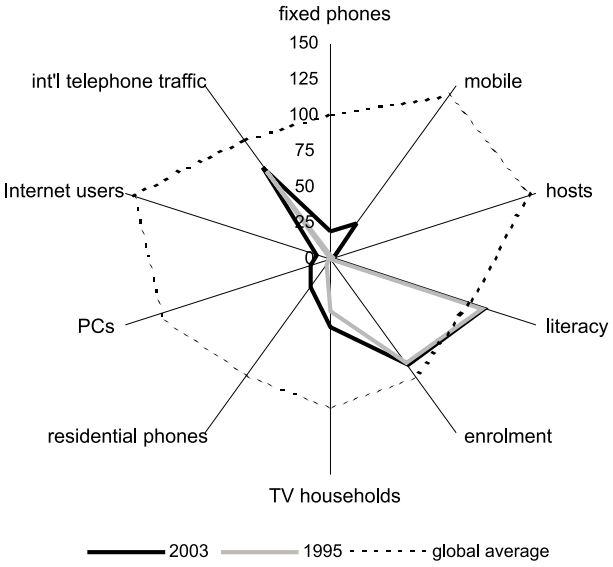
.lk

Sri Lanka

Nalaka Gunawardene



Source: *Monitoring the Digital Divide*. © Orbicom 2004

Overview

As it gradually recovers from a prolonged civil war that lasted for two decades, Sri Lanka is now hopeful of rapid economic recovery and social development. The ceasefire agreement signed between the government and the Tamil Tigers in February 2002 has held for over two years, surviving various crises including a change of government in April 2004. Several rounds of peace talks have been held between the former combatants, through the mediation of the Norwegian government. These talks have gone into the nature and degree of devolution and power sharing, but they have so far been inconclusive.

Meanwhile, the Sri Lanka aid donor consortium has pledged over US$4 billion of highly concessional financing for the rebuilding of the economy, with particular emphasis on the north and east, which are directly affected by the conflict. The donors have made this package conditional on a continuation of the peace process. The economy, freed at last of the multiple impacts of war, is bouncing back. GDP grew at 5.9 percent and GNP by 6.4 percent during 2003.

Even though the guns have remained silent, political instability continues to affect every sphere of activity, holding Sri Lanka back from racing forward at full speed. The tussle between the all-powerful President from one party and the government from the other major party dominated the political landscape. This stalemate ended with the President's party winning the general election in April 2004 – but divisive party politics continue. As the Central Bank (2004) has noted in its 2003 annual report, Sri Lanka is "at a crossroads, as prospects are high for a durable peace and a move towards sustainable, high quality economic growth. However, to reach this goal, a national consensus on major political and economic issues should be built through a series of wide and continued public discussions."

ICT can play a key role in rebuilding Sri Lanka, but only if it is strategically deployed, optimising on the strengths of public, private, academic and civil society sectors. As this update indicates, the island nation is still struggling to create an enabling policy and legislative framework in which this could happen.

Local online content

When it comes to online content, it is difficult to determine whether the poor Internet growth has resulted in very limited locally generated and relevant content, or vice versa. Where content does develop, even at a slow pace, it is largely due to individual enthusiasm and effort. The many and varied institutions of government, academia and industry have so far contributed very little by way of local content. Most Sri Lankan websites are no more than online brochures, announcements and press releases, and content is rarely updated. Very little interactivity and few database services are on offer. As of May 2004, the two official government portals at *http://www.lk* and *http://www.gov.lk* both appeared to have ceased operations.

Most content on Sri Lankan websites is provided entirely in English – this is so even with most government websites, even though the Official Languages Policy stipulates that the government must communicate in all the three official languages of English, Sinhala and Tamil. A main problem faced by content developers is the lack of standard Sinhala and Tamil fonts. Although there are many Sinhala and Tamil fonts available, none of them are ubiquitous. Users who access many Sinhala or Tamil websites must install several different fonts in order to view all the sites. It is estimated that less than 10 percent of computers in Sri Lanka use Sinhala or Tamil, and almost all of these are used for word processing and publishing. There is negligible use of databases and other functions in local-languages (APDIP, 2003). Although attempts are being made to establish standard local-language font sets and keyboards, they have yet to bear fruit. Until that happens, it is unlikely that local-language content will increase.

