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# ICT-Internet for Economic Development in Sri Lanka - Expert Assessment Report

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# Model Computer Commerce Law Project Internet for Economic Development: Sri Lanka

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**FINAL ASSESSMENT FOR DISTRIBUTION**

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# Executive Summary

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Sri Lanka is well situated for pursuing Internet and information technology (IT) applications for development. For that reason, a team sent from USAID/Washington joined with USAID/Sri Lanka staff to undertake an assessment and offer suggestions and ideas for including Internet-related projects in USAID/Sri Lanka activities. In particular, focus was given to contributing ideas for value-added strategies for integrating IT activities within the context of competitiveness programs, the Mission's support of the Technology Initiative for the Private Sector (TIPS) program, and related projects.

The Assessment Team spent two weeks in country, meeting with approximately 50 governmental, private sector and non-governmental organizations with IT-related responsibilities. Assessment activities centered on developing an understanding of the Sri Lankan IT sector in three main areas: macro governmental policy as it affects economic development and the promotion of e-business; telecommunications infrastructure; and legal and regulatory reform.

This assessment report is organized into five main sections, each of which contains its own set of findings and conclusions. Part I covers governmental IT policies and its e-commerce implications for specific sectors of the Sri Lankan economy. Part II looks at the telecommunications infrastructure in the country, while Parts III and IV focus on IT applications in the governmental and private sectors, respectively. Finally, Part V covers legal and regulatory issues related to the improvement of the IT sector for economic development. The assessment includes a number of appendices, including the composition of the Assessment Team, a directory of in-country contacts, a bibliography of web sites, books, articles and other materials, and a brief statistical country profile.

As outlined in the pages that follow, the team found generally that the outlook for Sri Lanka is moderately good, noting that the country is at an important juncture in its development. In the area of governmental policy, the team encourages efforts to streamline governmental policymaking, lessen bureaucratic obstacles, and coordinate public and private e-commerce undertakings. Some work needs to be done to bolster the technological infrastructure in Sri Lanka and to open markets to greater competition. In the legal and regulatory area, efforts might be undertaken to hasten the acceptance of the realities of the information age among policy-makers, business leaders and consumers.

March 2000  
Washington, D.C.

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# Acronyms and Abbreviations

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ASYCUDA	Automated System for Customs Data
BOI	Board of Investment
BPA	Business and Professional Associations
CINTEC	Computer and Information Technology Council of Sri Lanka
CPU	Consumer Protection Unit
CSP	Country Strategic Plan
DOC	U.S. Department of Commerce
DUET	Dual Universal Electronic Transactions
EDB	Export Development Board
EDI	Electronic Data Interchange
ENI	Eastern Europe and Newly Independent States Bureau (USAID)
EU	European Union
e-WIS	East-West Information Systems
FCC	Federal Communications Commission
FTC	Fair Trade Commission
GDP	Gross Domestic Product
GII	Global Information Infrastructure
GSL	Government of Sri Lanka
GSM	Global System for Mobile Communications
IBM	International Business Machines
ICTs	Information and Communications Technologies
IED	Internet Economic Development Initiative
IRM	Information Resources Management Bureau (USAID)
ISP	Internet Service Provider
IT	Information Technology
ITMIN	Industrial Technology and Market Information Network
ITU	International Telecommunications Union (United Nations)
LDD	Legal Draftsman Department

LKNIC	Network Information Centre for Sri Lanka
MCCL	Model Computer Commercial Law Project
MCT	Multi-purpose Community Telecentre
MIGA	Multilateral Investment Guarantee Agency
NGO	Non-governmental Organization
NII	National Information Infrastructure
NTIA	National Telecommunications and Information Administration
NTT	Nippon Telegraph and Telephone Corporation
PIN	Personal Identification Number
PC	Personal Computer
PRIU	Presidential Research and Implementation Unit
PSTN	Public Switched Telephone Network
PTO	Public Telephone Operator
PTT	Postal Telegraph and Telephone
RTGS	Real Time Gross Settlement
RTII	Regional Trade and Investment Initiative
SAARC	South Asian Association for Regional Cooperation
SL	Sri Lanka
SLENS	Sri Lanka EDI Network Services
SLG	Sri Lanka Government
SLT	Sri Lanka Telecommunications
SME	Small and Medium Enterprise
SO	Strategic Objective
SpO	Special Objective
TIPS	Technology Initiative for the Private Sector
TRC	Telecommunications Regulatory Commission
UK	United Kingdom
UNCITRAL	United Nations Commission on International Trade Law
UNCTAD	United Nations Commission on Trade and Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
US	United States
USAID	United States Agency for International Development

USAID/W	United States Agency for International Development, Washington
VSAT	Very Small Aperture Terminal
WB	World Bank
WIPO	World Intellectual Property Organization
WLL	Wireless Local Loop
WTO	World Trade Organization
Y2K	Year 2000



# Background

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USAID/W and USAID/Sri Lanka are convinced that Sri Lanka is well situated for pursuing Internet applications for development.<sup>1</sup> For that reason, a team sent from USAID/W joined with USAID/Sri Lanka staff to undertake an assessment and present ideas for including Internet-related projects within USAID/Sri Lanka activities, with particular focus on providing value-added ideas for integration with the existing focus on competitiveness and the Mission's support of the Technology Initiative for the Private Sector (TIPS) program.

The U. S. program in Sri Lanka supports the following U.S. foreign policy and strategic goals: broad-based economic growth and agricultural development, democracy and good governance, and humanitarian assistance. Within South Asia, Sri Lanka provides a unique environment for advancing these interests. With the Government of Sri Lanka (GSL) focusing on ending the ongoing ethnic conflict, and with clear potential for achieving sustainable economic growth, USAID is helping the country move through an important political and economic transition.

Sri Lanka has a fifty-year tradition of vigorous democracy with competing political parties, a free press and an independent judiciary. Although it has achieved high levels of literacy, low birthrate, low infant mortality rates and broad gender equality and has made progress on economic reforms, it remains at the bottom of the list of middle-income developing countries. The prolonged 15-year ethnic conflict raging in the North and East Provinces continues to threaten its progress.

The Sri Lanka economy remained resilient in 1998 despite adverse external conditions in the region and increases in defense expenditures. A growth rate of 5% is expected for 1998, which is below the initial target of 6%. Growth in the economy remained highly dependent on export earnings from the garment sector and from plantation crops. Although Sri Lanka has made progress in macro-economic reforms, progress on financial and structural reforms that would stimulate productive investment, diversify the economy and raise incomes has remained slow.

USAID's programs are aimed at improving the trade and investment environment. Building on previously developed strong relationships with a wide range of companies, USAID's programs strengthen business associations that promote key reforms related to agriculture, manufacture and trade liberalization, and that improve business strategies for global competitiveness.

An open and transparent financial market, which shifts from being dominated by banking to strong capital markets, is essential for Sri Lanka to improve its competitiveness. USAID has had considerable success in establishing a modern and efficient stock

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<sup>1</sup> Appendix E contains a country profile of Sri Lanka.

exchange in Sri Lanka, but the stock market remains small in capitalization. USAID programs support expansion of the investor base and contribute to improving regulation and increasing transparency of the capital market. USAID programs also support establishment of new financial instruments, including development of corporate bonds to facilitate financing of industry and infrastructure development.

Despite the war, Sri Lanka's economic performance has been relatively satisfactory. Its rate of growth places it in the top 20% of countries worldwide in terms of real GDP growth during the period 1995-97. Much of this growth has been led by exports, especially textiles and garments, which have more than tripled in real terms over the last decade. However, recent global trends in the garment and textile sectors suggest that continued growth will depend on development of other sectors within the economy. As a result, USAID/Sri Lanka undertook a competitiveness assessment in the summer of 1998, which resulted in a number of important findings, including:

- Although there is still room for improvement, the Sri Lankan government scores fairly well relative to other countries on its macroeconomic framework;
- The government also has performed relatively well in the active and creative use of fiscal policy to mobilize investment and boost exports. However, continuing to rely on incentives is not a sustainable source of a competitive advantage for Sri Lanka, largely because other countries can replicate the strategy and it fosters complacency in the private sector;
- In stark contrast to the strength of the reform of macroeconomic policies, the policy, legal and regulatory framework facing individual firms in the private sector is deficient;
- Weak business strategies and a lack of understanding of competitive position characterizes much of Sri Lankan industry, including tourism, toys, gems and jewelry, and floriculture; and
- While the war is a factor in discouraging economic development, any prospective "peace dividend" will be disappointing if the enabling environment for business is not improved.

The assessment concluded that "whether Sri Lanka will progress rapidly to develop a fast-growing, outward-looking economy depends fundamentally on reaching a national consensus on a competitive strategy, making the necessary policy and regulatory reforms that will improve the enabling environment for firms, and on the firms themselves, implementing better business strategies."

The evidence suggests that the implementation of information technology strategies can effectively fuel economic development and competitiveness in Sri Lanka. This assessment report provides a roadmap for such implementation.

The assessment team wishes to thank the following people for their assistance in completing the assessment while in Sri Lanka: Lisa Chiles, Gary Robbins and Sarasali

Fonseka in the USAID/Sri Lanka Mission; Ray Jubitz and Sujeewa De Alwis of TIPS; Lalith Gamage of CyberTrader; and Jayantha Fernando of CINTEC.

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# Assessment Goals and Objectives

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The overall objective of the two-week in-country assessment was to help USAID assist the host government, private sector leadership and other stakeholders in promoting the broader and more rapid diffusion of information technology, Internet access, e-commerce as economic development and competitiveness strategies. Specifically, this undertaking provided an opportunity for USAID/Sri Lanka to acquire an assessment of how it can work with the Government of Sri Lanka and the country's private sector to realize the potential of enhanced Internet connectivity for economic development. This assessment includes:

1. An overview for mission review of information technology capacity in Sri Lanka that brings a focus to current activities that can be leveraged by e-commerce and other information technology add-ons;
2. A list of governmental, non-governmental and other organizations working within the context of the mission strategy statement that could benefit from recommendations relating to e-commerce and other Internet-based activities;
3. A roadmap for government-to-government interactions that includes the use of Internet-related programs for existing and future activities pursuant to the mission strategy and development portfolio;
4. An explanation of the kinds of business and regulatory laws and policies that would create the kind of legal and regulatory environment conducive to the rapid growth of e-commerce and other Internet-based activities;
5. An explanation of how an increase in government and private sector knowledge about how the use of the Internet and e-mail can speed economic development in Sri Lanka, with particular emphasis on a review of the private sector as it affects USAID's overall development strategy and implications for multiplying and leveraging positive development results; and
6. The identification of specific opportunities for inclusion in mission strategic objectives activities designed to increase the use of the Internet and related technological advances.

