

Sri Lanka
State of the Economy Report 2012

Chapter 6
Maximizing Human Resource Potential

by
Parakrama Samaratunga, Kanchana
Wickremasinghe & Dilani Hirimuthugodage

6. Maximizing Human Resource Potential

6.1 Introduction: Growth Targets and Challenges in the Human Resources Front

Sri Lanka's current policy framework aims to reposition the country in the global arena as a knowledge-based, middle income country with better and improved living standards. The focus is on developing Sri Lanka's naval, aviation, commercial, energy, and knowledge sectors into regional hubs. Following the ending of the conflict in May 2009, the country has overcome the main obstacle to investment and growth. With better security, and other government incentives, Sri Lanka is already seeing improved investor confidence and living standards. For instance, of total foreign arrivals, the proportion of arrivals for business purposes has increased from 8.6 per cent in 2009 to 13.7 per cent in 2010,¹ and the economy has grown at more than 8 per cent over the last two years. However, sustaining this growth momentum will critically depend, among other factors, on the availability of a skilled, productive and flexible workforce.

The importance of a skilled workforce for staying competitive and attracting investment and business is now well recognized. The skills demanded by the global labour market are changing constantly. The demand for routine manual (such as assembling machinery) and cognitive (such as keeping records) tasks that can easily be computerized are reducing, while the demand for complex communication (e.g., skills needed for persuading and negotiating with suppliers and customers) and expert thinking (e.g., problem solving skills) types of jobs are increasing.² The demand for skilled workers is already rising within Sri Lanka as well, and some sectors such as information and communication technology (ICT) are experiencing worker shortages. The immediate human resource need for

“ Sri Lanka's prospects for growth will partly depend on a workforce that is able to create and adapt new technologies and has the necessary general skills to be competitive in the global market ”

¹ The Ceylon Chamber of Commerce, "Sri Lanka Economic Summit 2011", www.chamber.lk/manager/upload_file/news/n_6191_1.pdf [accessed on March 20th, 2012].

² World Bank (2011), *Transforming School Education in Sri Lanka*, World Bank, Washington, D.C.

the country is to cater to this rising demand. In addition, over the long run, a flexible workforce that can create new ideas and adopt new technology easily will be essential for the country to make a mark in the global knowledge economy and stay competitive in the global market. Competencies in the skills that are in demand as well as the flexibility to learn new skills to adjust to constant changes, are also important in maintaining productivity growth.

The critical task facing policy makers is to develop and manage the available human resources in the country to cater to this demand. This will on the one hand, require improving access to high quality tertiary level education that gives due attention to changing requirements in the market, and training workers who are able to learn new skills. Assessing the tertiary education system in Sri Lanka, World Bank (2009) finds the present tertiary education sector in the country inadequate, narrow in scope and of low quality for a middle income country.³ Expanding and improving the tertiary education sector alone is not sufficient. The foundations for further training in advanced science and technology related subjects, and developing skills in problem solving and creativity are laid at the school level. As such, policies should be designed to improve the quality of general education at all levels, with opportunities for studying in a broad array of subject areas. Good quality general education is an essential foundation for future training, where emphasis is not only on facts, but in critical thinking, effective communication, problem solving, and creativity.

Sri Lanka's demographic profile is changing. Decreasing fertility rates and increasing life expectancy has resulted in a rapid ageing of the population. These demographic changes have created new challenges to the labour market. In essence, the country's labour force is stagnating and growing older. Studies from other countries show that a stagnant labour force can dampen economic growth. For example, declining workforces are estimated to reduce the per annum growth rates of France and Germany by 0.2 to 0.5 percentage points and that of Japan by 0.8 percentage points.⁴ Along with population ageing, the dependent population of a country – children and the elderly who are typically not employed – in relation to the working population will increase. This increasing economic dependency is estimated to slow growth (compared to growth that would have taken place given the present age structure) by another 0.2 to 0.3 percentage points in France, Germany and Japan.⁵

The Sri Lankan labour force growth is also slowing down, and it is estimated to start reducing by 2030.⁶ The country's labour force is also ageing. Given this, the country will increasingly need to pay attention to making best use of available labour resources and encourage labour force participation. At present, the skill development in the country is mainly geared towards entrants to the labour market. However, the above demographic changes have increased the need for extending training to mid-career workers.

Health is an important determinant of human resource development that ensures suc-

³ World Bank (2009), *The Towers of Learning*, World Bank, Washington, D.C..

⁴ Martins, J.O., F. Gonand, P. Antolin, C. de la Maisonneuve, and K.Y Yoo (2005), "The Impact of Aging on Demand, Factor Markets and Growth", OECD Economics Working Papers No. 420.

⁵ *Ibid.*

⁶ Vodopivec, M. and Arunatilake, A., (2010), "Population Ageing and Labour Market Participation of Old Workers in Sri Lanka", *Journal of Population Ageing*, DOI 10.1007/s12062-011-9045-5.

cess in education and greater productivity in work life. Improving the health of the population will be critical in making best use of available human resources. The importance of nutrition for reducing health care costs, morbidity and mortality, and increasing productivity is well documented in the literature.⁷ Studies also show that well nourished children are more likely to succeed in education. Along with nutrition, diseases that are more prevalent amongst the productive age population, such as non-communicable diseases (NCDs), also influence work life and productivity. Encouraging labour force participation of older workers will partly depend on preventing and better managing the diseases that are more prevalent amongst the elderly, such as NCDs.