During 2003, several online editions of popular Sri Lankan newspapers introduced paid subscription services, thus ending free access. At the same time, the number of online sources offering Sri Lankan news and commentary (all entirely in English) has increased.

Online services

E-government

Many government offices still operate with the minimal actual use of ICT, even when they have invested substantial amounts of public funds to acquire ICT equipment and facilities. As one assessment noted: "Ministries and departments are busy acquiring PCs, installing LANs, databases and Internet access. However, many of these systems do not fully automate a given process, with manual processes complementing the processes that have been automated" (Sri Lanka Development Gateway, 2003).

Various donor-driven projects for automating the public sector have failed to promote pervasive use of ICT in most government offices. Many offices have fully equipped computer departments or units, manned by junior to middle-level personnel, but senior managers lack ICT skills. Some years ago, the lack of IT literacy among public servants was seen as a major constraint in automating the public sector. The situation has improved, with most new, young recruits being computer literate, even if their superiors are not. But resistance to change at the top, coupled with the lack of vision and leadership, continues to hold back the public sector from entering the 21st century.

The same applies to putting government online. In spite of the ICT road map recognising e-government as a priority area, not a single government agency or department offered the option of completing an entire transaction online as of May 2004. None of the statutory dues to the government could be paid online.

Meanwhile, there have been some promising developments, due largely to the individual initiative of some officials. A good example is the Department of Immigration and Emigration, whose website (*http://www.immigration.gov.lk*) provides information about consular services and visa requirements, as well as allows users to download various forms required to obtain, change or extend travel documents. However, the completed forms cannot be submitted online – a physical visit and offline interaction are still required. The same department experienced less success when it introduced a computerised border and visa control system at ports and airports. With immigration officers struggling to operate computers, the system slowed down the whole process, leading to long lines and many complaints. Such mishandling of ICT introduction – where hardware was installed without adequate training for officers – would tarnish the image of public sector ICT tools.

ICT tools are not widely used in government procurement processes. A few government agencies have started displaying information on tenders and bids, but most of the time citizens have no way of accessing reliable and timely information on government contracts. The appropriate use of ICT tools can not only reduce costs and improve efficiency but also address the ever so ugly issue of corruption.

The Ministry of Finance has taken the first step to publicly display a summary of the 2003 budget allocations as well as budget circulars (of administrative instructions) and the 2004 Appropriation Bill on the website of the National Budget Department (NBD, *http://www.nbd.gov.lk*). The website is designed to enable the public, as well as line agency accountants, to view up-to-date budget estimates. Until now, only senior politicians and civil servants had access to current budget data, largely because of the costs and effort involved in publishing supplementary print editions of budget estimates. An email contact point in the Ministry of Finance is provided on the new website for direct questions. According to NBD, this is the first interactive G2G application in Sri Lanka. NBD believes this increased transparency of budget information could enhance political and administrative accountability (Senanayake, 2004).

Another new development is the automation of the offices of the President, prime minister and cabinet ministers and of Parliament, all inspired under the e-Sri Lanka initiative. This work started in early 2004. The e-Office of the President project aims to improve and automate administrative and support services for the Presidential Office. The current system will be replaced with a modern ICT-enabled system, with presidential staff being equipped and trained to make full use of ICT facilities. The system is to be fully compatible with the e-Parliament and e-Cabinet Office systems, with connectivity to the government intranet through a secure gateway (ICTA, 2004).

Distance education and e-learning

The first distance learning centre in Sri Lanka was inaugurated in 2001 at the Sri Lanka Institute of Development Administration. This is being used to train the executive and managerial staff of public as well as private sector organisations.

Meanwhile, two distance learning projects are being carried out with assistance from donor organisations. The first is a pilot project under the e-Sri Lanka programme, implemented by the Arthur C. Clarke Institute and supported by the World Bank. It intends to create a virtual learning infrastructure through the establishment of distance learning centres in selected sites in the North-Eastern, Southern and Central provinces, with links to distance learning centres in the capital, Colombo. The centres will provide interactive education using videoconferencing and online content to address the practical needs of both urban and rural citizens. Basic skills development and job opportunity enhancement are key objectives of this project (ICTA, 2004).

The second project is supported by a US$45 million loan from the Asian Development Bank to help modernise Sri Lanka's post-secondary education system. The Distance Education Modernisation Project will set up a national network of telecentres and affiliated facilities in schools to provide a full range of quality distance and online learning

courses for secondary school graduates who were left out of university (because of stiff competition for limited places). The project will run up to mid-2009 (Asian Development Bank, 2004).

