

How to build Sri Lanka's Knowledge Economy?

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ABSTRACT

In this essay, the author discusses that the existing knowledge-based economy is one in which Sri Lanka is a client, a consumer and a market for global trends and innovation by foreign players. Sri Lanka has yet to identify, develop and manage her capacity for translating knowledge-based innovation into useable technology to enhance the quality of business and everyday life for Sri Lankans first, and then expand into the global market. The author recognizes that local establishments have taken advantage of global innovation and market trends to increase their stake in the local market. However, there is greater potential for equitable benefits if the right tools, approaches and local markets are discovered.

Using comparative examples from the developing world and her own experiences and insights, the author analyses the potential for developing each of the key elements that make up a knowledge economy in Sri Lanka's context. These elements entail education for knowledge application, which can be utilized for technological innovation, providing solutions for a lucrative and viable business environment in which knowledge and skills-driven human resources increase the quality of organizational capacity. The author proposes that it is not one but the combination of these elements working in sync in an integrated approach that will help Sri Lanka command a stake in the knowledge economy.

Thematically throughout the essay, the author looks at options for increasing access of all Sri Lankans to the benefits of a knowledge-based economy. Essentially, she argues, the way to build a knowledge-based economy for Sri Lanka is to refocus attention on local needs and let these guide education, innovation, human resource development and business techniques. The integrated, bottom-up approach is the way to go for Sri Lanka, to recognize and build on her strengths, to increase knowledge-based equity and access for all and to become a formidable player in the global knowledge-based economy.

Further, no one sector can or should lead the way. The author proposes that if the greatest benefit to the country will come from an integrated approach of the elements that make up the knowledge economy, then there is great potential and need for the public, private and non-governmental sector to work together in creating the environment, systems and opportunities for Sri Lanka to build and benefit from it. This can be done, and the author shows how.

Introduction

"The international trend affects economies at all levels of development. For countries in the vanguard of the world economy the balance between knowledge and resources has shifted so far towards the former that knowledge has become perhaps the most important factor determining the standard of living... Today's most technologically advanced economies are truly knowledge-based." (World Bank, 1998)¹

In our world today, the leading currency of all viable transactions is knowledge. The entire basket of hard currencies is a flyweight in comparison to the trading power of knowledge. But how did our world get this way? And what is this "knowledge economy" all about? Why do these economies fare better than others dependent on more conventional goods and services? And can and should Sri Lanka build and benefit from such an economy? Are we there yet? These are some of the questions the author has mulled over and tried to answer in this essay.

Countries like Taiwan, South Korea, China and more closer to home, India, widely portray knowledge-based economies. We have a fairly decent idea what such an economy entails. While the given examples differ in many ways, they have several elements that are common: they are popular for technology-driven industries and are hotbeds for research and development, turning out innovative solutions in a variety of industries. These nations have invested in the spread of qualitative technical education and employ highly technically skilled personnel in their leading industries. The output of all these investments is a sustained high economic growth rate leading to a greater global market share and immense spillover benefits to the rest of the economy, impacting the quality of life for the many.

The author will now attempt to explore the benefits of a knowledge-based economy and suggest possible ways in which the Sri Lankan economy too can take advantage of it.

¹ Sallis, E. & Jones, G. (2002) pp xii, Introduction, to "Knowledge Management in Education: Enhancing Learning and Education." Published by Kogan Page, London, England.

Why a “Knowledge-based” economy?

It is important to understand why Knowledge is key to unlocking developing nations like Sri Lanka to greater economic prosperity and equity. ‘Knowledge’ has a lot to do with information, but it is much more than that. Knowledge entails also the innovation that is sparked when information is used appropriately in creative ways – that is the ‘eureka’ moment! It is man’s great ingenuity to apply data and information, that would otherwise remain mere cold facts, to work out solutions that enable him a better quality of life and greater discovery in life. Computing and research and development are some of the technical means of arriving at these ‘solutions’. Interestingly, it is said of computing and R&D that “*today’s luxury cars have more of it than Apollo 11 did!*”²

So, why knowledge?

- *Because the tools to access it are more widely available to the masses, are cheaper and are easy to use:* Information and Communication Technology (ICT) has developed to an impressive state today and it is no longer a luxury service. Many more people in a developing nation like ours can have cheaper and wider access to the internet than generations past did to the telephone only a few decades ago. The novelty of an invention or an innovation wears out faster with the rapid pace of development of technology.