The rest of this Chapter discusses the importance of a skilled and healthy workforce for improving productivity, sustaining competitiveness and managing the labour force.

6.2 Meeting the Current Demand for Labour

Globalization accelerates the pace of innovation and technology. Along with these changes new occupations are emerging and skill requirements and competencies are evolving. A major challenge countries face today is to enhance the responsiveness of education and training systems to cater to these ever changing skill requirements. With a view to making Sri Lanka a key logistics centre, large scale development activities have already been initiated in the naval, aviation, commercial, energy, road, transport, and urban development and irrigation sectors. New job opportunities are projected in an array of occupations that include, airport

and aviation engineers, professionals, technicians and craft-related skilled workers in the building and construction industry; and, machine operators, mechanics, automobile and motor mechanic technicians, environmental managers and skilled workers in the metal and light engineering sector. Catering to this anticipated demand in required quantities, and training workers who have not only the technical skills but also the necessary general skills to be competitive in the world market, is a major challenge for the country. The following section highlights the magnitude of this challenge, taking the example of ICT and tourism sectors.

ICT skills have become a fundamental requirement in the service and industry sectors of the country. According to the National ICT Workforce Survey carried out in 2010, from 2006 to 2009, the IT workforce has increased by 4,200 new entrants each year. The IT work force is expected grow at an average growth rate of 17 per cent per annum.⁸ Accordingly, the demand for new IT workers will be 50,000 in 2010. This survey further shows that the preferred minimum academic qualification required for an IT professional is a Bachelor's degree. According to the Information and Communication Technology Agency (ICTA),⁹ the demand for new IT graduates (3,970 a year) is lower than the supply of graduates (4,473 a year). However, the current supply of graduates may not be sufficient to fulfill demand for two reasons.¹⁰ First, when recruiting IT employees, soft skills knowledge is also considered an important requirement in IT, non-IT and Business Process Outsourcing (BPO) sector organizations. Second, many IT graduates, especially those with required soft skills, migrate abroad for

⁷ Aldeman, H., (2008), "Stimulating Economic Growth through Improved Nutrition, Disease Control Priorities Project", World Bank. [Accessed on 25th April, 2012] www.dcp2.org/file/223/dcpp-nutritionpolicybrief-web.pdf.

⁸ ICTA (2011), "National ICT Workforce Survey", Information and Communication Technology Agency of Sri Lanka.

⁹ *Ibid.*

¹⁰ Information on the supply of non-graduate IT workers in the country is not readily available.

employment. Indeed, employers find that essential soft skills, especially communication skills are lacking in employees.¹¹

Information Technology Enabled Services (ITES)/BPOs have emerged as one of the fastest growing sectors in Sri Lanka and the fifth largest export earner in the country. Current earning of the BPO sector is estimated to be US\$ 400 million. This level is estimated to reach US\$ 1 billion by 2015 and US\$ 2 billion by 2020.¹² Sri Lanka is recognized as a key BPO destination in the world. Sri Lanka has been featured in the A. T. Kearney Global Service Location Index (GSLI), which analyzes and ranks the top 50 countries worldwide for providing outsourcing activities, including IT services, contact centers and back-office support. Further, Sri Lanka's ranking has improved from 29th in 2007 to 16th in 2009, showing a steady expansion in its BPO sector.¹³ This achievement is mainly attributed to low labour costs, widespread use of English, strong educational system, and the increasingly open and well regulated business environment. However, continued expansion of the sector will critically depend on the access to skilled workers with required IT knowledge and communication skills in English.

Restoration of peace has started a new era for the tourism industry in Sri Lanka. Tourist arrivals increased by 30 per cent in 2011 to reach 855,975 arrivals – the highest recorded to date. This gave rise to an increase in earnings from the sector of 44.2 per cent amounting to US\$ 830 million in 2011. Sri Lanka is targeting to attract 2.5 million annual tourist arrivals and US\$ 2.75 billion earnings by

2016 as well as an estimated 500,000 employment opportunities – both direct and indirect – from the sector. The challenge is to accommodate a three-fold increase in different types of tourists, including wildlife, culture and business. In line with the tourist sector expansion, tremendous growth is envisaged in food and beverages, transport and construction industries in the country.¹⁴ The investor interest in the sector is already increasing. Already, more than 210 investment applications were processed in 2011 to build 9,192 rooms and several international hotel chains such as Shangri-La, Sheraton, Hyatt and Sun City, have entered the tourism industry in the country. A one-stop unit has been established at the SLTDA to facilitate investments. These factors highlight the increased need for skilled workers for sustaining growth in the sector. In 2011, student intake for training in the hotel industry has increased by 72 per cent to meet the skills shortage in the industry.¹⁵ The question is whether the present pool of job seekers qualifies for these training programmes, and whether they have the necessary soft skills needed by the sector. Also, the sector cannot expect to depend only on new trainees. The demand for a substantial component of the employment opportunities in the sector will require persons experienced in the sector.