E-commerce and e-business

Internet-based shopping malls have never flourished in Sri Lanka, and the few websites that offer such services have so far attracted few local users. Most of their customers are Sri Lankan expatriates who send gifts to friends or family in Sri Lanka. The best example is Kapruka (*http://www.lanka.info*), a website that sells books, flowers, cakes and sweets. It makes delivery to selected areas of Sri Lanka. This website restricts access from Sri Lankan web hosts, so it can only be used by non-residents. Neither supermarket chains nor other retailers have taken online marketing seriously, with the single exception of Keells Super (*http://www.keellssuper.com*). Fast-food delivery services, popular in Colombo and other major cities, are available by telephone only.

Internet banking is becoming popular, though not rapidly. 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 to be in the range of 7,500 (Kasturiratna, 2003).

However, there has been significant improvement in other financial areas. In February 2004, the Central Bank of Sri Lanka introduced four systems to make the financial processes more efficient and reliable: the real-time gross settlement (RTGS) system, the scriptless securities settlement system, the automated general ledger system of the Central Bank, and the treasury dealing room management systems.

The most significant among these is the RTGS system, which enables instantaneous transfer of large and time-critical payments among participating institutions, with the settlement made on a real-time gross basis. Once a transaction is entered into the system, it becomes final and irrevocable. This eliminates the main drawback of the previous offline system, namely, causing a series of delays when one transaction failed to be completed. It also eliminates the use of cheques in interbank transactions, facilitates liquidity management, and provides financial institutions an intra-day, interest-free liquidity facility. The current participants of the system are the Central Bank, all commercial banks, primary dealers and two specialised financial institutions.

With the introduction of the scriptless securities settlement system, all Treasury bills and Treasury bonds will be issued in electronic form. This system is integrated with the RTGS system to enable electronic payment and is expected to eliminate the inconveniences of paper-based securities.

Electronic means of payment are gradually becoming popular as alternatives to cash. Credit cards are the most widely used cashless payment method at the retail level. By end 2003, there were ten issuers of credit cards, nine of which were commercial banks. Intense promotional campaigns and changing banking habits have led to a continuous growth of over 25 percent per year in the volume of credit-card transactions in recent years.

Bank ATMs too have shown an exponential growth. By end 2003, nine banks had installed a total of 721 ATMs. Interestingly, the combined number of the branches of all commercial banks is only about twice that number. The majority of the ATMs are in major cities, but recently ATMs have been installed even in remote towns. Electronic funds transfer at point of sale (EFTPOS) is another popular mode of payment. The total EFTPOS base consisted of 5,114 machines by end 2003 (Central Bank, 2004).

Telemedicine

Telemedicine services are not yet popular in Sri Lanka. The likely reasons for this are the small size of the country and the availability of healthcare facilities to a large section of the population. However, there is potential for telemedicine as specialist services are not evenly distributed. Such services are available only in the main cities, where only one-fifth of the population lives. Some 40 percent of the more than 600 medical specialists work in Colombo, where half of the 14 teaching hospitals in the country are located. There is a critical shortage of medical specialists in other regions, especially in the fields of neurology, microbiology and radiology (Gunawardana & Dantanarayane, 2002).

According to one expert, asynchronous communication modes and store-forward telemedicine models may be the most appropriate for Sri Lanka. There is evidence that store-forward telemedicine, especially in the areas of dermatology and pathology, is cost-effective, but its clinical efficiency may be less than that of real-time telemedicine. User-friendly web portals offering store-forward telereferrals would be one option that a doctor with even a 32-Kbps Internet connection, as well as a flatbed scanner and a digital camera, may be tempted to use (Mendis, 2003).

E-communities

Among the more active and effective e-communities are those belonging to, or supportive of, political parties. Most exist in the form of Yahoo or MSN e-groups, and use the Internet and email for recruitment or propaganda. The April 2004 general election saw the birth of several such e-groups. Of these, those created by the new Jathika Hela Urumaya (National Heritage party) stood out. The e-communities of this relatively small ultra-nationalist political party were able to score high in almost all the online polls, even though at the election the party could not get more than 5 percent of the votes, which won them 9 of the 225 seats in Parliament.