- *Because it entails a challenge for greater efficiency and higher profit margins for manufacturers, which in turn stimulates greater innovation:* With product enhancement and new features and services, together with the right kind of marketing, manufacturers and service providers can grab the market any given day. No doubt, demand spurs competition. But the flexibility and intangibility that is the nature of knowledge, that most often cannot be monopolized for too long by one player, allows free reign for the forces of demand and supply. Demand cannot be easily satiated when it comes to knowledge-based products, as they almost generate their own demand with their potential for greater innovation and the

² Sallis, E. & Jones, G. (2002) pp xii, Introduction, to “Knowledge Management in Education: Enhancing Learning and Education.” Published by Kogan Page, London, England.

ability to better the existing product. Man was not satisfied with the wheel, so he had to develop transportation until he could travel by air!

- *Because it is an equalizer:* Knowledge is easy to obtain at any social class or caste or economic strata. With the acquisition of knowledge, its translation into application and innovation brings economic benefits, which in turn leads to greater social mobility. Therefore, at any given social strata, one aspires for himself or his children to obtain knowledge, because he knows and understands that that is the way to benefits in terms of possible economic prosperity and the ability to move with and understand those from higher social classes. Hence, knowledge is the most popular option for many.

For example, as a student on scholarship in the city of Bangalore, ten years ago, I personally witnessed the ways in which Bangaloreans in particular and Indians in general took advantage of the great software boom that was upon them at the time. Many students of engineering enrolled in the 400-something engineering colleges in the State of Karnataka, affiliated to the Bangalore University, opted to study computer or software engineering, as they were aware that with the trend at the time, that would ensure faster employment and higher earnings rather than civil, mechanical, chemical and other branches of engineering.

In a country in which urban unemployment was higher than the rest of the region, relative poverty rates were high and quality of life was dismal, students who took to software engineering figured out fast that the software industry was their ticket to better earnings, and international exposure for many who had never owned a car, much less flown on an aeroplane. Soon, they were in demand in the West, earning in dollars and figures Indians back at home could never imagine earning over years. Soon, cities in India were preferred locations for software giants to base their back offices and call centers, outsourcing services to Indian companies that were sprouting everywhere. With the Indian urban workforce earning bigger bucks, others moved in to provide better products and services to satisfy their

tastes and to saturate their spending capacities. This fuelled economic growth and today India courts the double digits in terms of GDP growth rate.

Sri Lanka's Experience

But what of Sri Lanka's situation? Have we missed the boat, or are we still getting the rafters in the water? Sri Lanka has traversed a long way from the agriculture-driven economy of the Sinhala monarchy, to one driven by services, both formal and informal. The services sector brings in the most revenue to the country. However, it is not a well-developed sector in comparison to star performers like Singapore, Malaysia and other Asian countries in the neighbourhood. But the potential, we are now discovering, certainly exists.

It is the author's observation that any developments in ICT and knowledge-based elements in the services industry have to a large extent rubbed off on the Sri Lankan economy, or is the resultant spillover of innovation and search for markets from other countries and foreign service providers, rather than sole local entrepreneurship and Sri Lankan initiative, although there are a few notable exceptions.

Relatively cheap labour and high literacy and language capabilities are some of Sri Lanka's benefits for developing a niche knowledge economy. And these factors are certainly being tapped into, but there are other factors that may not encourage a knowledge economy.

Challenges and Bottlenecks

1. The **climate of conflict** must be overcome by peaceful means and negotiation if the knowledge-based industry is to take off in Sri Lanka. Conflict disrupts the environment for sound and continuous education for youth and even with investment in ICT learning, market uncertainties may and often do lead to a brain drain instead of benefiting the country.
2. **High interest rates** are maintained for central control of money supply, curbing inflation and to reduce access to lending. However, it is a market distortion and

foreign direct investment is dampened as a result. There is a dearth of capital to propel the kind and quality of innovative industry that Sri Lankans are definitely capable of competing within the global market.