The express purpose of this undertaking was to provide USAID/Sri Lanka with a realistic set of ideas for implementing specific strategies for using the Internet/IT in its development activities.

# I—GOVERNMENTAL POLICY CONSIDERATIONS and BUSINESS DEVELOPMENT

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## Introduction

The Internet and electronic commerce are evolving rapidly and to a great degree unpredictably. Policymakers (and groups such as USAID that assist policymakers) are scrambling to find the right recipe for promoting innovation and managing change. On the one hand, since the Internet is so fluid, a laissez-faire approach is necessary and private-sector demands should guide the development of the Internet and electronic commerce. On the other hand, a clear and consistent statement of the government's objectives will aid the private sector and allow it to proceed with confidence.

Government policies and regulation should focus on the ultimate objective of creating an environment conducive to growth and innovation, with due regard for both security and transparency. Government policies should take a forward-looking and technologically-neutral stance; to the extent possible government should avoid supporting specific groups or technical solutions. In addition, because e-commerce and Internet are developing within the context of existing government regulation, it is important that government enhance competition when the private sector delivers not competitive results but rather collusion and restraints to competition and innovation.

A key dimension where the government and the private sector interface is in fostering familiarity with the Internet. The Internet must be experienced by actually participating and seeing how other market participants are using it.

Four challenges face the GSL to engage Sri Lanka in information technology generally and electronic commerce more specifically:

- First, the GSL needs to be very careful that it is not favoring one over another technological environment for how Sri Lankan businesses approach the use of Internet and electronic commerce, particularly for international transactions. An even hand that focuses on providing an environment full of access to ideas and innovation will allow the private sector to try alternative Internet solutions, will be more likely to ensure that companies will use technology that is available and appropriate for their needs, and will promote the forward looking solutions critical for competitiveness in the future.
- Second, the GSL should review its tax and tariff systems, mostly to see how best to use Internet technology to achieve superior administration, but also for how electronic commerce can help make more transparent and rational the existing tax and tariff structures. Uptake of information technology is lagging badly in key government sectors where monetary

transactions flow from the private to government sector (tax and tariff payments). This creates a technology bottleneck which combined with complex administrative procedures together absorb much of the benefits that the private sector achieves through its application of IT and e-commerce to its value-added chain.

- Third, the GSL has to actively promote competition in infrastructure that is key to development of the Internet and electronic commerce, namely, telecommunications and the financial system. However, that is not enough. The benefits of rapid communications allowed by the Internet are wasted if traditional infrastructure such as roads, ports, air delivery are sub-standard. Consequently, these must also be addressed if the private sector is to see the benefits of their investments in technology. These objectives, while perhaps stimulated by the goal of promoting information technology growth, would have the salutary effect of enhancing economic activity more generally.
- Fourth, because the Sri Lankan public and many in the private sector remain unfamiliar with the potential of the Internet and electronic commerce, the GSL needs to actively promote access and uptake of information technologies and the Internet through information dissemination, education, and pilot projects, such as in kiosks, libraries, and post offices .

In addition, the private sector must rise to the challenge:

- There is a solid foundation for innovation in the private market place in Sri Lanka. IBM is working to remove some of the consumer uncertainty about buying on-line by acting as an “insurance agent” for its cybermall. To further enhance security and extend trust, IBM is working with a Malaysian firm to create a new secure on-line payment mechanism that operates with an electronic number and a PIN instead of requiring the purchaser to use a credit/debit card number. Sampath Bank is innovating in the realm of electronic billing, and has new back-office operations running called “banking 2000”.
- SL firms have shown their ability to “meet the market test” of the international market, but for them to succeed the government must function at world class levels as well. Garment manufacturers have undertaken pilot projects to move up the value chain of production. They were able to produce to specification and within time constraints, but could not get the product through customs and out of the airport in time. Tea traders are considering using web sites for global sales of flavored tea that would promote exports of tea but would not dilute the “Ceylon” brand, but the lack of bandwidth limits their real-time use of the Internet for auction sales.

## Findings and Conclusions

### 1. Government Public-private Partnerships

#### *Findings*

Government has enhanced and encouraged the use of the Internet through the Computer and Information Technology Council of Sri Lanka (CINTEC) and Cybertrader so as to prepare businesses to launch their own inventions that meet best the needs of Sri Lankan consumers and businesses at home and Sri Lankan markets, and markets-to-be, abroad.

#### *Conclusions*

The GSL is playing a very important role in the development of Internet and electronic commerce in Sri Lanka by supporting CINTEC and Cybertrader. Therefore, it needs to be very careful that it is not favoring one over another approach to the key issue of how Sri Lankan businesses use the Internet and implement electronic commerce, particularly for international transactions. Favoring one approach (such as Electronic Data Interchange [EDI]-based systems) vs. another (Internet-based systems) runs the risk of guiding too strictly the development path. While some think that such guidance is good, because it would appear to minimize failure and wasted effort by itself and the private sector, this is a false sense of security. Technology is changing so quickly that a standardized government-directed approach will not be appropriate for all companies or for all business situations. Forcing interoperability via the monopoly of one approach (which might make sense within government ministries) is not appropriate for the more varied needs of the private sector, since such a monopoly implies that some companies cannot obtain the solutions that they need.

In particular, the government should be careful to avoid promoting the exclusive use of EDI-based systems for international transactions. In the past, EDI-standard international data communications systems had advantages: the closed, secure inter-company network promoted tight value-chains and rapid data exchange. However, such systems are not at the vanguard of how forward-looking companies communicate across borders now and international systems are very rapidly moving to the Internet platform. The reasons are simple: EDI-based communications systems are about 10 times more expensive than Internet-based systems. Since the future of growth in Sri Lanka depends on the growth and international participation of small and medium-sized enterprises, Internet-based systems for international marketing and transactions will be critically important. Second, EDI-based systems tie companies together with “golden handcuffs”; that is, as small companies are bound into a tight networks, the big company knows the small cannot leave the network so they tend to offer worse pricing deals and lower-value supplier specifications. Firms that compete as closer-equals in the more fluid marketplace of Internet-based competition and transactions have the potential for higher returns and have greater ability to move up the value chain.

The Indo-Lankan Free Trade Agreement may present a unique challenge but also an opportunity to international transactions by Sri Lankan firms. India plans to remain on an EDI-based system for some time for a whole host of reasons. As the Indo-Lankan Free Trade Area takes hold, Sri

Lankan businesses will need to have an interoperable EDI and Internet-based system that allows them to “toggle” between the data systems—EDI for Indo-Lankan trade and Internet systems for their trade with the rest of the world. It is quite clear that such systems exist, although few firms use such hybrid systems because EDI is so quickly being superceded by the Internet-based system. However, this is one area where Sri Lanakan business could have a market niche that makes it additionally attractive as a gateway to the Indian marketplace.

Finally, in addition to being technologically neutral, the government should make sure that it does not favor one or another of its public-private partnering organization designed to promote information technology. Indeed, the government should be ready to step in if there appears to be any abuse of position. It appears that the Fair Trade Commission (FTC) could respond to such behavior on the part of a partially state-funded institution.

## **2. Electronic Government: Information Delivery and Tax and Tariff Systems**

### *Findings*

Uptake of information technology is lagging badly in the Sri Lankan government. There is currently little or no information on government requirements or even government information available on-line and very little computerization in key sectors where monetary transactions flow from the private to government sector (tax and tariffs).

The current structure of Sri Lanka’s tax and tax-credit system is fragmented, which raises administrative costs, creates distortions, and invites abuse. Moreover, the current system depends on revenue sources that can be undermined by the growth of electronic commerce, particularly the government sales tax (GST) and tariffs. Indirect taxes via the GST account for about 40 percent of revenues, which is high compared with EU countries (the other main users of this type of tax). Income taxes account for about 25 %, the national security levy, the financial transactions taxes, and the stamp duty about for somewhat less than 30 percent (about equally divided). Privatization receipts round out income.

In addition, the current system has many exemptions that are layered on top of the taxes causing further administrative effort. Government workers pay no tax. Board of Investment companies (mostly garment) pay no tax. There is an investment tax allowance of 15% on advanced technology products. High tech companies get a five-year exemption on corporate income. Gems and jewelry industry not taxed (would just get smuggling). Non-resident foreign exchange accounts bear no transactions tax (and is acknowledged to lead to deposit account churning to exploit the advantage). Small firms do not have to charge GST and this means that the same product purchased from different firms effectively is priced differently by 12.5 %.

Finally, there is evidence that the regulation and procedures for doing business are simply opaque and applied in a slow or capricious or *ad hoc*, or even corrupt, manner.

This system is costly to administer—in terms of money as well as time and credibility of the government and business. About 1500 people administer the tax system. Tax officials indicated administrative costs of 1.28% of revenue, but based on revenues raised, it would appear to be an



order of magnitude higher. In other words, it might take 10 percent of the revenue raised to raise the revenue. Moreover, even for those parts of the system that are “computerized”—corporate income, imports—the systems do not adequately interact with each other, further raising the administrative costs of raising revenues. Finally, anecdotes suggest occasions where business performance on contractual obligations to export clients were undermined by slow and cumbersome procedures.

### *Conclusions*

There continues to be a role for the GSL to raise the level of awareness among the population at large on the possibilities of the Internet. Positioning kiosks around town with partial access to Internet (say government information, notices, lottery winnings, etc are posted) would also assist in developing e-government (*see* next section). Full Internet access in libraries, post offices, and community centers with trained people nearby is also a way to bring Internet to everyone. The model for such community access would preferably be a “franchise”, where a private stakeholder takes responsibility for the site and has an interest in it being used, profitable, and expandable.

In the area of information flow, government procurement, and administrative procedures and regulations, the GSL could achieve gains by putting the government on-line. Using the Internet will greatly enhance the efficiency and transparency of generating government revenue, which will also improve the environment for business and trade. The lack of computerization of tax and tariff systems combined with complex administrative procedures together absorb much of the benefits that the private sector achieves through its application of IT and e-commerce.

Looking forward, the growth of e-commerce will strain the existing tax system. Taxes on electronic commerce transactions raise three issues: jurisdiction of the tax authority, identity of a taxpayer, and appropriate categorization and coverage of goods vs. services (in the case of GST), and of income and capital (in the case of direct taxes). Moreover, as Sri Lanka privatizes state-owned operations, reduces the role of the Board of Investment (BOI), and as firms increasingly become part of the value chain of a multinational (e.g. apparel), cross-border trade will increase, as will the issues associated with location of value-added and transfer-pricing. Third, electronic commerce blurs the distinction between trade in goods and services.<sup>2</sup> Fourth, the development of an effective export oriented strategy for macroeconomic growth based on growth in the sector of SMEs in Sri Lanka means that tax efficiency is critical.