The Sri Lankan diaspora continues to dominate local e-communities. There is a growing number of e-groups and listservs focusing on particular aspects of politics, culture, social development or professional interests.

Industries

The ICT industry was one of the sectors worst hit by the economic setback Sri Lanka experienced from late 2000 to 2001. The setback was due to the twin effects of the global gloom after the September 11 attacks in the USA and the insecurity caused by the civil war. The industry has been struggling since to recover from it. While recovery has been partially successful, the country has failed to emerge as a key destination for ICT-related manufacturing and services, perhaps overshadowed by neighbouring India.

Hardware and software

There was no visible development in hardware manufacturing. Most PCs used in Sri Lanka are still only assembled locally from imported components, mainly because of the lack of infrastructural facilities to nurture a sophisticated electronics industry.

Except for a few isolated cases, there has been no notable improvement in the software industry either. The company that stands out is Virtusa (*http://www.virtusa.com*). Founded in 1996 and headquartered in Massachusetts, USA, this US$100 million company has offices and technology centres in India and Sri Lanka. It has a staff of over 1,900, which is expected to increase to 3,000 by 2005.

ICT-enabled services

Sri Lanka has been identified as an ideal location for business process outsourcing (BPO) operations, but progress has been slow, probably because of the unstable political situation. Call-centre and digitising operations are low-key, and they have not grown in size or stature as has happened in India. There are fewer than six known call centres in Sri Lanka.

A key turning point was when HSBC decided to set up a 2,000-seat call centre in a Colombo suburb at an initial investment of US$30 million. The number of seats may be expanded to 10,000 in the next few years depending on the success of the first phase. HSBC Data Processing Lanka Ltd has already started constructing a large BPO centre equipped with the latest tools of the industry.

Key national initiatives

The e-Sri Lanka project, launched in November 2002, was tasked with the development of an ICT road map for Sri Lanka. The e-Sri Lanka policy resulted in the implementation of the Information and Communication Technology Act No. 27 of 2003, which established the Information and Communication Technology Agency (ICTA, *http://www.icta.lk*). ICTA, a wholly government-owned "enclave" organisation, has been operational since 1 July 2003. Significantly, it is not a typical government department or agency, and has a directorate with government and private sector representation. Its management team has been drawn from the government, corporate and academic sectors.

The mandate of the e-Sri Lanka policy is to build a national information infrastructure, create a framework for the promotion of software and ICT-enabled industries, reengineer the government and develop ICT human resources (APDIP, 2003). The ICT road map also details a portfolio of action plans targeted to be achieved by 2007. The programme is unique for two reasons. First, it is a national-level programme that receives the highest level of political backing. Second, it is an attempt to bring various aspects of ICT together, from IT education to e-government and from telecommunications to telemedicine.

Milinda Moragoda, the then Minister of Economic Reforms, Science and Technology, described its purpose as enabling Sri Lankans of all ages and social strata to reap the full benefits of the new digital economy. This vision of e-Sri Lanka is to be realised through a seven-pronged strategy:

1. Reengineering the government, including the introduction of e-government systems to deliver citizen-centric services
2. Building an information infrastructure and an enabling environment
3. Developing ICT human resources to meet the requirements of the local as well as global ICT markets
4. Encouraging investment in ICT and developing the ICT industry to establish Sri Lanka as a renowned destination in the global market for ICT-related manufacturing and services
5. Establishing the technical architecture and security standards
6. Bridging the digital divide with applications aimed at poverty reduction and social development
7. Encouraging e-leadership and policy-making at higher levels of government

Running as a multi-donor programme, with the World Bank playing the lead role, e-Sri Lanka has an initial investment estimated at US$50 million, to be expanded to US$300 million within three to five years. These are concessionary loans.

Given its high visibility, unusual institutional structure and political backing, ICTA, as well as the e-Sri Lanka programme, has come under much scrutiny and considerable criticism by the media, civil society and even sections of the government. Much of this criticism is justified given that ICTA, after more than one year of operation, has only succeeded in launching several pilot programmes.

ICTA's birth was fraught with trauma. The ICT Act No. 27 of 2003 repealed the relevant section of the Science and Technology Act which had established the Council for Information Technology (CINTEC, *http://www.cintec.lk*), the apex state agency for ICT-related policies and activities for over 15 years. This move was questioned by industry, as CINTEC had a wider policy, advisory and development scope than does ICTA, primarily a project implementation body. CINTEC's closure has been challenged in court by its employees, leading to a long-drawn battle during which CINTEC exists nominally without operations – a continuing burden on taxpayers.