3. The **crowd-pleasing policy orientation** of succeeding governments have kept the masses paralysed in fear and paranoia about the private sector and profit-making enterprise that may 'threaten the farmer's sustenance', 'erode our culture' or 'drive the youth from the village to the squalor of the city'.
4. The **regressive and stifling political attitudes** of small-minded politicians who do not value the knowledge and experience of professionals and eminent personalities in academic institutions, private corporations, independent financial institutions and entrepreneurs, will ultimately discourage innovation in the country and drive potential out of Sri Lanka.
5. Sri Lankan capitalists, industrialists and the business fraternity are not very forthcoming in terms of **risk taking**. This can be due to the lack of incentives to take required risks and propel business in the country, and perhaps the conflict.
6. The extent of **corruption and nepotism** prevalent in Sri Lanka's economy is a deterrent to investment and innovation aspired by the many.
7. Despite opening her economy earlier than many other countries in the region, Sri Lanka depends on great amounts of state **welfare**, especially for education. The 'free-ness' of basic education in Sri Lanka, is a poor compromise for quality and appropriateness for the needs of the present economy.

Sri Lanka – propelling a knowledge-based economy

Back in 1997, China lagged behind Sri Lanka, ranking 98th position in terms of the Human Development Index (HDI) at 0.701, while Sri Lanka was eight ranks above China at 90th position recording 0.721 in the HDI for the same year.³ But China was on its way to becoming one of the world's leading heavyweights in technology and innovation, while Sri Lanka was on a snail trail, hoping to gradually get there. How could that be?

³ **Jhingan, M.L.** (2001) pp 17, "The economics of development and planning", 34th Revised and Enlarged edition, Vrinda Publications (P) Ltd., Delhi, India. Source: Human Development Report 1999.

How is it that Sri Lanka fares better than both China and India in terms of poverty rates, child nutrition, unemployment, health care and number of children enrolled in primary education, and yet lag so far behind these Asian super powers in terms of technology development and resultant economic growth and prosperity? The key elements that make the pillars of the Knowledge Economy are looked at below with suggestions to enhance Sri Lanka's share in the potential global wealth created by it.

♣ **Starting at the beginning: Getting education right**

Everyone has the right to education. Sri Lanka is fortunate that this is an undisputed and well-respected phenomenon within her borders. Our post-independent forefathers and mothers did well to prioritise education for all as a fundamental right of all Sri Lankans. In essence, policies such as these have given Sri Lanka an enviable edge over other nations who continue to struggle in this regard. However, 'the times they are a-changing.' No longer is mere literacy the most important means of survival. We are now realizing in our globalised world, that education that is not geared to the needs of a country's economy may have far more devastating effects on a third world country like Sri Lanka – draining its precious resources with little return on investment in the future and not quite equipping the future generations of the country to become an investment instead of a liability.

*"Like any other industry, the education system is part of the economic system of the country. As with agriculture or manufacturing, it consumes resources and generates a product: the educated person."*⁴ The author agrees with W.T.S. Gould when he makes this statement, as education is an investment, as in Sri Lanka, the State makes on the country's economy and on society. There should be returns on this investment. Instead, in Sri Lanka, curricula are formulated to feed the masses with information that may not altogether be useful much less critical to the economy of a country, and least of all for propelling entrepreneurship and innovation with economic benefit to individuals and the

⁴ **Gould, W.T.S.** (1993) "People and Education in the Third World"; pp 61, section: 'Schools as economic phenomena'; published by Longman Group UK Limited, Essex, England.

country. Sri Lanka, therefore, needs to take a long hard look at her education system in terms of the percentage of the annual budget that is invested each year and if the GDP growth rate is at least proportionate to the investment made in that sector.

Private educational institutions have come in to Sri Lanka and are helping to make a difference to the numbers who may otherwise be left behind by the over-saturated and limited higher educational institutions in the country. Even so, after graduating with honours as a MBA from PIM or as a software engineer from the Colombo University, if the market is not able to create sufficient jobs or demand for the graduates turned out each year, then both private and public institutions are wasting resources and the benefits will ultimately go to a foreign country, as frustrated graduates leave the country in hoards to migrate to more lucrative pastures. Our loss is another economy's gain.

Suggested viable options:

1. Education reforms after a thorough review and upgrade of Advanced Level education and under graduate curricula to match the skills and know-how required in the real market
2. Public-private partnerships between state and private institutions for exchanges to learn from each other's modules within the curriculum and for exposure and competition with each other
3. Encourage and sponsor internships to foreign countries to learn new technologies and update on information available elsewhere, so they can return to replicate or innovate new learning, adapting to the needs of the Sri Lankan economy
4. Incorporate online tutorials to increase access of technical learning to greater numbers within Sri Lanka; online tutorials may help to attract foreign students as well
5. Increase incentives for universities and institutions of higher education to take on active participation in research and development by channeling bilateral and multilateral research grants to them.