Electronic commerce, while presenting the GSL with tax administration challenges, also offers solutions. It is much cheaper to keep track of taxpayers electronically. Electronic identifiers, audit trails, and value-added accounting are significantly eased by information technology. The GSL should use the power of information technology to extend tax coverage, reduce tax rates, and increase tax efficiency. Moreover, many of the administrative costs to businesses could be significantly reduced through e-government. Putting procedures, regulations, forms, and other

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<sup>2</sup> The European Union (EU) has proposed that all electronic commerce should be taxed as a service based on the location of the consumer (instead of the “place of supply”). This may or may not be workable in the future as bundling of services, as well as the provision of near-goods (for example, downloadable software), through the ISP become more prevalent.

requirement for trade and tax paying on line gives government the opportunity to review the overall thrust of business procedures for whether they assist or hold back the private sector.

### **3. Financial System**

#### *Findings*

Structure of the market: Two state owned banks account for about 50 % of deposits. Seven private indigenous banks account for about 30% of deposits. Several private branches of foreign banks account for 20 % of deposits. There are two specialized development institutions (DFC, NDB).

Despite the fact that the state-owned banks account for 50 percent of deposits and an overwhelming number of branches, the *commercial bank environment* appears to be relatively competitive, innovative, and moving quickly to be technologically prepared to use electronic commerce. Banks are waiting for two things to move forward more quickly: get past Y2K deadline and improve security on Internet transactions. The calendar is immutable. On the latter point, an innovation soon to offered by IBM and a Malaysian company would enable Internet transactions to be direct to the bank using an identifying number and unique personal identification number (PIN). This would presumably would get around the problem of unlimited liability on credit cards.<sup>3</sup>

Uptake of electronic commerce creates a positive synergy whereby firms and banks actively embracing electronic commerce will become more competitive, gain market share, and improve the functioning of the financial system, with on-going gains to the whole economy. Moreover, the ability to use the Internet to advertise services and offerings, as well as to collect and process information on a borrower enhances the efficiency by which a financial sector transforms savings into investment in an economy. Reducing these costs is essential to enabling SMEs to obtain finance.

#### *Conclusions*

On the *official side of the banking system* in Sri Lanka, there are several weak spots in central bank operations and regulations that might be exacerbated by electronic commerce. First, the inter-bank payment system cannot handle real-time verification of domestic transactions between banks, nor real-time clearing of cross-border financial transactions. It is common (until recently even in industrial countries) that inter-bank transactions will be cleared only at the end of the business day. Because greater uptake of credit/debit cards as well as electronic commerce would normally enable more rapid buying and selling between businesses during the course of the day, the inter-bank market would have to support more transactions flow, and day-light clearing (also called real-time gross settlement--RTGS) would help prevent instability of the inter-bank market

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<sup>3</sup> One might ask however, whether simply moving to a US style environment for credit card pricing might make more sense. The issue might be that there simply is more credit card fraud in these countries and that it is harder to track it down. Thus, VISA/MC may have to impose higher rates for businesses to use the card.

during the day. Sampath bank indicated that they were soon to do RTGS, but this requires more telecommunications capabilities than are probably available in Sri Lanka.

Electronic commerce opens the possibility for more rapid and monetarily more significant cross-border trade, thus making central bank management of foreign exchange more challenging. The implications of e-commerce are more salient because of the restrictions on cross-border capital flows in Sri Lanka. The Central Bank faces a loophole in its regulations that the BOI companies are exempted from adhering to foreign exchange regulations.

The Central Bank recognizes this issue and is investigating some stop-gap measures. First, they note that credit cards have low rupee limits so that they are unlikely to be “surprised” by large foreign exchange demands. Second, they think that banks in Sri Lanka that issue the cards could disentangle domestic transactions from cross-border ones, and so that the Central Bank could monitor and perhaps investigate excessive cross-border transactions. (This information might or might not be available from branches of foreign banks.) In addition, they are considering making it clearer to the credit-card users that cross-border purchases of financial instruments is not allowed over the Internet.

Openness to new financial instruments is important. One anecdote suggested that the Central Bank required a bank to remove from the marketplace a “now” account product. The bank maintained that the product abided by all regulations. The Central Bank indicated that the problem was that the bank was advertising the product inappropriately using lottery prizes to encourage new accounts.

In the future, electronic commerce (combined with capital risk insurance) can underpin a new approach to lending to SMEs that brings together the bank and non-bank financial sectors. Often lending to SMEs is viewed as too risky and too costly (too much hard work) for banks, so lending to these companies often lags without directed credit from the government. A new approach that uses the power of electronic commerce is the securitization of small-business assets. (Securitization is the packaging of Small and Medium Enterprise [SME] loans into securities that then can be sold as shares in a mutual fund.) Electronic commerce reduces the cost of servicing the SME loan; securitization is a way to diversify risk. Both the bank and the non-bank sectors become involved—the bank to originate and service the loan and the non-bank firm to package and sell the asset.

#### **4. Private Sector Development**

##### *Findings*

As electronic commerce begins to flourish in Sri Lanka, a whole host of new businesses centered in the IT sector will start to emerge—but there is not much here yet. E-Wis is a consultancy that is designed around electronic commerce, including Web design and Internet/electronic commerce consulting. New retail service operations like cybercafes are beginning to appear in Colombo that depend directly on the Internet.

Within the export-oriented business community, uptake of electronic commerce is beginning. Garment manufacturers are using electronic commerce on pilot projects to move up the value chain. Tea merchants are considering web-sites, and are using information technology to improve yields. Some of the Sri Lanka policy makers and businesses with whom the team spoke over the two-week period had e-mail accounts and were connected to the Internet; few, however, integrated e-mail or the Internet into their day-to-day operations.

### *Conclusions*

There are several sectors important to Sri Lanka industrial development where electronic commerce is becoming more prevalent in global relationships. Sri Lanka's overall development could be stifled in these sectors lag in the uptake of the Internet and electronic commerce. Fully integrated use of the Internet, however, depends on cheaper telecommunications costs and a facilitative financial system.

#### *a. Textiles and Apparel*

Textiles and apparel are a key component of Sri Lanka's industrial production. Currently the sector is at the forefront of the country's export-led industrial growth, accounting for 40 percent of exports. There are several US-based multinational apparel companies operating in Sri Lanka. Electronic commerce can help these MNCs to overcome two of the industry's greatest growth challenges: a large number of steps/variables along the value-added chain and a fluctuating/seasonal demand cycle. By bringing up Sri Lanka's textile mills, cutters and sewers, and wholesale buyers, as well as internationally-based retail suppliers, onto the Internet, significant improvements can be made to communication and Just-in-Time inventory and distribution systems.

Electronic commerce can also allow Sri Lankan textile mills to communicate directly with internationally based buyers of wholesale fabrics. For example, Phoenix Textiles (<http://www.fabric.com>), a US-based buyer and distributor of textiles, uses the Internet to purchase its fabrics from mills around the world. Then, through its Web site, Phoenix Textiles sells to individuals and small and medium-sized enterprises as well as large corporations. The company relies on the Internet to replenish its inventory as needed.

Unfortunately, the benefits that individual firms have obtained from using e-commerce have been eroded by the inefficiencies in soft and hard infrastructure: export-import procedures, roads, ports, air-freight facilities and availability are all slow and sub-standard. Until these problems are rectified, there is little incentive for businesses to undertake large investments in technology.

#### *b. Services-based Trade: Tourism*

Tourism is a significant foreign-exchange earner in Sri Lanka. However, if Sri Lanka lags in the uptake of electronic commerce, it will not be able to raise its international standing as a tourist destination. At a minimum, the Internet can serve as an important vehicle for the distribution of brochureware (information, photographs, video clips, etc.) to potential tourists planning a

vacation in Sri Lanka. The Internet can also offer potential tourists the convenience of researching and booking their entire vacation on-line, from airplane tickets, to hotel accommodation, to auto rental, etc. Currently, few of the tourist activities in Sri Lanka use the Internet to reach international audiences. Moreover, none have the capacity to take reservations, pre-payment of other common and increasingly valued services. Because of this, Sri Lanka businesses cannot reach the traveller directly, and thus must pay a reservations agent a portion of the profits to be earned on the client. The process of putting tourist operations on-line itself creates new businesses, so the Internet becomes part of a virtuous circle of development.

*c. Tea*

SL is the world's premier exporter of tea. Looking to the future, the Internet could be the foundation of much higher value trade for Sri Lanka: computerizing the tea processing factory could reduce low-quality output caused by fluctuations in processing conditions; non-premier tea for blending into flavored tea could be done in Sri Lanka and sold directly to buyers, as could small-lot teas such as organic; computerizing the data coming from tea tasters could improve yield of premium tea; computerized data on outcome of auctions could keep Sri Lanka ahead of market trends in changing tea tastes.

The Internet can help both farmers and the government better plan for climate changes. In the United States, for example, a Weekly Weather and Crop Bulletin – sponsored by the Department of Commerce, the US Department of Agriculture, and the National Oceanic and Atmospheric Administration – is posted over the Internet (*see* <http://www.usda.gov>) to give farmers detailed information on many issues, including temperature changes and crop moisture.

There are also privately sponsored electronic commerce initiatives underway in the agriculture sector. The Global Agribusiness Information Network (<http://www.fintrac.com/gain>), sponsored by three agribusiness market research/consulting firms, offers free wholesale market reports for fresh fruits and vegetables in the Americas, Europe, and Asia and historical price tables. The Web site also has a free buy-sell bulletin board, where producers and buyers of wholesale agricultural products from all over the world post offers and bids.

# II—TELECOMMUNICATIONS INFRASTRUCTURE IN SRI LANKA

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## Introduction

The current dynamics taking place within the Telecommunications sector in Sri Lanka are largely driven by the Economic Policy Statement of the Government of Sri Lanka announced in 1994. This Policy Statement states in part, "Public investment would be needed to build the infrastructure that is required as a necessary complement to rapid private sector growth. However, as the resource requirements for the provision of adequate infrastructure are so overwhelmingly large, a significant portion of the infrastructure investment effort will have to be undertaken by the private sector."