ICTA's failure to engage and adequately integrate with the rest of the government, as well as with the academia, industry and civil society, has been a key concern. This failure may be partially attributed to e-Sri Lanka and ICTA being perceived as an externally imposed, donor-driven effort. But the "not invented here" syndrome alone cannot explain why ICTA remains isolated and aloof. The agency has failed to identify its niche in the local ICT sector and – because of its "all or nothing" approach – has missed out on many opportunities to add value and build on what already exists in the various sectors.

Taking rural Sri Lanka to new horizons

Mahavillachchiya is no different from the 14,000 other villages in Sri Lanka. Located in the Anuradhapura district 240 km away from the capital, Colombo, this hamlet is home to a few hundred people, all engaged in subsistence farming. Only a few houses have electricity, and none have a telephone. It is beyond the signal range of mobile phone networks.

Yet, Mahavillachchiya is today known far and wide in the global village. A Google search results in over 50 hits. Through the sheer efforts of a school teacher and his students, the village has placed itself on the global Internet map. More interestingly, it has produced some of the finest writers, digital photographers, web editors, web developers, graphic designers, programmers and computer technicians in Sri Lanka. The oldest is 17 years old and the youngest only 7. Together, they have developed the first website in Sri Lanka that is designed entirely by the children, located at *http://www.horizonlanka.com*.

The man behind this success is Nandasiri Wanninayake (Wanni). He was appointed to teach English in his own village in 1997 and was paid about US$30 per month. Wanni found the students' knowledge of English extremely poor. Many could not even utter a complete sentence. He took it upon himself as a challenge to develop methods to teach his students to use English in practical situations. Within a short period, a few of his students began to excel in their studies and produced their first handwritten magazine "Horizon". It was photocopied and sent to foreign diplomatic missions in the faraway capital.

In response, the US Embassy donated a second-hand 486 computer and printer. Neither Wanni nor his students had ever seen a computer, let alone use one. But Wanni soon mastered the machine on his own and taught his students as well. Around this time, a journalist visited Mahavillachchiya and wrote an article on the efforts of this enterprising young man. Having read the article on the Web, a Sri Lankan expatriate working in Japan helped Wanni and his team to produce the first website for the "Horizon School". This was the forerunner of the comprehensive and graphics-rich website they have today.

Today, Mahavillachchiya has a small computer centre, used by the students not only to learn computer skills but also to design websites for international clients. In addition, several students have PCs at home. A scheme named Digital Butterflies was started to encourage students to save money. When they have saved Rs 5,000 (US$50), Wanni finds a donor who will match that amount – just enough to buy a second-hand computer. The money earned from designing websites and graphics goes to a common account, which is used to develop the computer centre. Apart from being computer experts, all are now fluent in English. In July 2003, they presented their work at the annual sessions of the Computer Society of Sri Lanka.

Several reasons make this a unique experience in Sri Lanka. It is a genuine and successful attempt to bridge the digital divide and to overcome the English-language barrier. It was initiated from the village, not from the city. It has changed the lives and improved the prospects of a few dozen children. The youths at the village now have more career options than just to join the military (for men) or become garment factory workers (for women). They have marketable skills, confidence and, above all, an entrepreneurial spirit at a young age. Apart from initial equipment donations, no donor or government funds have supported this initiative – which is perhaps why it continues to thrive when donor-driven ICT projects die off after a while.

Source: Karunaratne, S. (2003).

Some ICTA pilot projects addressed long-felt practical ICT needs, such as standardising Sinhala and Tamil fonts and keyboards, training selected public servants on ICT, introducing distance learning to some remote parts of the island, starting an e-money order system to replace the traditional money order system that has been used for over 100 years, establishing an electronic price information system at vegetable wholesale markets, setting up multipurpose telecentres, and automating the offices of the President, prime minister, cabinet ministers and other elected officials at national and provincial levels. Some of these programmes have already been completed, while others are in various stages of implementation.