"The failure of manpower planning to provide an adequate match between the output of the education system and the demands of the economy meant that in practice there

seemed to be an over-supply of educated manpower, since school systems were driven by social rather than economic demand."⁵ Roland Dore's illustration below argues for the end of the "diploma disease":

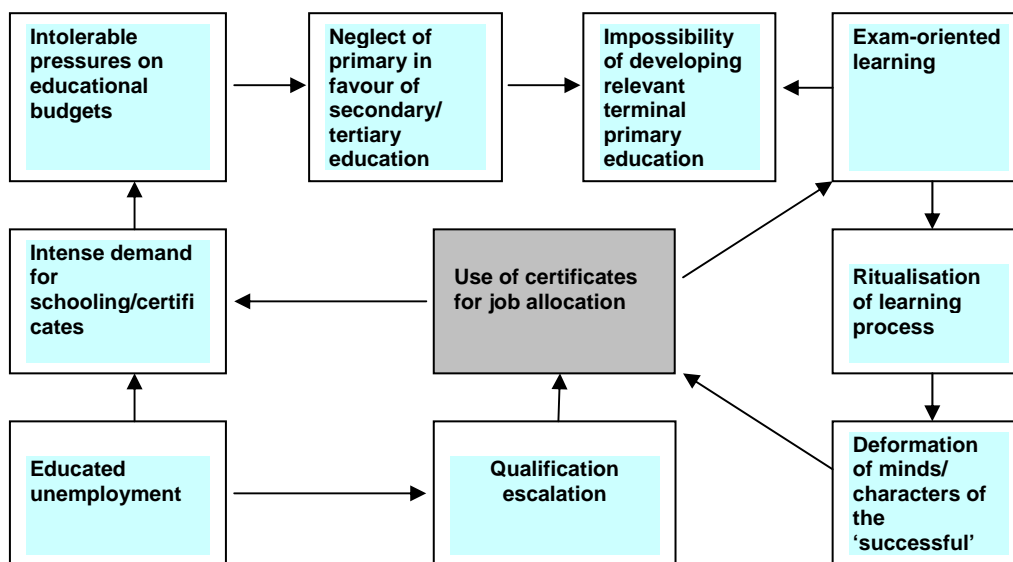


Fig 1: The diploma disease (Dore; 1976)

♣ Doing business right: but not as usual

As much as it is imperative for the appropriate and efficient technology to be in use to increase the pace of doing business, it is important too to create the appropriate environment to do business and to encourage investment in Sri Lanka. The entry and exit procedures for business establishments must be made simple and efficient. Stifling bureaucracy will cripple an already ailing economy. *“Three quarters of the time taken to start a new business is spent registering at the department of labour,”*⁶ the World Bank reported in 2007. Likewise, legislation in Sri Lanka must be amended to provide for transparency and clarity in processes and guidelines in setting up businesses.

⁵ Gould, W.T.S. (1993) “People and Education in the Third World”; pp 153, section: ‘Manpower planning and the diploma disease’ as quoted by Bray, M (1986) in the International Journal for Education Development’ and Lee, K.H. (1988) in “World Development”; published by Longman Group UK Limited, Essex, England.

⁶ The Finance and Private Sector Development Unit, South Asia Region, **The World Bank** (2007); pp 13, “Building the Sri Lankan Knowledge Economy”, under section ‘II. The Business Environment’; published by The World Bank Colombo Office, Colombo, Sri Lanka.

Integration between government policies on labour, price controls on transport, fuel, telecommunications and taxation needs to be taken into consideration when reviewing legislation related to business in Sri Lanka. Further, the outlook of any profit-making organization – private or public – needs to be aware of the levels of knowledge and knowledge transfer within it. Organisational knowledge can be classified in the following way:

<p>The organization <u>is aware of what it knows</u></p> <ul style="list-style-type: none">• The knowledgeable organisation	<p>The organization <u>is aware of what it doesn't know</u></p> <ul style="list-style-type: none">• The knowledgeable organisation
<p>The organisation <u>doesn't know what it knows</u></p> <ul style="list-style-type: none">• The ignorant organisation	<p>The organisation <u>is not aware of what it does not know</u></p> <ul style="list-style-type: none">• The ignorant organisation

Fig 2: Classifying organizational knowledge⁷

It is the author's opinion that all companies in Sri Lanka that have appropriated suitable technical solutions to develop their products and have been successful in marketing them, have invested time and effort in ascertaining the knowledge that lies within its own organisation.