Based upon this direction, a National Policy of Telecommunications was put into place in November of 1998, outlining the following objectives:

- To provide telecommunications facilities to all, at cost-based tariffs.
- To achieve universal service covering the whole country including all villages. This implies easy access to basic telecommunications facilities such as telephone, telegraph and facsimile to all at affordable and reasonable prices.
- To attain an acceptable quality of service for voice and data communications for both national and international communications.
- To eliminate waiting lists for telecom facilities through expansion of SLT facilities and allowing private sector competition.
- To provide prompt and effective attention to consumer needs.
- To progressively increase local value-addition in telecommunications projects, through local manufacturer and construction at competitive price levels.<sup>4</sup>

Combined, these policies have subsequently led to a number of specific actions by the GSL whereby the Telecommunications Sector within Sri Lanka has increasingly been liberalized. These steps have including a number of key actions that combined are having the impact of expanding the telecommunications infrastructure—a requisite for future expansion of the Sri Lankan economic as it seeks to participate in the global marketplace. These actions include:

- Establishment of an independent Telecommunications Regulatory Commission (TRC)
- Privatization of Sri Lanka Telecommunications (SLT) as a Government Owned Company
- Selling off of a 35 percent share of SLT to NTT
- Licensing of two national fixed Wireless Local Loop (WLL) providers
- Licensing of four Mobile telephone providers
- Licensing of approximately 17 Internet Service Providers (ISP) with International data gateways allowable for a smaller subset

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<sup>4</sup> TRC Web Site at <http://www.trc.gov.lk/ntp.html>

It is estimated that when these reforms got underway, there were approximately 310,000 telephone lines in Sri Lanka, yielding a teledensity (lines per 100 persons) of 1.2/100—an extremely low number with the world average being around 10/100 and most developed countries having a teledensity in excess of 50/100.

Current estimates vary, but the current teledensity within Sri Lanka is estimated at 2.8/100, with a forecast of 3.3 by the end of year 2000. The distribution of the number of lines currently in place is estimated at 550,000-600,000 direct exchange telephone lines (landlines by Sri Lanka), 50,000-80,000 Wireless Local Loop (WLL) lines, and 150,000-200,000 Mobile lines (analog and GSM).

With respect to the use of computers within Sri Lanka and Internet access, estimates vary however TRC estimates that there are 150,000 PCs currently in Sri Lanka with approximately 21,000 Internet connections. Estimates from other sources reflect that there are approximately 50,000 new PCs sold into Sri Lanka each year. Estimates of Internet users (not necessarily number of ISP/E-mail accounts) is in the order of 40,000-50,000.

## **Findings and Conclusions**

### *Findings*

The picture within Sri Lanka relative to the Telecommunications Sector is one in which for the most part a healthy liberalization of the sector as a whole is underway. In fact, the GSL has met the World Trade Organization's (WTO's) commitment with the exception of one area—international voice. In this area SLT retains a near monopoly position until the year 2000. However, this liberalization is of recent origin that the impacts of higher teledensity and Internet access significantly lags other countries—resulting in a decided disadvantage for facilitating E-commerce, the focus of this Assessment.

While combination of government liberalization and market forces are carrying Sri Lanka forward with respect to improving its telecommunications infrastructure, there are targeted areas of concern along this path.

### **1. Teledensity**

Even with the current dynamics underway, the near-term teledensity within Sri Lanka is simply low, and will be playing “catch-up” for several years into the future. This will be a continuing restraint on leveraging the Internet for economic development via such tools as E-Commerce, E-Business, E-Government, etc. In constructing any E-Commerce initiatives, the focus will need to be on broad-based external access/use of the Internet rather than internal, in-country access--i.e., the rest of the world will be accessing Sri Lankan information and purchasing Sri Lankan goods and services via the Internet long before Sri Lankans are doing this directly themselves. As reflected below however, there are constraints in this arena as well (e.g., limited international gateway capacity).

## **2. Independence of TRC**

The establishment of TRC as an independent telecommunications regulator was a critical component and an overwhelming success upon which the overall liberalization of the telecommunications sector in Sri Lanka has proceeded. However, there are recurring instances where the unanimous decisions of the Commissioners have been overruled by other Ministries having greater influence. One recent example is the extension of the voice monopoly by SLT from the prior deadline of 2000 to a 2002 date—in this case a contract between SLT and NTT appearing to supercede the decision of the commission. This specific issue is critical relative to meeting WTO commitments, but equally important, over time these actions if allowed to continue will likely erode the positive influence of the TRC in maintaining an open, transparent, and dynamic private-sector led Telecommunications sector.

## **3. The Dominant Player**

While SLT has to a degree been “privatized” (though still largely government owned), in fact it remains the undisputed dominant carrier within Sri Lanka and is in a privileged position relative to key aspects of telecommunications. Three critical areas are; a) the landlines, b) interconnect with WLL and Mobile operators, and 3) international access. While alternate solutions are available on paper (via licensing of selected providers) these are somewhat limited, are in their very infancy, and as a rule are substantially more expensive than going through SLT for providing required capacity. However, SLT’s dominant position is such that actual provision of requests are typically not transparent, timely, and even-handed. In the case of Interconnect, the WLL and Mobile carriers are disadvantaged as there are fewer interconnections than needed with the smaller carriers needed to carry long-distance signals rather than having local interconnect in key locations. With respect to international data, the capacity is simply oversold by SLT typical when there is a monopoly, with limited throughput on Internet use. The result is a restriction in growth.

## **4. RF Spectrum Management**

Within Sri Lanka, the current local competition in the Telecommunications Sector is exclusively via wireless technologies—with SLT retaining a monopoly position on provisioning landline services. This is the case with the two fixed WLL operators and the four Mobil operators. This approach places a high demand on Spectrum management, to ensure there are not unlicensed operators using spectrum and that the allocations are such that they minimize radio interference. Efforts are underway by TRC to acquire, install, and operate frequency monitoring and management tools to ensure this aspect of regulation is addressed as early as possible. This is especially critical with respect to not only voice, but also providing expanded Internet access via wireless solutions (currently via WLL, but soon via GSM).

## **5. Urban/Rural Access**

Current estimates place the teledensity in Sri Lanka at approximately 2.8/100. However, there is a wide disparity between Colombo (estimated at 10/100) and the rural areas (estimated at less than 1/100). This lack of rural connectivity is an area where pure market forces will not deliver adequate coverage—telephones or Internet. At present private pay phone companies are



encouraged to provide rural access via a 1/3 cost subsidy provided via TRC (collected as part of the .3 percent VAT on IT imports). Existing rural TeleCenters which mostly have offered only telephony are increasingly beginning to offer computers and Internet access. This appears to be having marginal impact. Other more creative efforts are beginning to appear. One such effort is a joint undertaking between Sri Lanka Telecom, UNESCO, CINTEC, TRC, etc. where a Rural TeleCenter effort in association with a Community radio station (Kothmale Internet Community Radio Project) was put into place as a pilot—four other similar sites are planned in the future. Another promising TeleCenter activity is being developed/piloted by Sarvodaya. They are looking to set up TeleCenters at their District Offices villages (33 total) as well as their Pioneering Villages, with those living in the nearby villages provided access via human interfaces. These activities are especially attractive in that they build on existing efforts—be in community radio or long-standing community development efforts.

### *Conclusions*

Sri Lanka's Telecommunications Sector is undergoing rapid expansion with the establishment of the Telecommunications Regulatory Commission (TRC) and the introduction of competition in the local marketplace with two licensed Wireless Local Loop (WLL) providers as well as expansion in the number of Internet Service Providers (ISPs) actively engaged in the market. However, there remains a relatively low teledensity (currently estimated at 2.6 per 100 now, with 3.3 forecast for the year 2000). Computer/Internet use is also relatively low. There is also a significant disparity between Colombo and the rest of the country relative to distribution of phones and international Internet access, with the rural areas having minimal access. International bandwidth is estimated at a total of 4Mbps with recent expansion to a second 4Mbps.

# III—INFORMATION TECHNOLOGY IN THE GOVERNMENT SECTOR

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## Introduction

Within the GSL, there is a increased focus and deployment of Information Technology (IT) in a number of Ministries. Overall this is resulting in a growing awareness and reliance on IT for automating various services provided to the public. The following reflect some of those encountered as part of our Assessment that are worth documenting.

**CINTEC**—Clearly the lead organization within the GSL for providing a comprehensive and long-term engagement in IT-related activities is the Council for Information Technology (CINTEC). Formed in 1984, CINTEC originally and directly under the Office of the President. At present it is under the Science and Technology Ministry. Chaired by Professor V.K. Samaranyake, CINTEC has been instrumental in first bringing about an initial awareness of the leveraging of IT, and subsequently in leading a number of initiatives that have helped shape the GSL's overall direction. CINTEC has formed a number of Committees dealing with various elements of IT, including Interconnect (Internet), Security, Legal, Certification, Electronic Data Interchange (EDI), etc. CINTEC also provides the GSL with its point of representation with the World Trade Organization (WTO) for Trade issues, and the International Telecommunications Union (ITU) on regulatory issues. In addition, CINTEC provides management and operations for Internet Domain naming for Sri Lanka (domain "lk"). In 1998 CINTEC was instrumental in naming 1998 as "Year of IT"—a name that has been expanded to years 1999, 2000, and 2001. CINTEC is in the forefront of pushing legal and regulatory reform in Sri Lanka (*See* Section V of this report).

**CYBER TRADER**—One of the more recent, and perhaps one of the most aggressive uses of IT within the GSL has been within the Sri Lanka Export Development Board (EDB), which is under the Ministry of Internal and International Trade. This includes the reliance on IT for delivering a number of services under the banner, "Cyber Trader," with a special focus on leveraging the Internet. This set of services was put into place in May of this year with EDB providing it's own ISP services as well as delivering some Internet services to other Ministries. EDB provides trade information, search and advisory services, and promotion in the use of IT amongst the government and exporters. In addition to the Internet, EDB makes CD-ROMs in support of trade missions, specific requests, etc. EDB has started five regional centers in secondary cities and at present its Internet Web Site receives on average 200 accesses a day, and it's center 8-10 requests for business advisory services per day. An estimated 50 deals are made each week. EDB has a staff of 15, with an additional 2 located in each of the centers. While currently not deploying E-Commerce in a pure transaction sense, the services of Cyber Trader are within the realm of E-Commerce by providing information on over 350 Sri Lankan products in 40 different sectors, in support of export promotion.

**PRIU**—The Presidential Research and Implementation Unit (PRIU), which is part of the Foreign Ministry, is nearing completion on a National Web Site for the GSL. This Web Site is currently scheduled to be introduced within the next month, and will provide a broad-array of GSL information from all Ministries (<http://www.priu.gov.lk> and <http://www.lk>).

**Customs**—Beginning in 1992, Customs, with assistance of the International Monetary Fund (IMF), launched a major automation effort at improving their internal operations. This system, Automated System for Customs Data (ASYCUDA), has been developed in cooperation with UNCTAD and is used in approximately 70 countries. By 1994 they had completed the capturing of customs declarations, and in 1996 they had the Declaration processing on-line. At present this system is only accessible at the main Customs House. However efforts are now underway to implement a newer “plus plus” version of ASYCUDA which will allow for use/data entry by the customs agents at multiple locations (e.g., airport, terminal, etc.). This should be in place and operational within 2-3 months. At present the ASYCUDA system does not interface with other related systems such as shipper, freight forwarders, the Port Authority system, etc., and as a result, the custom clearance process still required manual processes at both ends of the transactions, even though the systems captures all of the data.