Besides IT, there is a rapidly growing demand for English language skills in the country today. Individuals competent in English have access to better quality jobs with higher salaries and benefits in the domestic as well as the international labour market. According to the findings of a vacancy survey in 2010,¹⁶ the most demanded skills by white collar

¹¹ The Ceylon Chamber of Commerce, "Sri Lanka Economic Summit 2011", www.chamber.lk/manager/upload_file/news/n_6191_1.pdf [accessed on March 20th, 2012].

¹² *Ibid.*

¹³ ICTA (2011), *National ICT Workforce Survey*, Information and Communication Technology Agency of Sri Lanka.

¹⁴ CBSL, *Annual Report 2011*.

¹⁵ *Ibid.*

¹⁶ Vacancy survey collects and analyzes the job advertisements in two national weekend newspapers, *Sunday Observer* and *Silumina*.

occupations include English (44 per cent of advertisements),¹⁷ ability to use IT (18 per cent of advertisements),¹⁸ and communication skills (12 per cent of advertisements). Among graduates in Sri Lanka, English language and ICT skills are identified to be the scarcest general skills needed for a middle income country.¹⁹

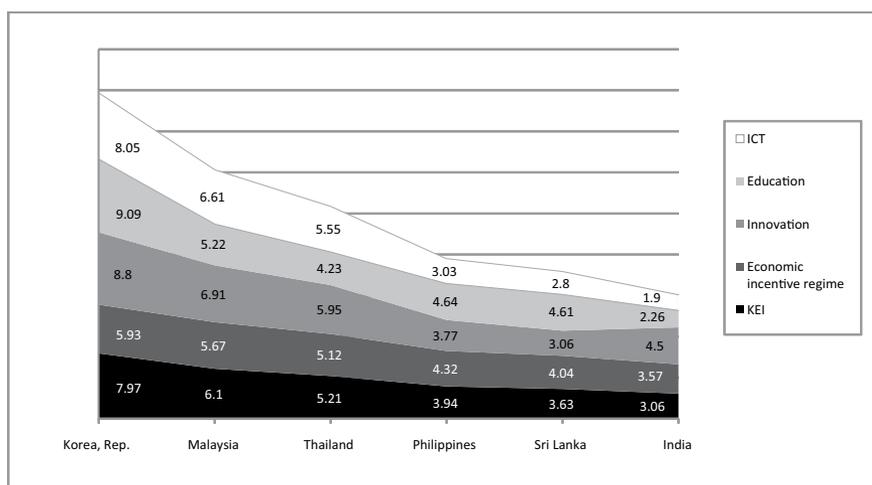
According to a Business Outlook Survey carried out in 2011, the shortage of man power with required skills has become the second most severe constraint encountered by the business community in Sri Lanka.²⁰ This situation will slow growth of investments and job creation in the country. Despite a low literacy level, Sri Lanka's closest competitor, India, does well in terms of teaching key subjects and the better quality of schools compared to Sri Lanka. For example, in 2010, Sri Lanka scored 6.87 in the quality of science

and mathematics education compared to a score of 7.63 for India, and Sri Lanka scored 7.40 in the management of schools compared to 8.55 for India.

6.3 Skills to Stay Competitive in a Changing World

In the changing global and technological patterns across the world, future prosperity of a country depends on a skilled workforce that is able to innovate and adopt new technologies constantly. Across the world, countries are realizing the need for talented workers to remain competitive, and create new ideas and for sustaining growth. The BRICS group of countries is expanding their investments in education aimed at improving high-end technical talent, as they have realized the importance of human resources in science and technology.²¹ At the same time, devel-

Figure 6.1
Aggregate Knowledge Economy Index (KEI) and Sub Indices,
Sri Lanka and Selected Countries



Source: Based on data from World Bank, Knowledge Assessment Methodology (KAM) 2012 database.

¹⁷ Managers, professionals, technical and associate professionals and clerical support workers.

¹⁸ Ministry of Productivity Promotion (2011), *LMI Bulletin*, Vol. 1 No 1, Manpower Planning, Development and Research Division.

¹⁹ World Bank (2009), *The Towers of Learning*, Washington, D.C.

²⁰ The Ceylon Chamber of Commerce, January 2012, <http://chamberblog.chamber.lk/wp-content/uploads/2012/02/Business-Outlook-Survey.pdf>, [accessed, 29th March, 2012].

²¹ The Levin Institute (n.d), "The Evolving Global Talent Pool - Lessons from the BRICS Countries", levin.suny.edu/pdf/LevinBRICSFinal.pdf [accessed on April 20th, 2012].

oping countries are making strategic decisions to attract highly skilled workers from across the globe to support knowledge creation, as they have realized the importance of this factor for creating and commercializing new products and services.

Sri Lanka lags behind in the global knowledge economy. The World Bank's Knowledge Assessment Methodology (KAM) produces the Knowledge Economy Index (KEI) to help countries identify the challenges and opportunities they face in making the transition to knowledge-based economies.²² The KEI is constructed as the simple average of four sub-indexes based on three key indicators each, which represent four pillars of the knowledge economy: economic incentive and institutional regime; education and human resources; innovation and technological adoption and; ICT infrastructure. Sri Lanka's performance according to this index is poor and it lags behind in most of the

country's comparators in all four pillars (Figure 6.1).