Visionary political and organizational leadership is a scarce resource in Sri Lanka, which often does not create the required drive to innovate and experiment with new products, markets and new ways of doing business. The author is confident though that this can be cultivated, with considerable effort. The late President Premadasa was one such visionary. The garment industry was heralded into its coming-of-age era because there was political will and faith that Sri Lankans could capitalize on the prevailing

⁷ Sallis, E. & Jones, G. (2002) pp 49, Introduction, to "Knowledge Management in Education: Enhancing Learning and Education." Published by Kogan Page, London, England.

opportunities at the time. The required systems and procedures were put into place to create a conducive environment to attract and keep business in Sri Lanka.

Suggested viable options:

1. Increase options and access to data technologies for the business fraternity in Sri Lanka by reducing language barriers – either by developing telecommunications and data solutions in vernacular or automated software for translations from English
2. Empower tertiary-level academic institutions to regularly update, publish and disseminate research on gaps and best practices of business establishments in adopting technology and knowledge-based tools and services
3. Encourage private-public partnerships to manage the transfer and sharing of knowledge within organizations in similar fields
4. Create awareness and education among existing and future workers about the 'dignity of labour', in order to increase enthusiasm and penetration of innovation and knowledge to all levels of organizational hierarchy. It is important to create ownership of businesses among all employees regardless of blue, white or any other 'colour of collar'.

♣ Bridging the technological divide

The greater the access to technology, information and knowledge-based tools along with the adequate encouragement to use them, the greater the participation of the country's human resource base in the knowledge economy. The logic follows that the greater the participation, the greater the share in benefits for the country's population. However, in Sri Lanka, this is not the case. According to the Director, Economic Affairs of the Sri Lanka Peace Secretariat, "*Penetration of internet in Sri Lanka is estimated at (a) low ebb of 7% whilst the penetration of phones is at 34%...the low penetration of internet is the*

high cost of connectivity."⁸ Mr. Athukorala quotes the World Bank in his article, stating that "a 1% increase in the internet users can boost exports growth by 4.3%" and that "an increase of 10 mobile phone users per 100 people can boost GDP growth by almost 0.6 percent," referring to the World Bank publication "Building the Sri Lankan Knowledge Economy", published in 2007.

Therefore, how can Sri Lanka ensure a commitment to the goal of increasing the percentage of the population who have access to the use of existing and future technology in knowledge transfer?

*"In both rural and urban areas, increased investments not only increase the amount of capital per person but also the quality of the technology embedded in the capital. A cell phone, or personal computer, or high-yield variety seed brings the latest in science to the benefit of the poor. Yet using these new technologies requires training and technical competence. Even in the poorest societies, primary education alone is no longer sufficient,"*⁹ points out economist Jeffrey Sachs. Mr. Sachs opines "rapid economic development requires that technical capacity suffuse the entire society, from the bottom up." Training large numbers of people at the village level in creative and targeted ways, in the use of technology applicable to their specific livelihoods is a way forward. Mr. Sachs says this training need not be very intensive and advanced. The introduction of simple technology initially to aspects of rural life that matters on a daily basis will soon start showing effect in terms of saving money, time and other resources. The short-term dividends will propel communities to seek greater levels of training. At this point, it is up to the private and public sector corporations to be ready to provide services that will penetrate more deeply into the lives of the masses and to offer solutions that are easy to apply and bring the desired benefits. The efficiency of the technology and its lucrative application will gradually even out the investments made in terms of cost in developing community-friendly technology.

⁸ Athukorala, R.N.A., (24 April 2008) Financial Times of The Daily Mirror newspaper; "Knowledge Economy Tricky Road ahead for Sri Lanka"

http://www.dailymirror.lk/DM_BLOG/Sections/frmNewsDetailView.aspx?ARTID=12699

⁹ Sachs, J.D. (2005) pp 257, "The End of Poverty: How we can make it happen in our lifetime", Published by the Penguin Group, London, England.