**Sri Lankan EDI Network Services (PVT) Ltd.**—This privately structured company was created three years ago by state agencies i.e. EDB, Customs, the Port Authority, the Freight-Frowarders Association, the Ministry of Telecommunications and others to develop and implement computerized network allowing for more efficient, transparent and accountable trade with the outside world. This company is housed within the CINTEC offices and is currently working to finalize the acceptance by the Cabinet of its strategic partner General Electric IS which was selected through an international tendering process and to increase awareness and interest amongst its shareholders.

## **Findings and Conclusions**

### *Findings*

While broad-based reliance on IT is not wide-spread within the GSL, it is clear there is a high level of awareness and a number of areas are starting to surface with respect to implementing IT-enabled applications. Overall there is general sense that the GSL lags the industry’s deployment of IT solutions. Specific areas surfacing include the following:

#### **1. Year 2000**

In October of 1998, a Team from USAID/Washington (ENI Bureau and IRM) undertook a preliminary Y2K assessment in Sri Lanka, which included assessing the conditions of the Mission itself, it’s development portfolio, and the host country environment. Host country data was primarily obtained from Professor Samaranayake of CINTEC, who provided the national Y2K coordination. In October 1998 the situation was encouraging in that a central point of coordination/management was established, actions were already underway in coordination with the World Bank, and there was an increasing level of engagement on this topic across the government. A meeting with B.R.O. Fernando, the National Y2K Coordinator at CINTEC

during the course of this Assessment confirmed a continued engagement during this past year. Substantial progress has been made across the board on government-provided or regulated systems, including electrical, telecommunications, water and waste water treatment, ports, customs, etc. In addition to redemption, continuity and contingency plans have been and/or are being prepared which should minimize any disruptions. There was a general optimism about the GSL preparedness with respect to Y2K, and only minimal disruptions occurred. Potentially the longest-term impact of the Y2K problem may well be the fact that it diverted limited IT resources from moving forward with their existing plans in order to ensure that the Y2K issue is addressed. This has had the impact of slowing the GSL's adoption of IT into its operations—at least temporarily. One area of some concern is in the health sector where there is such a high use of imbedded chips. This has also surfaced within the US—especially with regards to the smaller rural clinics and doctors' offices.

## **2. GSL leadership**

Throughout virtually all of our discussions the issue of leadership within the GSL on IT-related issues surfaced—with the near universal message being that not enough is being done, fast enough! Those interviewed were very circumspect with regards to CINTEC's established and historical role in this arena over the past several years. However, there was a broad-based, and independent acknowledgement that as it has risen in its importance across the government, other ministries besides the science and technology ministry have a growing stake in it issues, and there is a resultant slowing down of progress on key issues needing attention. While politely stated, there was a general perception that at present there is a lack of leadership within the gsl on it, and that this is a key mission component that is having an increasingly adverse impact on not only the government, but also the private sector as it does not have a strong visionary government partner with which to move forward.

## **3. Integration**

The current state of IT within the GSL is largely a number of efforts getting underway to resolve specific problems, but few if any integrate with complementary efforts underway in other ministries. This is typically part of a normal life cycle in the evolution of automation, where isolated and local requirements are satisfied first, and after these are met, integration is examined for yet further possible improvements. While it would be nice to “leapfrog” over this traditional approach, without strong leadership, a master architecture, standards, etc., it's unlikely to take place within the confines of the GSL.

### *Conclusions*

While perhaps getting off to a slow start, the GSL is increasingly relying on IT for automating key internal Ministry processes. This growth in use and sophistication will undoubtedly continue. The Year 2000 issue faced by the GSL, as well as the private sector, has likely resulted in some slowness in adopting newer solutions as limited resources have had to address this critical issue. In spite of Y2K however, there are a number of encouraging signs relative to the Government of Sri Lanka's (GSLs) increasing use of Information Technology (IT). Increasingly various Ministries are acquiring personal computers (PCs), installing Local Area Networks

(LANs), databases, and Internet access. Many of these systems however do not fully automate any given process, with manual procedures in place in front of, and behind those functions that have been automated. In addition, few of these systems are interconnected or integrated with systems in other departments. The result of these partial solutions is that there is a less-than-optimal return on these investments.

# IV—INFORMATION TECHNOLOGY IN THE PRIVATE SECTOR

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## Introduction

During the course of this Assessment, a number of meetings were held with private IT-related firms in Colombo. With limited time available in country, rather than examine the broader private sector in general, the focus was aimed at those companies directly engaged in the IT sector—firms with specific activities in E-commerce where possible. The following were some of the highlights.

**ITMIN/CeyCom**—At present ITMIN operates as a value-added Internet Service Provider (ISP) and in conjunction with CeyCom/Golden Key, provide a CyberMall for approximately 100 local Sri Lankan merchants selling a total of 5,000 products. Sales transactions are carried out over the Internet with an estimated volume of US\$60K/month. The CyberMall (<http://www.avakasakade.com>) allows customers to purchase their products over the Internet via either a Golden Key Credit card (local card issued by Golden Key Credit Card Company), or VISA. While the customer process is automated, current practices for validation are manual, with the credit card validated through a local bank over the phone. Upon clearance/approval the purchase transaction is manually sent to the appropriate merchant where the product is provided back to CeyCom for packaging and shipping. Golden Key assumes all the risks associated with product returns in that to date the VISA Licensee will not cover product returns. At present this CyberMall is just completing an initial pilot period during which time the processes were refined and merchants added. ITMIN/CeyCom are presently planning to rapidly expand their marketing for this site in the near future.

**E\*Trade**—E\*Trade is a new startup company, just one year old, that is a joint-venture between System-Ware Labs (Pvt.) Ltd. and Nutec System Integrators (Pvt.) Ltd. Their focus is, “Helping People to Conduct Business in an Electronic World.” ETL specializes in offering companies E-Commerce solutions and SmartCard Technology—first in Sri Lanka but also in the South-East Asian markets. ETL has made arrangements with Nobil IT (a subsidiary of Keycorp Limited) to provide their solution to businesses and individuals that allow for making payments over the Internet via Credit and Debit cards. This is a fee-based service that is aimed at allowing Sri Lankan businesses to conduct business over the Internet in a highly secure environment. In addition, ETL has signed a joint-venture with BGS Smart card Systems AG to promote, market, implement, and service their Dual Universal Electronic Transactions (DUET) in Sri Lanka and South-East Asia. The DUET system provides for electronic transactions in low-access, off-line environments by placing intelligence into the card (e.g., spending limits, etc.) with periodic account balancing taking place by putting the card into a reader.

**e-WIS/IBM**—East-West Information Systems (e-WIS) is a IT solution provider, primarily selling IBM solutions. Their office consists of 195 people and just recently have expanded to provide ISP services in addition to hardware, software, and consulting services. Their focus in

moving into the ISP arena is to leverage their position with IBM in the area of E-Commerce by developing a CyberMall (<http://www.ewisl.net>). e-WIS sales of personal computers (PCs) is on the order of 10,000/year and they estimate they have approximately 20 percent of the market.

**Millennium Information Technologies**—Millennium IT is a successor to the Open Systems Divisions of ComputerLand (Pvt) Ltd. This firm was spun off in 1996 with a focus on developing sophisticated high-end software for the world market. At present Millennium has 150 employees and has developed close ties with Sun Microsystems, Cisco, Oracle, TIBCO, The Baan Company, Infosys Technologies, Netscape, etc. The company has developed a series of highly sophisticated solutions including; a) GlobEX, an automated trading system that has been deployed in Sri Lanka to automate the local stock exchange, b) Centory, a Central Depository System, and c) LiteSet, a real-time settlement product. In addition, Millennium has developed a leading-edge solution for integrating the Mobil GSM phone system into the Internet with a product called “AnyWare.” This system is truly state-of-the-art and allows for providing a virtually-limitless array of textual information to be accessed via a GSM phone (e.g. weather, stock quotes, news updates, etc).

## **Findings and Conclusions**

### *Findings*

Clearly the above sample of IT companies is not comprehensive with respect to assessing the IT Sector in any comprehensive manner. The Sri Lankan Competitiveness Study, carried out for USAID, and published in September 1998, contains a more comprehensive macro, micro, and firm level assessment—with some attention on the IT-sector.

However, in examining this earlier study and in our brief discussions with these firms, several themes emerged from these private sector firms focusing on IT.

### **1. Banking**

With no exception there is a common with respect to the banking sector in Sri Lanka when it comes to IT-related businesses. In summary, it's simply a very strong “risk avoidance” prepositioning by the banks. First, this applies to the virtual total lack of any venture capital or openness to making loans to IT firms that have even a modest amount of risk. Second, the banking sector, with the exception of Golden Key Credit Card Company (and in fact Golden Key is actually not a bank and only for their own use), is totally risk avoidance relative to Internet-based credit card validation and verification. Interestingly a bank offering VISA services will validate a transaction over the phone, but not over the Internet—which remains a manual process. For any substantive improvements in E-Commerce to take place, this one simply needs to be resolved.

### **2. Government**

With no exceptions there is a strongly-voiced need for the GSL to take a leadership role in E-Commerce and in facilitating the building and strengthening of an IT Sector within Sri Lanka.

While the general concern is that CINTEC is not adequate for this purpose, is not highly-enough placed, and may suffer the requisite dynamic leadership, these firms see a key roll for GSL-led facilitation to resolve issues still in the way. Key areas needing government leadership is thought to be in creating markets overseas for Sri Lankan IT products (primarily software), working within government private sectors on a national certification capability, increase the number of IT-graduates to feed the sector, and move on key legislation (e.g. intellectual property rights, etc.).

### **3. Human Capacity**

While the Sri Lankan education system produces high-quality graduates and they are in local demand, ultimately with the local wage rate these firms are finding it hard to retained highly-skilled IT personnel. With the borders as open as they are relative to immigration, there is little financial incentives for these individuals to stay in-country. One approach being used is stock options/company ownership options for employees, but even here this is practiced by these firms on a somewhat limited basis with limited results.

### **4. IT Sector**

There is a general sense that Sri Lanka may have lost its primary opportunity for developing a strong hardware-based IT Sector. While geographically positioned well in the region, and with a highly-talented and trained workforce, there is the possibility to improve this situation, there are little if any incentives to entice. Even with respect to software development there is a general sense that the limited workforce makes Sri Lanka more suitable for high-end software development rather than low-value-added IT services frequently attracted to India by its English language, large population, and low wages (relative to developed countries).

### *Conclusions*

There are a number of local Sri Lankan firms which have been laying the foundation for introducing IT-facilitated commerce over the Internet. In addition, Sri Lanka already has a number of exports that lend themselves to Internet marketing (e.g., high-quality teas, gems, etc.). The Internet provides an opportunity for Sri Lankan firms to move upstream toward the customer and secure added profits not simply from the export of low value-add raw materials, but to higher value-added processed goods and services. However, is at present a lack of government leadership to help develop world markets for these goods, and at present the local banking sector is not supporting this potential dynamic by taking an ardent risk-avoidance approach.



