signing only in eight places instead of the current 22.

Meanwhile, efforts to deliver citizen services through ICTs are beginning to show early results. Many government forms and circulars are now available online. In 2005, the governmental Web portal was revived at www.gov.lk as a gateway to all such services, offering links to many ministries, departments and statutory bodies. A remaining challenge is to rein in some arms of government that continue to host websites outside of a systematic structure, sometimes using generic domain names such as .org and .net instead of the proper .gov.lk domain.

The Government Information Centre (GIC) launched in August 2006 is primarily a call centre with the hotline 1919, but the services are to be extended to its website, www.gic.gov. lk. GIC provides information on public services in three official languages for 12 hours a day (8 am to 8 pm), every day of the year. Calls to the number are not toll-free, although there are plans to make it so later.

ICT and ICT-related industry

Unlike India, Sri Lanka does not have a well developed ICT industry. Except for the local assembly of PCs, there is little hardware. Locally assembled PCs cater to the home market, while branded machines are preferred in the corporate sector. According to marketing research sources, the number of PCs/ servers sold in 2005 was 175,950. Assuming an average lifetime of four years for a machine, the present PC/server population can be estimated to be around 700,000[5] (LBO 2006d). This market is too small to interest many PC and peripheral manufacturers.

The software export market was estimated to be USD 82 million in 2005 (CBSL 2006). The software exporters association projects this figure to exceed USD 1 billion by 2012. But given current capacity, this seems a tall order. On the other hand, this goal is modest when compared to the burgeoning Indian market. Few Sri Lankan companies have established a globally recognizable brand for software or other ICT services.

Sri Lanka was a late entrant to business process outsourcing (BPO). Although the first company to engage in this was set up in 1983, it was not until after 2000 that BPO gained momentum. The aggregate market size is not known, but a recent survey involving 21 BPO companies among 25 identified ones showed a combined investment of over USD 13 million Between them, they employed 3,700 persons and this is expected to grow by 30 per cent in 2006. The average salary in 2006 was USD 270 per month.

In terms of services provided, 43 per cent were engaged in accounting services, 19 per cent in call centre services and 14 per cent in medical insurance services. The companies cited three major obstacles to growth: civil and political instability, transport difficulties and poor telecommunication infrastructure (LIRNE*asia* 2006).

With three fixed phone operators and four mobile operators fuelling the telecom boom, the country imports a significant volume of telecom equipment: an estimated USD 95 million in 2003, up from the previous year's USD 85 million. The major vendors are Alcatel, Ericsson, Fujitsu, NEC and Nokia (Zita and Kapur 2004).

Enabling policies and programmes

The e-Sri Lanka project was launched in 2003 'to use ICTs to develop the economy of Sri Lanka, reduce poverty and improve the quality of life of the people'. This vision is to be realized through a five-programme strategy which covers building the implementation capacity, building information infrastructure and an enabling environment, developing ICT human resources, modernizing government and delivering citizen services, and leveraging ICT for economic and social development through public–private partnerships.

This project was started with an initial credit of USD 53 million from the World Bank, which has since been supplemented by other donors (World Bank 2004).

The government that launched e-Sri Lanka is no longer in office, and the project has undergone various changes of leadership, focus and emphasis. As of November 2006, the impression created by the ICTA website was that the agency had subsumed the project. The website www.esrilanka.lk now just provides free email to anyone interested and the official e-Sri Lanka roadmap (2003–07) is no longer available on the ICTA website.

One initiative launched under e-Sri Lanka is a network of telecentres named *Nenasala* (Sinhala for 'knowledge centre') (http://www.nanasala.lk). ICTA aims to set up 1,000 telecentres by end 2008. A majority of *Nenasalas* is to follow a community-based model where the centres are established in a central place

such as a temple, public library or community hall. They are to provide services including high-speed Internet access, e-mail, telephone, computer training classes and other ICT-related facilities. Content relevant to rural people is to be made available in Sinhala and Tamil.