The community-based approach that is predominantly used in Sri Lanka by community development programs and the NGO fraternity can be developed to provide services to these communities by more profit-making institutions. The examples of Cargills and CIC Agro Businesses can be cited in terms of successful partnership agreements that have yielded great benefits to both the producer and the consumer. Building the knowledge-based economy can take a leaf off examples such as these.

Suggested viable options:

1. Establish multiple collaborative partnerships such as the introduction of community broadband with components of ICT training by private tech companies; simultaneously host mobile workshops on entrepreneurship to members of Women's Rural Development Societies or other community-based organizations in rural areas through public or private vocational institutions, and at the same time provide revolving small loans through the Sanasa Bank or non-governmental micro finance institutions. Ensure that projects are well audited and progress recorded. In this way, collaborative alliances will help to introduce technology and increase its access to communities, increase business participation and build community networks to a large extent
2. Increase language options in services and applications provided through advanced technology to reduce customer intimidation
3. Innovate from the grassroots - use global tools for local industries and needs (for example, more than 50% of the work force is engaged in informal sector work, offering numerous and various options for trialing customized technologies
4. 'Back to basics' approach to public and industrial research and development with a view to learning from the masses – *"From rich-country professionals and urban-based professionals in third world countries right down to the lowliest extension workers it is a common assumption that the modern scientific knowledge of the centre is sophisticated, advanced and valid and conversely, that*

whatever rural people may know will be unsystematic, imprecise, superficial and often plain wrong."¹⁰ This should be avoided at all cost.

♣ Investing in people

Ultimately, the efficiency of an economy is a telltale sign of the efficiency of its work force, global market trends and other dependent phenomena notwithstanding. This is especially so of a "knowledge-based" one. People drive a knowledge-based economy – the producer as well as the consumer.

An organisation, and perhaps a country, would do well to consider the following list of elements when considering the best way to build a knowledge-based work force¹¹:

- **Accessibility** – how accessible is the knowledge?
- **Creativity** – who contributes most to the creation of the knowledge?
- **Currency** – does the knowledge have a sell-by date or a date of anticipated obsolescence?
- **Decision-making** – is the knowledge in a format that aids decision-making?
- **Individual** – does the knowledge reside with particular individuals within the organisation?
- **Learning** – is the organisation learning sufficiently from its knowledge?
- **Local or global** – how broadly does the knowledge apply?
- **Marketability** – how saleable is the knowledge?
- **Planning** – does the organisation know how best to use its knowledge?
- **Reliability** – how reliable is the knowledge?

Suggested viable options:

1. Encourage and sponsor in-house on-the-job learning modules tied to diplomas and degrees offered by educational institutions in Sri Lanka and abroad at all levels of organizational hierarchy; however, the aim of training should be to build competency and not merely attain qualification

¹⁰ **Chambers, R.** (1983) pp 76, "Rural Development: Putting the last first", from Chapter 4: 'Whose Knowledge?' published by Longman Inc., New York, USA.

¹¹ **Sallis, E. & Jones, G.** (2002) pp 48, Introduction, to "Knowledge Management in Education: Enhancing Learning and Education." Published by Kogan Page, London, England.

2. Establish a rotating Central Resource Pool, offering fellowship or membership to professionals by field of expertise within Sri Lanka; these members could coordinate and facilitate the replication of district and regional level resource pools that may help to spread expertise knowledge and provide incentives to innovate, share and pool ideas in various fields for district and national economic progress
3. Ensure human resource development strategies practiced by organizations have learning and motivation built in so that practical application of skills on the job can be achieved systematically; setting targets for employees individually and as teams is beneficial to the growth of an organization; regular self-monitoring of progress, or as teams, is a good way for employees to acquire organizational knowledge and evaluate themselves, their learning and their contribution to the successes or failures of the organization.

Conclusion

In fine, it is understood that a knowledge economy cannot be built with one or two of the discussed elements, but rather requires a healthy combination of them all to carry Sri Lanka through to compete in the global markets. In addition, it is also clear that the private sector alone is unable to enable a knowledge-based economy without collaboration and partnership with the government and non-governmental sectors. Sri Lanka has a capable and willing work force, entrepreneurial capacity however limited, and, as the World Bank has pointed out, the systems are being put into place to encourage business. Even so, the existing conflict environment and economic downturn is non conducive for investment, compounded by the global food and fuel crises. However, the author strongly believes that Sri Lanka can move rapidly to be on par with the leading economies of the region, if not the world, with the right amount of political will and with organizational willingness to learn and change.

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