# V – LEGAL AND REGULATORY REFORM

While e-commerce presents many important new opportunities, it raises complex issues. A functional and comprehensive legal and regulatory infrastructure is imperative for e-commerce to flourish.

## Introduction

Sri Lanka is a Democratic Socialist Republic. Sri Lanka's present Constitution, promulgated in 1978, provides for a strong executive President who is both the chief of the State and head of the government. The President is elected by popular vote for a term of six years for a maximum of two consecutive terms. The President appoints the Prime Minister, and the Cabinet of Ministers with the consultation of the Prime Minister. The Government is vested in the Cabinet made up of ministers collectively responsible to the Parliament. The Cabinet is responsible for government policy, the administration is carried out by the public service.

The legislative power is vested with the Parliament which is unicameral and currently has 225 members. The members of the Parliament are elected by popular vote on the basis of a modified proportional representation system to serve six-year terms, with no term limits. Draft legislation is normally worked out within the administration, coordinated between the ministries involved, approved by the Cabinet and submitted to Parliament for assent. New legislation may also be initiated by the members of the Parliament.

Sri Lanka has an independent judiciary and a system of courts made up to the Supreme Court, the court of appeal, high courts, district courts, and courts of first instance. The courts of first instance are the primary courts and the magistrate's courts. There are district courts in each of the 25 territorial districts, and these function as civil courts of general jurisdiction. There are 9 provincial high courts which have original jurisdiction over major crimes and hear appeals from the magistrate's courts. The court of appeal was created in 1978 as the intermediate appellate court, with a further limited right of appeal to the Supreme Court. The Supreme Court consists of the Chief Justice and between six to ten other judges. The Court of Appeal consists of the president and between six to eleven other judges. The Chief Justice, the President of the Court of Appeal and every other judge of the Supreme Court and the Court of Appeal is appointed by the President. Such judges can be removed from the office only by an order of the President made to the Parliament, supported by a majority of the total number of members of the Parliament. Judges to the lower courts are appointed and/or removed by the Judicial Service Commission, which comprises of the Chief Justice, and two judges of the Supreme Court, nominated by the President.

The Constitution also provides for a Parliamentary Commissioner for Administration (the Ombudsman), who may use informal dispute resolution as an alternative to possibly costly and time-consuming judicial procedures.

Sri Lankan legal system is a highly complex mosaic of legal systems springing from sources as diverse as the English law, the Roman-Dutch law and the indigenous custom.<sup>5</sup> The Roman-Dutch law continues to govern most aspects of family law, property and succession, obligations and non-commercial contracts. Most of the commercial law, however, is based on the principles of English law. Even today, the courts continue to draw on English statutes and cases as sources. Sometimes, however, each of the legal systems has its peculiar rules relating to a commercial transaction, which can result in confusion in trade and business. Due to the complexity of the Sri Lankan legal system, there is no uniform commercial law applicable throughout the island.

## **Findings and Conclusions**

Rapid developments in the information technology sector and growing e-commerce Activity has brought about a whole new dimension to a country's commercial law and policy framework. It is widely recognized that there is an urgent need to create a conducive environment for the information technology sector to develop and grow, and to provide a safe and secure environment for e-com activity to flourish. This section summarizes the findings of the assessment team with respect to the existing legal and regulatory framework in Sri Lanka, and the on-going reform that would have an impact on the development of the IT sector and e-com activity in the country, and identifies subject areas that need legislative intervention.

### **1. Generally**

Sri Lankan commercial law is almost entirely statutory.<sup>6</sup> It was codified before independence in 1948 but has been amended to keep pace with the modern times. Sri Lanka has laws regulating companies, partnerships, cooperatives, agency relationship, and public corporations, taxation, labor, industrial disputes, insurance, banks, credit and financial institutions, arbitration and industrial property, most of which are based on the English law, either through statute, judicial decision or usage. Sri Lankan criminal and evidence laws have also been codified and are based on the Indian Penal Code and the Indian Evidence Act respectively, which are in turn codification of the English law. Similarly, the Sri Lankan Civil Procedure Code and the Criminal Procedure Code are both based on English law and codified on the pattern of the Indian Civil and Criminal Procedure Codes.

None of these existing laws, however, even remotely accommodate the new developments in the IT sector or any characteristics of e-commerce. In fact, most of them can be interpreted in such a way so as to be restrictive and imposing impediments to e-commerce activity in the country. For instance, the Sri Lankan Penal Code applies only to tangible property. Crimes directed at information and/or intangible property (such as unlawful access to information, alteration, deletion, abstraction, obstruction of information) are therefore outside the ambit of the Penal Code. In a case that involved theft of electricity, the court held that since electricity is intangible, its theft does not fall within the ambit of the penal Code. This situation, however, as it applies

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<sup>5</sup> There are three systems of personal customary laws, applicable to the Kandyan Sinhalese, the Jaffna Tamils, and the Muslims, that play a major role in the contemporary Sri Lankan legal system.

<sup>6</sup> See the bibliography for a list of existing commercial laws in Sri Lanka.

to computers and/or computer related information, is being remedied through the new proposed Computer Crimes bill that is pending for approval at the ministry level/parliament. Similarly, Sri Lankan contract law does not address the sanctity of contracts entered into electronically.

There is a need for substantial law and administrative reform to create a conducive framework that will accommodate the increasing use of information technology and the new electronic environment in modern day-to-day transactions. For instance, existing law will need to be reformed so that it will accommodate electronic transmission and interchange of information between parties, protect against crimes such as commercial fraud utilizing information, and provide legally secure environment for electronic banking transactions. Another area that needs special attention is electronic credit and debit instruments, and related consumer protection issues. Currently, there are no regulations or guidelines covering this area. As the use of the Internet continues to grow, new law and regulation will need to be put in place to regulate Internet-related activities. At present, there are no laws that address any aspects of Internet-related activities in Sri Lanka, or protection of domain names.

## **2. Intellectual Property Protection**

The Code of Intellectual Property Act No. 52 of 1979, and subsequent amendments in 1980, 1983 and 1990, modeled on the draft prepared by the World Intellectual Property Organization (“WIPO”), are the primary sources for protection of intellectual property, such as patents, trademarks, service marks, trade names, copyrights, and industrial designs. The code does not explicitly provide for protection of computer software, data and multimedia works. Trade secrets are not protected under the current law. There are both civil and criminal penalties for infringement of intellectual property. The Code introduces the concept of protection against unfair competition. The action for passing off is a remedy available in common law, not specifically reserved for statutory law. The intellectual property protection system, although fairly established and non-discriminatory, is fraught with inadequate enforcement mechanisms and long delays. Electronic infringement of intellectual property rights is a complex issue that needs to be addressed adequately. Enforcement of intellectual property rights and protection of trademarks are becoming increasingly difficult due to the borderless nature of the Internet. Transparent, effective and enforceable mechanisms for intellectual property protection in Sri Lanka are imperative, particularly for businesses seeking to transfer skills and perform substantial value adding functions in Sri Lanka. Apparently, there is a pending bill that specifically addresses intellectual property rights in information technology products. The National Intellectual Property Office is in the process of being computerized. Once the automation is complete, it is estimated that the volume of both local and international intellectual property protection filings will increase due to electronic connectivity with foreign and international intellectual property protection administration agencies.

Sri Lanka is a party to the Paris Convention for the Protection of Industrial Property, the Madrid Agreement for the Repression of False or Deceptive Indication of Source on Goods, the Nairobi Treaty for the Protection of Olympic Symbol, the Patent Cooperation Treaty, the Berne Convention for the Protection of Literary and Artistic Works, the Universal Copyright Convention, the Convention establishing WIPO, the World Trade Organization including Trade

Related Aspects of Intellectual Property Rights (“TRIPS”) Agreement and the Trademarks Law Treaty. Most of its IP laws are compliant with the requirements under TRIPS. Some changes to its IP laws, however, will need to be made before Jan. 1, 2000 to bring them in full compliance with the TRIPS Agreement.

### **3. Registration of Domain Names**

CINTEC administers the overall domain name registration system in Sri Lanka. The domain name registration policy does not address issues related to disputes and there is currently no law for protection of domain names in the country. Disputes involving trademarks and domain names are on the rise, as many famous trademarks are being misappropriated and used as domain names by third parties. There is a need for a comprehensive domain name registration policy that will address issues such as prior user rights, revocation of domain names, and other administrative concerns.

### **4. Competition Law**

Monopolies, mergers and anti-competitive practices operating against “public interest” are governed by the Fair Trading Commission (“FTC”) Act and its subsequent amendments (Industrial Promotion Act No. 46 of 1990 and the FTC (Amendment) Act No. 57 of 1993). FTC is responsible for investigating activities that fall under the purview of the FTC Act, but it has no enforcement powers. Companies acquiring a market share of over one third must notify this to the FTC, and FTC has 21 days to decide whether to open an investigation. However, effective action in areas of competition policy appears hampered by the limited mandate and staffing of the FTC; to date there has been just one case in this area. Cartels are not covered by the FTC Act or any other legislation. Under the Industrial Promotion Act, the FTC may carry out inquiries into prices of products.

### **5. Consumer Protection**

FTC’s activities overlap with those of the Consumer Protection Unit (“CPU”) under the Department of Internal Trade of the Ministry of Trade, Commerce and Food. The CPU is empowered to prosecute, under penal law, misleading labeling requirements, sale of sub-standard products, hoarding etc. A policy task force has proposed the amalgamation of the FTC and CPU, and has recommended the establishment of a Commission for Consumer Affairs and Fair Trading and a tribunal with enforcement powers.

### **6. Laws Relating to Foreign Investment**

Sri Lanka has an open foreign investment policy. The principal law affecting foreign investment is the Board of Investment (“BOI”) Act of 1978, as amended several times to open Sri Lanka to foreign investment. The BOI Act provides for investment approvals permitting entry of foreign investment to operate under the “normal” laws of the country. There are no restriction on foreign ownership, except in certain specified sectors. Government recently liberalized import license controls. Items that still remain under license control, are mostly for health and national security reasons. There are no export controls other than on four categories of exports: coral chunk and shells; wood and articles of wood; ivory and antiques. Imports are monitored by a special

investigating unit of the Department of Customs, and the clearance of import consignments is supposedly speedy and hassle-free, as the Customs department is fully computerized. It appears that the Customs department is not adequately trained to monitor and/or control the importation of counterfeit goods.