Although the country's knowledge economy has grown, it has not kept pace with growth in other countries. According to the latest KEI rankings, Sri Lanka has fallen from 87th place in 2000 to 101st place in 2012 out of 145 countries. Sri Lanka's position has suffered especially due to poor performance in the 'economic incentive regime' (EIR) and ICT infrastructure indices (Table 6.1). Although the number of internet users per thousand people have increased from 10 in 2000 to 90 in 2012, the number of internet users in other countries have increased even faster, bringing down Sri Lanka's normalized internet users indicator from 4.4 to 2.6.²³ Similarly, its computer users indicator has fallen from 3.5 in 2000 to 2.3 in 2012. Sri Lanka's EIR pillar has declined, mainly because of the weakening of its tariff and non-tariff barriers and regulatory quality indicators.

Table 6.1
Sri Lanka's Knowledge Economy: 2000 vs. 2012

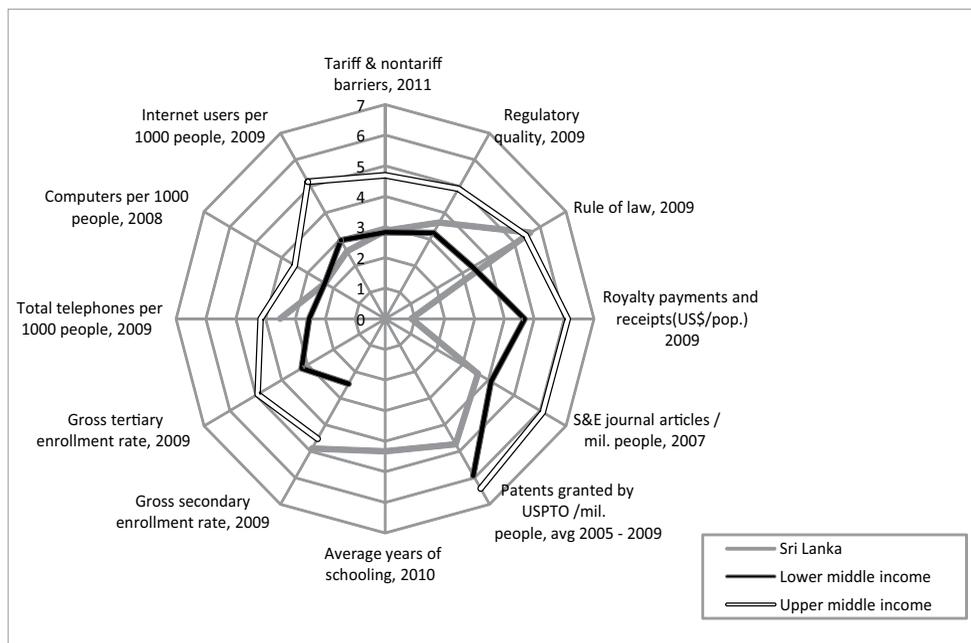
Variable	2012		2000	
	Actual	Normalized	Actual	Normalized
Tariff & non-tariff barriers	72.2	2.9	71.0	6.2
Regulatory quality	-0.3	3.6	0.3	6.0
Rule of law	-0.1	5.6	0.0	5.9
Royalty payments and receipts(US\$/pop.)	0.0	0.9	0.0	0.7
S&E journal articles/mn. people	6.3	3.6	5.2	3.7
Patents granted by USPTO/mn. people	0.2	4.7	0.3	5.3
Average years of schooling	8.5	4.3	8.1	4.9
Gross secondary enrolment rate	87.2	4.9	85.1	5.9
Gross tertiary enrolment rate	n/a	n/a	5.3	2.2
Total telephones per 1000 people	860.0	3.5	60.0	3.0
Computers per 1000 people	40.0	2.3	10.0	3.5
Internet users per 1000 people	90.0	2.6	10.0	4.4

Source: Based on data from World Bank, Knowledge Assessment Methodology (KAM) 2012 database.

²² World Bank, Knowledge Assessment Methodology 2012, www.worldbank.org/kam [accessed, 27th March, 2012].

²³ For a flexible cross-country comparison, each variable has been normalized on a scale of 0 to 10 relative to other countries in the comparison group.

Figure 6.2
Knowledge Economy Indicators, 2012 – Sri Lanka and Averages for Lower Middle Income and Upper Middle Income Countries



Source: Based on data from World Bank, Knowledge Assessment Methodology (KAM) 2012 database.

Sri Lanka's performance in the KEI is constrained by its limited ICT penetration and innovation and technology adoption. A closer examination of the indicators measuring achievements in knowledge economy shows that Sri Lanka performs well in terms of rule of law,²⁴ and the gross secondary enrolment rates. Nonetheless, Sri Lanka's performance is even below the average for lower middle income countries in all the three indicators measuring innovation and technical adaptation (i.e., royalty payments and receipts, technical journal articles, patents granted). Also, the country's position in two indicators of the ICT pillar – internet users per 1000 people and computers per 1000 people are either below or equal to the lower middle income countries position (Figure 6.2). These statistics further highlight the need to pay attention to modernizing and improving the

quality and relevance of tertiary education in the country.