But ICTA's year-end report card is not satisfactory: for the resources it commanded and the hype it generated, it has delivered little tangible results. None of the pilot projects have made a visible impact at the economic or social level. There has been no appreciable improvement in the ICT industry that can be attributed to ICTA interventions. Not a single large-scale G2C e-government programme has been launched. Internet usage remains stifled by high capital and recurrent costs. Locally generated and relevant web content has not expanded. The situation in technologically backward areas of the country is completely unchanged, and the digital divide remains as acute as it was two years ago. Only a few ICT-related laws, regulations and standards have been established.

In its self-assessment, ICTA claims satisfactory progress, pointing out that it has so far received only a small portion of the external funds pledged. It also says many of its strategies are intended to bring long-term results. However, as the agency's mandate is to achieve all its goals and wind up operations after five years, its entire modus operandi is brought into question. The country's ICT interests would have been far better served if ICTA had chosen to address glaring gaps and major bottlenecks in the ICT policy, legal and regulatory frameworks, leaving project implementation to those who are better equipped and mandated.

It remains to be seen how much the new government will change the scope and operations of e-Sri Lanka and ICTA. After many weeks of uncertainty following the April 2004 general election, the agency was placed directly under the supervision of the new prime minister. Media reports in June 2004 said the World Bank had agreed to provide another soft loan of US$53 million to ICTA, extending a much-needed lifeline. The loan is to be used to get all government institutions online to ensure speedy, efficient and people-friendly service to the public. An inter-ministerial committee is to be set up to ensure the cooperation of all government departments for this major shake-up in the administration (*Daily News*, 2004).

Notwithstanding this change, ICTA's performance so far raises serious concerns about the model adopted. It has caused a massive centralisation of funding and activity in the ICT sector. Some donors delayed or suspended funding for ICT projects under the impression that ICTA would bring in major investments from the World Bank and other sources. This has adversely affected both long-standing as well as newly planned ICT projects and services in government, academic, industry and civil society sectors. This may explain why Sri Lanka has few ICT-for-development projects compared to its South Asian neighbours. The author did not find a single wireless project, and there are very few other viable projects even at pilot scale.

Enabling policies

There have been only a few policy changes made in relation to ICT. The ICT Act No. 27 of 2003 provides for the creation of a National ICT Committee to drive policy-making in ICT, which is to include the ministers in charge of telecommunications, education, higher education and public administration.[1]

The National Telecommunications Policy was suspended in 2003, leading to greater regulatory uncertainty. There are no clear procedures for applying for and granting of new licences to operate both fixed-line and mobile phone services. The Central Bank (2004) noted in its annual report that "further expansion of the [telecommunications] industry to compete with other countries in the region has been impeded by inadequate bandwidth expansion, restricted licensing, prevalence of regulatory risk, etc.".

Regulatory environment

The most important development in 2003 was the opening up of the external telecommunications gateway to competition, thus ending decades of monopoly by the partially state-owned Sri Lanka Telecom. This paved the way for 32 other operators to be licensed by end 2003, leading to overseas call charges falling by more than 50 percent that year. However, no longer able to cross-subsidise its domestic services from international call revenue, Telecom increased telephone rental and local call charges.

Concerned by the growing volume of international telephony traffic handled by unlicensed operators, the Telecommunication Regulatory Commission of Sri Lanka (TRCSL) introduced the International Telecommunication Traffic Bypass Control Rules. The public was also advised to obtain international services only from licensed operators, whose quality of service is monitored (TRCSL, 2004).

TRCSL also introduced regulations for call centres, which stipulate that anyone operating a call centre in Sri Lanka should obtain their telecommunications links from an existing licensed provider. It also requires that the call-centre network not be linked to the local PSTN and not be used to generate international calls from Sri Lanka (TRCSL, 2004).

In October 2003, TRCSL standardised all local telephone numbers to ten digits irrespective of the operator and the

Taking ICT to villages: A string of failures

Sri Lanka is a developing country with a high level of human development. With a UNDP human development index of 0.73, ranking it 99 among 173 countries in 2001, it does stand apart from all its South Asian neighbours. It has an adult literacy rate of 90.1 percent, infant mortality rate of 11 per 1,000 live births, and a pupil-to-teacher ratio of 14.5. Only 6 percent of the population of 19 million earns less than US$1 per day.

When it comes to bridging the digital divide, however, Sri Lanka has a dismal and disappointingly backward record. Among the fundamental factors that keep Sri Lankan society digitally divided are the high capital and operating costs, lack of infrastructure, absence of enabling policies and laws, and failure to produce standardised local-language fonts and locally relevant content. Unfortunately, the few initiatives – by the government, academia or civil society groups – have also largely failed to make appreciable impacts. Three such notable failures are analysed here.