## **7. Laws Relating to Securities, Mergers & Acquisitions**

Other laws affecting foreign investment are the Securities and Exchange Commission (“SEC”) Act of 1987, the Takeovers and Mergers Code of 1995, and various labor laws and regulations. The Mergers and Acquisition Code, modeled largely on the London City Code on Takeovers and Mergers, is fairly comprehensive and prescribes a facilitatory procedure to be followed in a takeover or a merger transaction. The Code does not deal with issues related to competition policy and the creation of monopolies, which are matters that fall within the purview of the fair Trading Commission. Proposed revisions to the Code are pending which are intended to further clarify the ambit of existing provisions, introduce a greater degree of flexibility into the applicability and operation of the Code, enhance disclosure and standards of accuracy with regard to information released in connection with acquisitions and mergers, and vest more discretionary powers with the Securities and Exchange Commission with regard to the application of the Code. From discussions with the SEC, it appears that SEC is quite active in initiating and conducting investigations with respect to insider dealings, market manipulations, and issues related to disclosure and investor complaints.

## **8. Dispute Settlement**

New Arbitration Law of 1995 replaces the arbitration provisions under the Arbitration Ordinance of 1866 and the Civil Procedure Code of 1889. The old law was both cumbersome and dilatory and had prevented arbitration from being used as an effective method of speedy dispute resolution. This new law is based on the United Nations Commission on International Trade Law (“UNCITRAL”) model law arbitral provisions, taking into account particular features of International Commercial Arbitration. All BOI agreements provide for reference of investment disputes for settlement by arbitration under the rules of the International Chambers of Commerce.

## **9. Implementing Multilateral, Regional and Bilateral Agreements**

The Constitution states that in order to have the force of law, all international treaties and agreements have to be approved by a two-third majority of the Parliament. It does not however happen this way. Most of the times, specific legislation is enacted which complies with international treaties and agreements. Sri Lanka is a party to numerous multilateral and regional agreements, such as WIPO, WTO, SAARC, MIGA, UNCTAD, and bilateral trade agreements with over 20 countries relating to insurance, services, investments etc.

## **10. Enactment, Administration and Implementation of Law & Policy**

- i. **How Government Formulates an Act:** The Ministry of Justice is entrusted with the drafting of new proposed legislation. The demand for the new legislation generally arises from the relevant ministry, by way of a Cabinet Memorandum which outlines the scope and the objectives of the proposed legislation. The Memorandum, once approved by the Cabinet, is forwarded to the Legal Draftsman Department (“LDD”) within the Ministry of Justice, for drafting. The drafts are circulated to the relevant ministries for review and become Final Bills after revisions, if any. The Final Bills are then sent to the Attorney General for review to confirm their constitutionality, and are simultaneously translated into Sinhala and Tamil. The Bill is then submitted to the Cabinet for fresh approval, and is also gazetted in all three languages to invite public comment. The public can challenge the Bill during the brief mandatory period, after which the Bill is submitted to the Parliament for debate and approval. Once the Bill is passed by the Parliament, it becomes the law and is published in all three languages by the Government Printer. The same procedure applies to an Amendment to an existing act. This process from the beginning to the end can take anywhere between 3 months to 5 years depending on the subject area of new legislation, and political undercurrents. One major bottleneck, however, is the mandatory requirement and its rigid timing that each bill be published in three languages: English, Sinhala and Tamil before it is gazetted for public comment. Such a requirement should be done away with. Other problems relate to public’s access to proposed legislation (i.e., the gazette) and the little time public has to react to/challenge any proposed legislation, i.e., seven days. The mandatory period for public comment should be extended to at least 3-4 weeks to invite meaningful participation. Also, instead of gazetting the bill, the government should make the bill available on the Internet to ensure wide access and publication. The public debate process should be completely open and transparent.
- ii. **Delegated Legislation:** It is characteristic for the Parliament, the supreme legislative authority, to delegate law-making power to other persons or bodies, such as to ministries and government officials, local authorities and various *ad hoc* committees formulated especially to enact implementing regulations. Ministries and government officials are empowered to issue departmental or ministerial regulations, rules, orders etc.; local authorities are vested with the authority to enact by-laws. One of the major problems today is that there is no composite list of regulations that are currently in place.
- iii. **Implementing New Legislation:** Because the legal community, including the judges and the practicing bar, lacks an understanding and an appreciation of new areas of law, the intended purpose of enacting new legislation is defeated. Therefore, it is imperative that the legal community be adequately trained. Also, some restructuring of the judicial appointment process may be necessary to ensure that top quality judges are appointed to important judicial postings.

## **11. Impediments to Implementation and Enforcement of Existing Law & Policy**

It appears that laws and regulation are in place but the regulatory system allows for far too much leeway for bureaucratic discretion. The bureaucracy is lethargic, incoherent, indecisive and unmotivated. Companies have experienced unexplained delays in getting their projects approved. There is a lack of transparency, effective implementation and enforcement mechanisms seem to be lacking and interagency coordination problems exist.

Corruption seems to be prevalent in various government agencies in Sri Lanka. Sri Lanka does have fairly adequate laws and regulations to combat corruption, but they are unevenly enforced. Law imposes severe penalties on those found guilty of bribery and corruption, but few have been found guilty of corruption.

## **12. Establishment of Council for Information Technology (CINTEC)**

CINTEC is the national apex agency for IT in Sri Lanka, and functions under the Ministry of Science & Technology. CINTEC was established by the government by Act No. 10 of 1984, as amended by Act No. 11 of 1994. Some of the CINTEC activities relating to e-commerce include: registration of domain names;<sup>7</sup> EDI Network Services;<sup>8</sup> IT Law Centre;<sup>9</sup> IT Centre;<sup>10</sup> hosting Workshops and other Awareness Promotion Activities; hosting Sri Lanka's National Web Site.

## **13. On-going Legal & Regulatory Reform related to IT**

On-going reform in Sri Lankan law and policy confirms the government's keenness to realize the potential of e-commerce and promote its development in the country.

- i. Amendment to Evidence Law: In 1995, the law of Evidence in Sri Lanka was reformed through the enactment of the Evidence (Special Provisions) Act No. 14 of 1995. The reform was undertaken by CINTEC's Committee on Law and Computers. The Evidence Ordinance enacted in 1895 was considered inadequate to deal with issues that are likely to arise from modern transactions, which were

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<sup>7</sup> CINTEC functions as the domain name registry for the Sri Lanka domain (.lk) and serves as the Network Information Centre for Sri Lanka (LKNIC). About 200 domain names have been registered so far.

<sup>8</sup> In 1995, CINTEC established the National EDI Committee to work on an EDI project for Sri Lanka. The Committee further established the Sri Lanka EDI Network Services (Pvt.) Ltd. ("SLENS") in 1997 to establish an EDI switch in Sri Lanka.

<sup>9</sup> CINTEC's Committee on Law and Computers established the IT Law Centre in 1996. The Law Centre undertakes activities such as awareness promotion, training, publication and dissemination of information, and research, and engages in the formulation of proposals for substantive laws on EC related subject areas, such as computer crimes, misappropriation of property and fraud, data protection, reform of intellectual property laws for protection of computer software, electronic banking and digital cash, and Internet and the law.

<sup>10</sup> CINTEC has obtained government approval and funds to set up an IT Centre and intends to provide assistance to both local and overseas software developers and IT related service providers, to facilitate development of state-of-the-art infrastructure including data communications.

either assisted by or totally dependent on computers and communications. The amended law makes provision for the admissibility of information produced by computers and other electronic devices. Further consideration should be given to making improvements to the law to accommodate records of EDI and e-commerce.

- ii. Proposed Computer Crime Legislation: Since the penal laws of Sri Lanka are founded on principles that are over a hundred years old, they have to be reformed to deal with computer related crime and commercial fraud. CINTEC has drafted the Proposed Computer Crimes Act of 1998 which is yet to be approved by the Parliament. As noted before, the parliamentary approval process is ridden with unnecessary delays in pending bills becoming into law.
- iii. Proposed Data Protection Act: CINTEC has commenced work on a Data Protection Act for Sri Lanka, which intends to address the growing concern about the protection of individual privacy. CINTEC is deriving guidance from the EU Directive on Data Protection and from the UK's new Data Protection Act, repealing the Data Protection Act of 1984.
- iv. Electronic Commerce and Law: CINTEC has established a Sub-committee on Electronic Commerce to set up the legal infrastructure to facilitate e-commerce. The Sub-committee intends to address the following issues: types of electronic transactions to be covered; legal recognition, retention and attribution of data messages; the manner in which requirements for writing, the placing of signatures and an original document can be satisfied in an electronic medium; admissibility and evidential value of data messages; formation and validity of contracts; liability of third parties, such as the operators of value-added-networks; codification of trading partner agreements; and consumer protection issues. The Sub-committee will consider whether to update the law by enacting new framework e-com legislation, or enacting such framework legislation together with more detailed amendments to the existing laws.

Any proposed legislation should be uniform and conform to existing international standards. This thrust will be key to enable businesses to trade confidently with overseas partners. It would be prudent to take cognizance of the work undertaken in other countries and by international organizations. In addition, it is important to ensure that there is inter agency/ministry coordination in these endeavors to avoid duplicative efforts. For instance, the Ministry of Trade is engaged in preparing a draft on e-commerce law. So is the Ministry of Science & Technology. But neither of the ministries were aware of the other's endeavors. One effective way to facilitate inter-ministry coordination is to have computerized network so that the ministries can communicate efficiently.

- v. Electronic Security: The CINTEC Committee on Electronic Security, formed in February 1999, intends to address issues such as the infrastructure necessary for



electronic security, establishment of a certification authority, and to recommend to the Sri Lanka Standards Institution, the standards to be adopted as security standards and recommended practices.

#### **14. Y2K Initiatives**

The Government of Sri Lanka undertook a substantial effort towards handling the Year 2000 (Y2K) problem. In 1998, CINTEC established a National Task Force to monitor the Y2K compliance programs of the country and to ensure the readiness of vital economic sectors and utilities that are heavily reliant on computer processors; telecommunications, power and energy, operations of air and sea ports, banking sector, health sector, travel and transport, and defense and immigration.

#### **15. Examples of IT Utilization in Sri Lanka**

The Government of Sri Lanka seems to be an important player in e-com activity in the country; it not only regulates e-com but is an actual user based on the following examples, which involve development of e-com interface between the government and the user.

- i. Computerized Sri Lanka Ports Authority – MARINET: All shipping agents involved in the container handling activities (approx. 30) are connected electronically with the Sri Lanka Ports' Authority (SLPA) computer through the MARINET system, which provides access for inquiry and provides facilities to download the Terminal Departure report and the Bay Plan. For achieving further efficiency, SLPA wants to link up all document clearing agencies electronically including freight forwarders, banks, exchange control, import control, insurance companies etc.
- ii. Other examples include Fully Computerized Colombo Stock Exchange with screen based trading; Sri Lanka Customs; Automated Clearing House of the Central Bank; SWIFT Inter-bank network & Intra-bank networks; Air Lanka & SITA airlines reservation system; Department of Immigration and Emigration; Department of Examinations; Utility Billing (electricity, water, telephone); Department of Inland Revenue; and Tourist Industry.