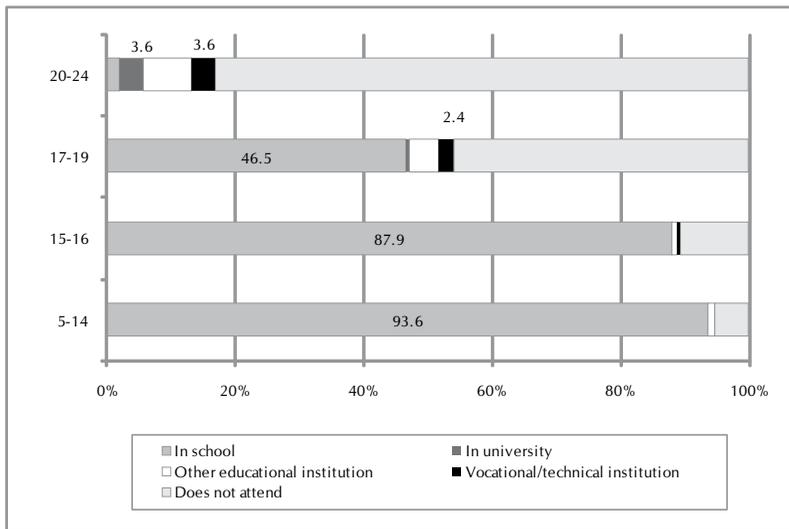
6.4 Education and Skills Development for Meeting Changing Needs

Sri Lanka's ability to cater to the increasing demand for skilled labour will depend on the success of the country's education system to cater to these demands in adequate numbers and quality. Further, given increasing trends of labour migration, especially skilled labour, the need is not just to cater to the domestic needs of the market.

Currently, Sri Lanka's tertiary education system caters to only a very small proportion of the population. Due to the limited number of placements in the state funded universities, only 17 per cent of those who qualify

²⁴ This indicator includes several sub-indicators which measure the extent to which agents have confidence in and abide by the rules of society. These include perceptions of the incidence of both violent and non-violent crime, the effectiveness and predictability of the judiciary, and the enforceability of contracts.

Figure 6.3
Education Participation of 5-24 Year Olds, 2009



Source: Based on data from Department of Census and Statistics, Labour Force Survey 2009 data.

for university education gain admission to state universities. Each year, more than 100,000 qualified students are forced to abandon their ambitions to enter university.²⁵ Compared to other comparable countries, the number of students enrolled in tertiary education is extremely low in Sri Lanka. For example, in 2009, only 3.6 per cent of 20-24 year olds were enrolled in a university while only a further 3.6 per cent of the same age group was enrolled in technical and vocational training (TVET) courses (Figure 6.3). Meanwhile, the average tertiary enrolment rates for lower middle income countries and upper middle income countries are around 23 per cent and 43 per cent, respectively. To be successful in the global arena, Sri Lanka has to urgently find means of improving opportunities for tertiary education in the country.

The public sector is the main provider of tertiary education in the country. The need

to expand, modernize and improve the quality and relevance of education provided by this sector has received increasing attention in recent times, especially as high unemployment rates among graduates and related social problems have been a recurring issue in Sri Lanka. Part of the problem in the lack of preparedness amongst university graduates for the world of work, is the mismatch between the skills taught by the higher education institutes and competencies needed by the market. Major reasons for this mismatch are the outdated curricula, lack of interaction with the private sector when designing degree programmes, and lecture style teaching and learning processes which do not encourage learning by doing, as well as the learning of soft skills.²⁶ Further, Sri Lankan universities produce job seekers, rather than entrepreneurs who can create jobs. Part of the reason for high unemployment amongst graduates is the lack of suitable job opportunities in the country.

²⁵ Department of Census and Statistics, *Statistical Pocket Book 2011*.

²⁶ National Education Commission, (2009), *National Policy Framework on Higher Education and Technical and Vocational Education*.

Although there is no legal barrier for private universities to function in the country, these institutions are unable to offer degrees unless affiliated with a foreign university. Although different higher education institutions have attempted to get authority to award degrees, these attempts have not been successful due to political economy reasons, and issues with controlling the quality of education. Affiliation to foreign universities increases the costs of awarding a degree. Notwithstanding, various private sector degree-awarding institutions have sprung up across the country to cater to the increased demand for higher education. The absence of an accreditation system for private sector higher education providers makes it difficult to regulate the quality of programmes offered by these institutions. There are around 30 degree awarding private institutions currently functioning in the country, but the government has not recognized these institutions as higher education providers. Therefore, there is no proper monitoring mechanism to ensure the quality of the programmes offered by these institutes.

The absence of a robust accreditation system makes it difficult to regulate the quality of the programmes offered. According to the government, the Higher Education Quality Assurance, Accreditation and Quality Framework Bill (now shelved), was to pave the way for a quality assurance and accreditation framework to be introduced to both state and non-state universities. Such regulation is one means of improving the quality of education provided in the tertiary education sector. However, past experiences suggest that regulation alone cannot create an environment that is dynamic and proactive to changes in the market. The present tertiary

education market in the country is supply driven and non-competitive, discouraging much needed change in the system.