One of them is the Kothmale Community Radio Internet project, which is widely cited as trying to take ICT to the village. Established in 1999, it used a "community radio" service to bring the World Wide Web closer to its listeners. A daily two-hour interactive radio programme allowed listeners to request (by live telephone or by post) specific information on any topics, which the presenters then sourced from relevant websites and summarised on air in Sinhala. This helped to overcome the twin problems of Internet access and English proficiency (UNESCO, 1998). The station also provided Internet access free of charge at two public libraries in its signal coverage area and operated a cyber café at the station itself.

While the project certainly appealed to communications researchers and journalists in search of a "good story", it is highly debatable whether it helped to raise the living standards of the communities. The service only rarely provided information with any economic benefit. Because it was sustained entirely by external funds, the project quickly died when that funding ran out in 2001. The two websites launched under this project, *http://www.kotmale.net* and *http://www.kirana.lk*, are no longer active.

The village PDA scheme was another major failure. Comparable in some ways to the Simputer in India, this was to be a portable device providing real-time access to email, contacts, calendar and messaging functions at a fraction of the cost of a PC, using only one-twentieth of the bandwidth that a PC needs for Internet access. In the initial phase, village PDAs were planned to be used in a test run in a selected village in the North-Western Province. This never happened, and the much-hyped device never reached the marketplace. The company itself went bankrupt in 2003.

The Govi Gnana system (farmers' knowledge) was launched in 2003 as a pilot project under e-Sri Lanka. It aimed to solve the interrelated issues of fluctuating agricultural produce prices and farmers' poverty – the latter resulting from inadequate marketing, extension services and finance. The system was designed to provide an accessible, accurate, interactive and efficient ICT solution that improved the flow of price information between the markets and the farmers. The first phase was launched at Dambulla and Meegoda, two of the country's major vegetable wholesale markets. The plan was to connect in a network an interactive platform to a number of trader terminals at the Dambulla Dedicated Economic Zone and a series of farmer terminals located within the zone and at Meegoda. This "electronic scoreboard" would allow the farmers to keep tabs on the best prices at any given time.

The reality of implementation has been quite different. Even by May 2004, after three months of operation, the project was not delivering the anticipated results. When *Wijeya Pariganaka* ICT magazine investigated the matter that month, many problems came to light. It found that very few traders had shown an interest in becoming a part of this system. Thus, the best prices obtained from them were meaningless. Most traders still used their traditional communication channels to find out the best market prices. The infrastructure was inadequate to support this sophisticated solution. During the seven hours the journalist spent in Dambulla, a provincial town in the northwest, four power blackouts happened – each time the central server had to be rebooted, resetting the previous price information. Already fed up with the system, some farmers and traders said it would have been far better if some public toilets were built instead, and at a fraction of the amount of US$90,000 spent on this so far failed system (Karunaratne, 2004). The implementers have claimed that it is too early to measure the success of this project.

Although it is premature to predict its fate, it is possible that another e-Sri Lanka project might be heading to a similar fate. Under the Vishva Gnana Kendra (Universal Knowledge Centres) project, 100 Internet kiosks cum communication centres are to be set up in rural areas. By May 2004, only six centres were in operation, with promises of another 50 to be operational "soon".

type of service. This has increased the number resource substantially to meet future demand.

During 2003–2004, TRCSL tried on several occasions to introduce the "calling party pays" scheme; but each time a deadline was set, it had to be withdrawn largely because of disputes relating to outgoing call charges as well as pressure from telecommunications trade unions. Sections of the public who enjoy subsidies in using fixed-line telephones also opposed the idea. The proposed scheme will increase the cost of fixed-line telephone calls while making incoming calls free on cellular phones. It is unclear when and if this scheme will be implemented. Meanwhile, mobile phone users have criticised the government's proposal to introduce a 2.5 percent tax on mobile phone calls.

On the legislative front, the Intellectual Property Act No. 36 of 2003 superseded the Code of Intellectual Property Act No. 52 of 1979. This new law provides for the protection of software and computer programs, and it conforms fully to WTO and TRIPS requirements. A draft Computer Crimes Bill was approved by the Cabinet, while laws to recognise electronic transactions have yet to be drafted (APDIP, 2003). The long delays in passing these laws have hampered the growth of the ICT sector.