## Appendix A – Assessment Team Members

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**Sonia Baldia**, Attorney, Steptoe & Johnson, Washington, D.C. ([sbaldia@dellnet.com](mailto:sbaldia@dellnet.com))  
Sonia Baldia is an attorney with the Washington, D.C.-based law firm of Steptoe & Johnson LLP, and practices within the firm's corporate and intellectual property practice groups. Ms. Baldia's practice encompasses counseling in international and domestic commercial transactions, intellectual property and technology-related endeavors and disputes, Internet law and electronic commerce. Prior to joining Steptoe & Johnson, Ms. Baldia practiced with the law firm of Brobeck, Phleger & Harrison LLP in New York, and was a member of the Adjunct Faculty at the George Washington University Law School where she taught seminar courses in *Intellectual Property Antitrust Law* and *Technology Transfer Policy and Practice*. She has also held positions as a visiting fellow at the Max Planck Institute for International and Foreign Patent, Copyright and Competition Law in Munich, Germany, and at the Research Centre for International Law in Cambridge, U.K. Ms. Baldia's educational background includes a doctorate (S.J.D.) degree in intellectual property law from the George Washington University Law School; a Master of Laws (LL.M.) degree in international trade from University of Georgia; a Bachelor of Laws (LL.B.) degree from University of Delhi; and a Bachelor of Science (B.Sc.) degree from Punjab University, India.

**Richard Howard**, Program Manager, USAID/G.EGAD.EM ([rhoward@usaid.gov](mailto:rhoward@usaid.gov))  
Richard Howard is a Manager in the Global Bureau of USAID, and is an expert in the area of legal and institutional reform. In his work at USAID, Mr. Howard has managed the Model Computer Commerce Law Project for the agency. In 1998, he organized the Legal and Institutional Reform (LIR) Rule of Law Conference that took place outside Washington, D.C. During this conference, he also moderated the plenary session, which was entitled: "Technology: It Won't Work Without LIR." Mr. Howard's prior experience includes working in the Chicago Regional Tax Office for Price Waterhouse & Co.; he has been associated with the law firm of White & Wenzel and served on the California Joint Legislative Committee Staff and in the U.S. military as a U.S. Navy Officer on the USS new Orleans. Mr. Howard is a lawyer by training, having received his JD from the University of Iowa in 1976; he received his BA in accounting from the same institution in 1969. Mr. Howard is a member of the California and Iowa bars.

**Brad Johnson**, Team Leader, Senior Associate, ARD, Inc. ([bjohnson@arddc.com](mailto:bjohnson@arddc.com))  
Bradford P. Johnson is an experienced attorney with expertise in international rule of law and institutional development projects that rely on the use of new communication technologies. He has designed and implemented conflict resolution, legal and institutional development projects through the U.N., USAID, the OAU, the OAS, the Institute of World Affairs and ARD, Inc. Mr. Johnson is a principal in the private firm of Global Communication Solutions, a communications technology company that provides networking services and support for international development and rule of law projects. At present, he is team leader on the USAID-funded Model Computer Commerce Law Project. This project aims to provide the technical services required to stimulate electronic commerce activities in developing countries through business, legal and

regulatory reform. Mr. Johnson is fluent in Russian, conversant in Spanish, and has a reading knowledge of German. He has been a member of the Washington, DC Bar since 1985.

**Catherine Mann**, Senior Fellow, Institute for International Economics ([clmann@iie.com](mailto:clmann@iie.com))

Dr. Catherine L. Mann is a *Senior Fellow* at the Institute for International Economics. She has just completed writing *Is the US Trade Deficit Sustainable?* which answers some perennial questions about the impact of global integration on the US economy that are now more urgent given the recent global financial crises and the dramatic widening of the trade deficit. Her next book examines the economic and policy implications of electronic commerce over the Internet. It is a primer for foreign policy-makers and also is helpful for businesses considering investment opportunities. It offers common ground to policy-makers in industrial and developing economies to spur forward movement in the upcoming WTO Summit. Previous to the Institute, Dr. Mann held several posts at the Federal Reserve Board of Governors, including Assistant Director of the International Finance Division, was on the staff of the President's Council of Economic Advisors, and worked for the Chief Economist of the World Bank. Dr. Mann received her PhD in Economics from the Massachusetts Institute of Technology and her undergraduate degree is from Harvard University. She has written numerous articles on international trade and finance, publishing in the *American Economic Review*, *Journal of International Money and Finance*, *Brookings Papers on Economic Activity*, and *International Economy*, among other journals and volumes. She wrote and edited with co-authors, *Evaluating Policy Regimes: New Research in Empirical Macroeconomics*.

**Darrell Owen**, Adviser ([darrell\\_owen@msn.com](mailto:darrell_owen@msn.com))

Darrell Owen is currently an international consultant specializing in Information Communications Technologies (ICTs) in developing countries. Prior to forming his own company he worked at the US Agency for International Development (USAID) where most recently he served as the Deputy Y2K Program Manager. His other management responsibilities included the Agency's Information Technologies Transfer (ITT) activity, the Agency's Internet and Intranet activities, and overseeing a Mission Connectivity initiative for improving telecommunications capabilities between the Agency's field locations. Darrell's focus bridges the actual delivery of technology and telecommunications with the business application of these capabilities in developing country settings. Mr. Owen received his BS in Business Management from Portland State University in Portland, Oregon, and his MSA in Telecommunications from George Washington University in Washington DC.

**Karl Stanzick**, Managing Director, MTDS S.A. ([karl@mtds.com](mailto:karl@mtds.com))

Karl Stanzick is an Internet Business and Policy Specialist who has worked with information and communication technologies in the developing world since 1989. Designing and implementing the telecommunications infrastructure required to support Internet access for e-commerce and developmental activities in the most remote areas and under the most economically unfavorable conditions has been one of his primary activities. As the Technical Director for MTDS, Karl pioneered Internet connectivity in Morocco by establishing the first private Internet Service Provider in the country. In addition to servicing the Moroccan public and private sectors with Internet access and value-added services, MTDS is the primary technical contractor for the USAID Leland Initiative and has installed and currently maintains the primary Internet gateways for six sub-saharran African countries using the latest appropriate technologies. Before joining

MTDS, Karl set-up and maintained the security and communication systems for USAID/Benin. After his schooling at the University of California Santa Barbara, Karl joined the US Peace Corps and did his tour in Benin, West Africa. Karl speaks, reads, and writes fluent French.

## Appendix B – Schedule of Meetings

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*October 4, 1999*

CINTEC

Department of National Planning

*October 5, 1999*

CINTEC Information Technology Conference

Sri Lanka Telecom

*October 6, 1999*

Fair Trading Commission

ITMIN

USAID/Sri Lanka

U.S. Dept. of State/USIS

CyberTrader

*October 7, 1999*

Commercial Bank of Ceylon, Ltd.

Sampath Bank

American Express Bank

President's Council—Legal Draftsmen of Sri Lanka

CINTEC Committee on E-commerce and Law

President's Council—Commercial Law Project

John Keells (tea company)

CellTel

E-Wis/IBM

*October 8, 1999*

Central Bank of Sri Lanka

Dept. of Computer Science and Engineering

TRC

*October 11, 1999*

E\*Trade (PVT) Limited

Hatton National Bank

Department of Registrar of Companies

Customs

Central Bank of Sri Lanka

Millenium Info Technologies

*October 12, 1999*

Rhodes & Thornton Accounting Firm

Ministry of Internal and International Food & Commerce  
Department of Commerce  
Solicitor General of the Attorney General's Office  
Lanka Internet Services Ltd.  
ITMIN Technical Services  
CyberTrader Telecenter  
SunTel  
Golden Key/Ceycom  
Office of the National Y2K Coordinator

*October 13, 1999*

Sri Lanka Tourist Board  
EDI Company  
SunTel  
Securities and Exchange Commission  
Colombo Stock Exchange

*October 14, 1999*

Ministry of Justice  
Department of Intellectual Property  
Kandi Tele-center

*October 15, 1999*

Mast Industries  
CyberTrader Galle Project

## Appendix C -- Contact Directory

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<http://www.lk>

USAID/Sri Lanka

<http://www.info.usaid.gov/countries/sl.html>

This is the USAID country site for Sri Lanka. It includes links to the 1999 Congressional Presentation, the CIA World Factbook and to country health statistics.

Model Computer Commerce Law Project

<http://www.mcclproject.org>

This website describes the USAID Model Computer Commerce Law Project, which includes a blueprint for drafting model computer commerce laws in developing countries.

Computer Society of Sri Lanka

<http://www.ccom.lk/cssl>

Year 2000 Readiness Task Force

<http://www.lk/2yk1.html>

Council for Information Technology (CINTEC)

<http://www.cintec.lk>

CINTEC was established by the GSL to function as the national coordinating body for IT in Sri Lanka.

The GeoCities Informational Site on Sri Lanka

<http://www.geocities.com/TheTropics/4896/srilanka.html>

This website will give you an interesting perspective on the degree to which the web is being used in Sri Lanka and provides general information about Sri Lanka, including a map.

The U.S. Government (CIA) Factbook on Sri Lanka

<http://www.cia.gov/cia/publications/factbook/sl.html>

This website provides basic facts and figures about Sri Lanka.

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## Appendix E: Country Profile

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### Sri Lanka

Situated of the southern tip of India, separated from the Palk Straits

Latitude:	5° 55' to 9 ° 50' N
Longitude:	79° 42' to 81° 52' E
Area:	65,610 sq. km.
Capital:	Sri Jayewardenepura Kotte
Commercial center:	Colombo
Airport:	Bandaranaike International Airport, Katunayake
Seaports:	Ports of Colombo, Galle, Trincomalee
Population:	18.5 million (1997)
Population density:	296 persons per sq. km.
Life expectancy:	72.5 years
Infant mortality:	17 (per 1,000 live births)
Literacy rate:	91.8%
Ethnic groups:	Sinhalese ..... 74.0%
	Sri Lankan Tamils ..... 12.6%
	Indian Tamils ..... 5.5%
	Moors ..... 7.1%
	Others ..... 0.8%
Religious groups:	Buddhists..... 69.3%
	Hindus ..... 15.5%
	Muslims ..... 7.5%
	Christians ..... 7.6%
	Others ..... 0.1%
GDP:	US\$63.5 billion (1996)
Per capita GDP:	US\$760 (1996)
Exports:	Garments, textiles, manufactured products, gems and jewelry, tea, rubber