As of November 2006, 246 *Nenasalas* had been set up in 22 administrative districts (ICTA 2006c). Though no comprehensive independent studies have been done to monitor ICT usage at these telecentres and their contribution to communities, online discussion forums (the most popular being the www.lirneasia.net blog) suggest that *Nenasalas* have yet to achieve their objectives. Criticisms have centred around the high capital and recurrent cost of telecentres, and their complete resource dependence on ICTA-provided external funds. This contrasts with an earlier scheme, called *Vishva Gnana Kendras* (VGKs), which planned to set up telecentres on a semi-franchize model where operators had to co-invest, giving them incentive to expand services.

Many *Nenasalas* are located at Buddhist temples where women traditionally do not visit without being accompanied by a male. Ignoring such cultural norms can inadvertently restrict women's access to telecentre facilities. Location in a Buddhist temple might also indirectly discourage users from other religious faiths. Buddhist priests have no incentive to sustain *Nenasalas* or introduce more services. A related concern is that these rural telecentres might be used for promoting ruling party political agendas over and above the provision of ICT facilities and information. The content mix and sourcing for the telecentres remain unclear.

Education and capacity building

Creating an ICT-literate society and ICT-skilled workforce has been recognized as a key factor for the development of IT-enabled services (ITES) and ICT in Sri Lanka.

ICTA has embarked on several ICT human resources development projects, all of which are at early stages of implementation and too premature to report progress or assess impact. These cover skills development and training at school, university, government office and industry levels, with aims to standardize and require quality controls for various types of training currently available from privately-run training centres. There is also a National e-Literacy Initiative to raise ICT literacy among Sri Lankans. Through training, awareness raising and lowering of entry barriers, the initiative hopes to make 1 million people e-literate by 2009 (ICTA 2006b).

Open source initiatives

The free and open source software (FOSS) movement is gaining popularity and momentum in Sri Lanka, but awareness levels are still low. Only a handful of advanced users have opted for FOSS. A majority of users have no incentive or need to migrate to FOSS as unlicensed versions of most types of proprietary software can be purchased in the open market for as little as USD 2. Unlicensed software use is prevalent not only among home users, but also in some corporate and public sector institutions.

The Lanka Software Foundation (http://www.opensource.lk) was established in 2003 to promote FOSS and to enable Sri Lankans to become world class open source software developers. The Lanka Linux User Group (http://www.lug.lk), founded in 1998, actively promotes GNU/Linux software, handles Linux installations and lends distribution kits. It also maintains a library of Linux resources.

The best known Sri Lankan FOSS initiative is Sahana Disaster Management software (http://www.sahana.lk/) developed by LSF in response to the Asian Tsunami disaster. Its applications include finding missing people, coordinating relief organizations, reporting on aid disbursement, matching donations with requests, tracking temporary shelters and on the whole, improving information management—and thereby, transparency—in post-disaster situations. Since the tsunami, Sahana has been deployed after the earthquake in northern Pakistan, the Guinsaugon landslide in the Philippines and the earthquake in Yogjakarta, Indonesia (LSF 2006).

Research and development

Three institutions dominate ICT-related research and development in Sri Lanka.

Learning Initiatives on Reforms for Networked Economies (LIRNE*asia*) is a regional research and advocacy organization based in Sri Lanka and operating across Asia. Since 2004, it has been carrying out action research on telecom policy and regulation, ICT diffusion and markets. Working with industry professionals, regulators and researchers, LIRNE*asia* has produced an impressive array of research products that offer new insights and policy advocacy tools in South and Southeast Asia. Their preferred mode is open source research with multiple, evolving drafts published online for wide-ranging comment and consultation (*see boxed article next page*).

An example is the LIRNE*asia* study on the telecom use of the poorer segments of society carried out in India and Sri Lanka in 2005. Titled 'Telecom Use on a Shoestring', the study revealed

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'Open source research' on ICTs in Asia

Speed and accuracy are critical in policy-relevant research necessary to remove constraints affecting ICTs. One solution, adopted by LIRNE*asia*, is open-source research. The Colombo-based regional organization does not claim to know all of the answers. Its researchers work with multiple drafts that are published on the Web. In some cases—such as a national early warning system for Sri Lanka in the months following the tsunami—they went further, holding expert forums and public meetings and using the mass media to draw attention to the online drafts. The end result of this online and offline feedback is extensive revision of initial drafts.