Open source movement

Although comprehensive laws against software piracy have been passed, their enforcement is weak, resulting in the continuous, widespread use of pirated software by not just individuals but also many private sector organisations and even some key government organisations. The pirated versions of most software applications can be openly purchased in Colombo for less than Rs 200 (US$2). This has largely hampered open source software (OSS) development in Sri Lanka. In the few cases where licensed software is used, the choice seems to be based more on factors such as familiarity and brand loyalty rather than on a strict assessment of current and future needs and cost-effectiveness. No public sector institution has so far seriously considered shifting to an open source environment.

Nonetheless, the open source movement has gained momentum. The Lanka Software Foundation (*http://www.opensource.lk*), the first software organisation to explicitly promote OSS, was established in 2003. Among its objectives are to support OSS developers and projects with infrastructure development, funding, R&D, consultancy, training and other enabling facilities; to create an identity for the Sri Lankan OSS developer community; and to promote worldwide interaction, cooperation and coordination among OSS developers. It convened the first local open source conference in November 2003.

The Lanka Linux User Group (*http://www.lug.lk*) remains active in promoting GNU/Linux software. Started in July 1998 and based at the University of Peradeniya, it handles Linux installations and lends distribution kits. Its Linux mini-library contains Linux journals, Linux how-to's, LaTeX documents, CDs and many other Linux resources. Its members exchange their experiences through a mailing list.

Trends

Sri Lanka's inability to consolidate its ICT sector is both alarming and depressing. Political instability, regulatory uncertainties, policy gaps, poor infrastructure and inadequate laws have combined to inhibit progress in ICT-related industries as well as ICT-for-development initiatives. The country is seriously lagging behind its neighbours in adopting and nurturing newer technologies such as wireless and broadband.

A conceptual and perceptual barrier has been to equate ICT with only PCs and the Internet, with most players not appreciating that this term also includes mobile phones, radio, television and other digital technologies that gather, store and transmit information electronically. Using this broad definition, it can be argued that some of these telecommunications or mass media tools have indeed contributed to improvement in the quality of life. But the adoption of these tools has not been coordinated under any ICT sector plan but has happened as a result of developments elsewhere. For example, liberalisation of the telecommunications sector – which is always treated separately from ICT in Sri Lanka – has brought mobile phones within reach of many, even if high tariffs inhibit further growth.

As noted earlier, the e-Sri Lanka programme has produced a mixed bag of results, and its inability to work at strategic and macro levels represents a major missed opportunity. Unlike in India, where the state has created an enabling policy and legislative framework and allowed the industry and civil society to take ICT forward, the Sri Lankan government has shown an unhealthy tendency to dominate in every sphere, even when it has no capacity or experience. Either mesmerised by the new technologies or co-opted by state propaganda, the mass media has mostly engaged in uncritical cheerleading of the scattered, unfocused ICT initiatives. External players – including some UN agencies – have exacerbated these anomalies for their own selfish gains, sometimes perpetrating development myths (such as the notion that community radio exists in Sri Lanka[2]).

A recent UNDP study on how ICT contributes to human development in Sri Lanka also found highly uneven progress when assessed against each of UNDP's Millennium Development Goals. ICT usage in achieving some of the goals, such as ensuring environmental sustainability, has been significant, while there is little or no ICT involvement in pursuit of several other goals covering areas such as health. The nexus between poverty alleviation and ICT tools also remains a tenuous one, with several pilot projects addressing income disparities failing because of inherent technological or design weaknesses (UNDP, 2004).

Despite a plethora of studies, there still is a crying need for a long, hard and candid appraisal of Sri Lanka's ICT potential and performance. If an inclusive, strategic and coordinated approach is not adopted soon, the island nation will remain one of Asia's most glaring "might-have-beens".

Notes

1. Unfortunately, this had not happened up to May 2004. It can be attributed to political instability. The new Minister of Science and Technology, who assumed office in April 2004, has said he would take the initiative forward.
2. There is no community radio in Sri Lanka, and all the so-called community radio services are rural transmissions of the wholly state-owned and state-controlled Sri Lanka Broadcasting Corporation. Applications by community groups for licences to operate genuinely community owned and managed radio stations have been ignored by successive governments since broadcast liberalisation started in the early 1990s.

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