6.5 A Good Foundation in Education is Essential for Effective Higher Level Training

Sri Lanka's general education system has not been able to provide quality education. Despite a high literacy rate, competencies in more demanding subjects such as English, science, mathematics and IT, is inadequate to cater to the growing demand of students for higher learning. For example, according to the National Education Research and Evaluation Centre (NEREC), assessment for grade 8 students conducted in 2008, half of the students scored below 50 per cent in mathematics, while around 40 per cent of students scored below 50 per cent in science and technology subject.²⁷ According to national assessment of grade 4 students conducted in 2009, the proportion of students scoring above 50 per cent for English was around 56 per cent while only one-fourth have scored above 75 per cent.²⁸ These low achievements in science and mathematics at lower levels of education, restrict opportunities for pursuing higher education in science and mathematics related subjects in the country. For example, according to the recently released O-Level results, pass rates for mathematics, science and English are 55, 62 and 45 per cent, respectively.²⁹ At least a credit pass in O-Levels is required for pursuing higher studies in science and mathematics. In addition, most science and technology related vocational training courses require a pass in English language. The above results indicate that close to half the students will not have the basic qualifications for higher studies.

²⁷ National Education Research and Evaluation Center (2008), "National Assessment of Achievement of Grade 8 Students of 2007 in Sri Lanka", University of Colombo.

²⁸ National Education Research and Evaluation Center (2009), "National Assessment of Achievement of Grade 4 Students in Sri Lanka", University of Colombo. Competencies in English are not tested in Grade 8.

²⁹ Kanagara, A., *Sunday Observer*, <http://www.sundayobserver.lk/2012/04/01/new41.asp>.

Measures have been taken to move towards a competency based curriculum (from an examination based curriculum) giving special attention to English and IT education and improving competencies in life skills. The National ICT Education drive was launched in 2005 with the aim of strengthening and expanding IT education from primary to higher education. The reforms introduced, include IT as a common subject for all A-Level students, English medium instruction for A-Level science streams and bilingual education (English medium instruction in selected subjects) at the secondary level. However, IT is still in the early stages of development in schools while English medium instruction is available only in around 6 per cent of secondary schools.³⁰

Part of the problem in promoting necessary competencies are resource disparities for more demanding subjects such as science, English and IT. Only 10 per cent of secondary schools have facilities to teach A-Level science streams. Schools offering science subjects in A-Levels are not rationally located and a majority of these are to be found in urban areas. For instance, one-fifth of these schools are located in the Colombo district followed by Jaffna district. On the other hand, in rural schools there is a deficit of teachers for more demanding subjects such as English and IT. Only half the schools have at least one primary English teacher in the school, while only one-fourth of secondary schools have an IT teacher in the school. This situation is worst in the districts which suffered severe infrastructural and human resource constraints due to the conflict. Only 6 per cent of schools in Kilinochchi and Mullaitivu districts have at least one primary level English teacher for a school, while less than 16

per cent of schools in Kilinochchi, Mannar, and Batticaloa districts have secondary level IT teachers.³¹

The school system has not yet been successful in harnessing the soft skills of students. As pointed out in World Bank (2011), one main issue in the present education system is the lecture based teaching and learning process in schools, which does not allow students to learn from doing.³² Although the need to change the teaching and learning process in schools to encourage engagement, exploration, and problem solving skills have been recognized, the initiatives introduced to change the system have not been successful due to various reasons. For one, retraining of teachers to use the new method has not been successful due to the poor quality of training. Second, the teachers find it difficult to use the proposed methods as they are time consuming, and it is difficult to cover the vast syllabus while using such methods. The quality and availability of teachers is also a main problem in improving teaching. Available statistics at the aggregate level suggest that there are adequate teachers in the country, although there are issues in their quality and the way they are distributed across the country. Schools in urban areas have more than the required cadre of teachers, while schools in rural areas are suffering due to teacher shortages. Also World Bank (2011) points out that many teachers are themselves not competent in the subjects that they teach.³³ This is revealed in a study by the Department of Examination of 207 teachers who applied for O-Level paper marking in 2010. The study asked the teachers to take an exam similar to the O-Level mathematics paper consisting of two papers. The results revealed that although most teachers per-

³⁰ Calculations based on School Census 2010, Ministry of Education.

³¹ *Ibid.*

³² World Bank (2011), *Transforming School Education in Sri Lanka*, World Bank, Colombo.

³³ *Ibid.*

formed well in paper I, only 42.5 per cent of teachers were able to score over 80 per cent in paper II, which tested higher order skills.

Many students discontinue school education due to poor performance at the national level examinations. Each year, more than 100,000 students leave the school system without even succeeding in the first national level examination. Only about a half of the students who sit for O-Levels qualify to follow A-Levels.³⁴ Each year, about 300,000 students sit for O-Levels but only 50 to 60 per cent of them qualify to sit for A-Levels. Only a small proportion of students pursue A-Levels in science and mathematics subjects. This is partly due to the low numbers of students qualifying to study A-Levels in the science stream, as well as a lack of opportunities to study A-Levels in the science stream. Only 22 per cent of A-Level students are studying in the science stream, while 52 per cent are studying in the arts stream, and 25 per cent are studying in the commerce stream.³⁵

The transition from school to the world of work is also not smooth. School leavers who do not succeed at the O-Levels are the prime target for specific training and skills development programmes designed to meet the skills demand of the country. However, most of these school leavers enter the labour force without following any skill development programme.³⁶ This is partly due to the lack of a systematic link between TEVT and secondary education, leaving a majority of school leavers with no access to skills development programmes. As seen in Figure 6.3, about 46 per cent of 17-19 year olds are not par-

ticipating in any type of education programme. On the other hand, the general acceptance of the country's TEVT sector is poor, due to low recognition of the qualifications, lack of career development paths, lack of interaction with industry and the poor effectiveness of the courses in catering to the demands of the market. A system of National Vocational Qualification (NVQ) was established to provide national level accreditation for tertiary and vocational training and to certify on-the-job training, but this alone has not been successful in improving the quality standards of training institutions.³⁷