LIRNE*asia* says open source research converts readers into reviewers and helps improve the quality of the final product. A by-product is the faster and easier acceptance of research findings and recommendations by regulators, policymakers and other key stakeholders.

'Open source research is not the norm in universities, where peer review is the defining characteristic,' says Rohan Samarajiva, Executive Director of LIRNE*asia*. 'But it [the peer review system] has come to serve as a break on the early release of ideas, lest they be thought of as half-baked. But in the new Internet-mediated world open source is a better model for research.'

For LIRNE*asia*, the circle of people interested in a given research effort or set of ideas are the true peers who will donate their time and effort to refine the work in progress. Some blog threads on the LIRNE*asia* website have received over 50 useful, substantive comments. 'If the author is willing to revise and revise again, the end result will be superior in quality and will be produced in a shorter time,' Samarajiva adds.

Source: www.lirneasia.net

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important insights: more then two-thirds of users do not own the phone they use; phones are used overwhelmingly for maintaining relationships than for business; and nearly half of all users found no difficulties in obtaining a connection. It also found that SMS usage was low in this user group (LIRNE*asia* 2005).

Both the University of Colombo and University of Moratuwa are engaged in ICT-related research and development. The Language Technology Research Laboratory of the University of Colombo School of Computing (UCSC) is involved in the development of Sinhala standards, tools and content as part of a wider project aimed at ICT localization (UCSC 2006).

A significant innovation is the Disaster and Emergency Warning (DEWN) system which combines the inherent strengths of GSM mobile phone technology and the widespread access provided by GSM networks. The system was developed in 2005 at the Dialog-University of Moratuwa Centre for Mobile Communication Research with the leading telecom service provider Dialog Telekom and mobile applications company Microimage, and was first field tested in 2005 (Microimage 2006).

Challenges

Political instability, protracted civil war, regulatory uncertainties, policy gaps, poor infrastructure and income poverty combine to inhibit progress in ICT-related industries as well as ICT-for-development initiatives. These present formidable challenges to government, industry and civil society as they try to find ICT-enabled solutions to deep-rooted economic and social problems.

Sri Lanka scored 0.33 in the 2005 Digital Opportunity Index. The index was developed by the International Telecommunications Union to measure and compare the levels of ICT development in countries. Ranked 106 among 180 economies assessed, Sri Lanka was ahead of India (ranked 119), Pakistan (128) and Bangladesh (139) but was behind Thailand (80), the Philippines (94) and Indonesia (105) (ITU 2006b). However, national statistics often mask the stark disparities that exist within the country due to geographical, economic, social and cultural factors.

Since 1990, Sri Lanka has pioneered telecom reforms and technology adoption and then allowed momentum to be lost, enabling late entrant neighbouring countries to roll-out services on a more sustained basis. The bigger challenge is not to look for 'firsts' but to develop 'staying power' to see reforms and programmes through to their logical end, even when some aspects might be politically or bureaucratically unpopular. It is this bold leadership in ICT-enabled growth and development that Sri Lanka needs—but currently lacks—the most.

Notes

1. Many publications incorrectly cite the number of subscribers as the number of users, which is misleading. The actual number might vary from 300,000 to 500,000. However, no survey has been done to ascertain the number.

2. Tamil is estimated to be spoken by at least 74 million people worldwide. See http://en.wikipedia.org/wiki/Tamil_language.

3. For further discussions on this subject, see http://www.akuru.org and http://www.fonts.lk/

4. According to one World Bank economist, Sri Lanka maintains 3.9 civil servants for every 100 people compared to the Asian regional average of 2.6. The rate is 1.2 in India, 1.5 in Pakistan and 0.6 in Bangladesh. Sri Lanka's public service is disproportionately large even compared to East Asian countries: China has 2.8 government servants for 100 people while Indonesia has 2.1 and Korea has 2.2.

5. There is a significant second-hand market in PCs. Used PCs are imported to be sold for a fraction of their original cost, almost exclusively for home use. Trade numbers are not available as no one tracks such data. Such PCs cost USD 50–200; a brand new entry level PC costs at least USD 700.

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