6.6 The Effect of Population Ageing and Demographic Change on the Economy

Changing demographics can influence the availability of a skilled work force in the country. As highlighted in the introduction, in many developed countries, ageing and reducing work forces are estimated to slow economic growth. Studies looking at the effects of population ageing in Japan argue that the fast changing age structure will influence Japan's productive capacity in three main ways.³⁸ Ageing will decrease savings and capital accumulation, it will reduce the labour force, and population ageing may slow the growth in total factor productivity.

6.6.1 The Effects of Ageing on Savings and Investments

Ageing can influence savings rates in opposing ways. Ageing and increasing retirement age are both factors that will reduce savings rates. On the other hand, declining labour force participation rates (or leaving the labour

³⁴ Department of Census and Statistics, *Statistical Pocket Book 2011*.

³⁵ Calculated using data from Ministry of Education, Sri Lanka Education Information - 2010.

³⁶ Asian Development Bank (2005), *Technical Assistance to the Democratic Socialist Republic of Sri Lanka: Preparing the Education Sector Development Program*, Manila.

³⁷ National Education Commission (2009), *National Policy Framework on Higher Education and Technical and Vocational Education*.

³⁸ Horlacher, D.E. and MacKellar, L., (2003), "Population Ageing in Japan: Policy Lessons for South-East Asia", *Asia-Pacific Development Journal*, Vol. 10, No.1.

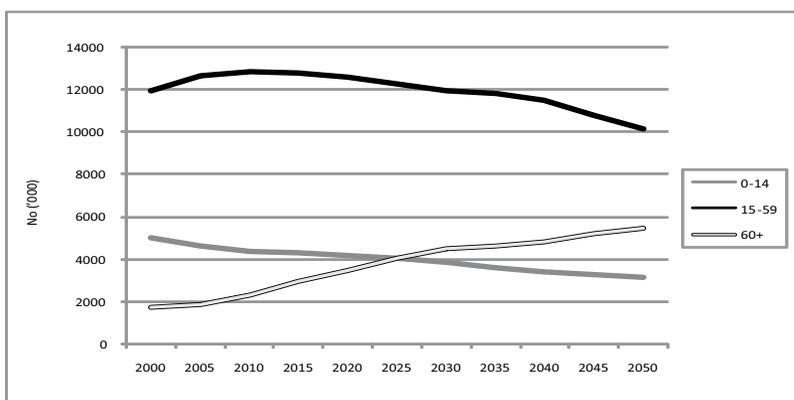
force early) and increased life expectancy after retirement will increase savings rates.³⁹ Older people looking at a shorter life span are more likely to consume than save. Increases to retirement age will reduce years after retirement while, increasing life expectancy will have the opposite effect. Shorter years in retirement are likely to reduce savings. Some people may choose to leave the labour force earlier. This will lengthen the time in retirement and therefore increase savings. These effects will be different in developing countries where social security systems are not well developed. In such countries, in the absence of savings, and adequate social security, the elderly will depend on the younger generations for support. In such instances, ageing will not have the above discussed positive effects on savings. In fact, in such cases, ageing can reduce the ability of younger workers to save as they have to support older adults longer.

6.6.2 Ageing and the Labour Force

Population projections for Sri Lanka show that Sri Lanka's population is ageing (Figure

6.4). The Proportion of 60 plus people in the population is estimated to increase to 20 per cent by 2030. At the same time, the proportion of working age population (people who are between the 15-59 age group) is declining sharply. Population ageing is the result of declining fertility rates and increasing life expectancy. Sri Lanka's life expectancy at birth is 77.2 for females and 68.8 for males.⁴⁰ The life expectancy at birth has increased by about a year for males and by about 5 years for females from 1980-82 to 2000-02. Assuming retirement at 60 years, males can expect to live 9 years after retirement, while females can expect to live 17 years after retirement. According to a recent study, in 2006, only about a tenth of old people received pensions as their major source of income and about a third received non-pension government assistance.⁴¹ The majority of those who receive pensions are former government servants, whose pensions are financed by the Budget, rather than through private savings. This indicates that most relied on their family or the government for old age support. The reliance on

Figure 6.4
Population Projections for Sri Lanka, by Age Group



Source: Based on data from Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects (2006 revision).

³⁹ *Ibid.*

⁴⁰ Gunsekara, H. R., (2008), Life Tables for Sri Lanka and Districts 2000-2002, Department of Census and Statistics.

⁴¹ Vodopivec, M. and Arunatilake, A., (2010)., "Population Ageing and Labour Market Participation of Old Workers in Sri Lanka", *Journal of Population Ageing*, DOI 10.1007/s12062-011-9045-5.

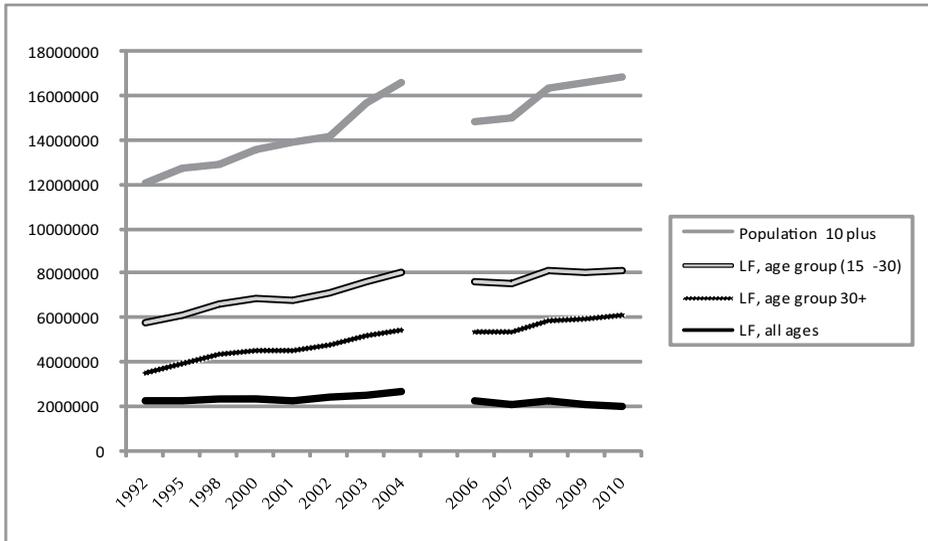
the family for old age support is greater for females for two reasons. Females participate less in the labour force even in their productive years and they are estimated to live longer than males. These statistics indicate that in Sri Lanka, although life expectancy has increased life in retirement, savings rates are not likely to increase because of ageing, as most individuals rely on their families for old age support, rather than on savings and pensions. Also the propensity to save for the younger population will be reduced, as they have to bear the increased burden of providing for the elderly.

As shown in Figure 6.5, Sri Lanka's work force is ageing. The Sri Lankan tertiary education sector mainly caters to new entrants to the labour market. Given that the requirements in the labour market are changing constantly and new occupations are emerging and replacing others, the country needs a demand

driven education system that caters to all age groups. The education system should focus on a lifelong learning system which involves formal training as well as informal on-the-job training. The need for lifelong learning is even greater, as the proportion of young workers joining the labour market is slowing down. Further, the unemployment rates for the country are very low (less than 5 per cent). To make best use of available resources, Sri Lanka will have to focus on promoting mid-career workers.

There are already indications that the Sri Lankan labour force growth has slowed down. Since 2004, the labor force growth has stagnated (Figure 6.5). Further, the labour force is ageing. As seen in Figure 6.5 workers, aged 30 years and above, in the labour force is increasing, while the number of workers below 30 years of age is decreasing. A young, educated, and growing labour force can stimu-

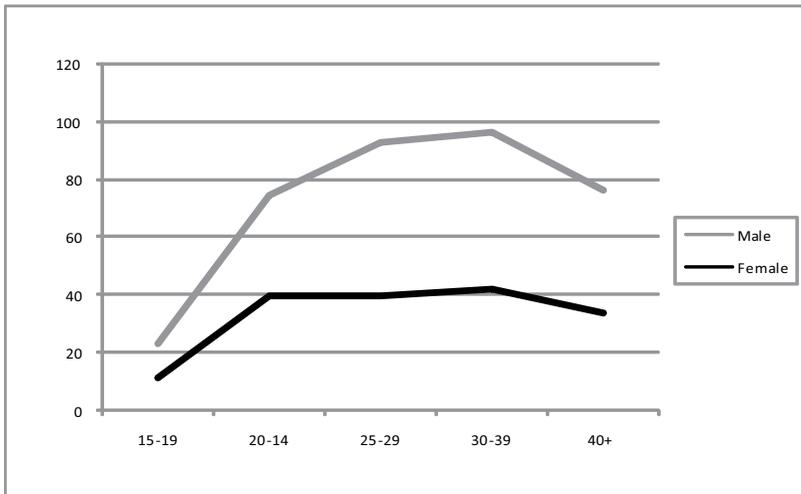
Figure 6.5
Trends in Working Age Population and Labour Force, by Age Group



Note: Data excludes Northern and Eastern Provinces except for 2003, 2004, 2008 and 2009. Data for 2003, 2008, 2009 and 2010 only excludes Northern Province, while 2004 only excludes Mullaitivu and Kilinochchi districts in the Northern Province. Age disaggregated data are not available for 2005.

Source: Based on data from the Department and Census and Statistics, Labour Force Survey – Annual Report 2010.

Figure 6.6
Labour Force Participation Rates, by Age and Sex for Sri Lanka



Source: Based on data from the Department and Census and Statistics, Labour Force Survey – Annual Report, 2010.

late economic growth. An older work force will be slower to innovate and adopt new technologies unless they are retrained constantly. Slow technology adoption and innovation will likely dampen growth. One method of countering these effects is to improve the labour force participation rates of women and youth. As seen in Figure 6.6, labour force participation rates are fairly low for women and youth in Sri Lanka. Improving labour force participation rates for elderly can also counter the slowing of the labour force.

A large number of individuals leave the country for foreign employment annually. In recent years, the number leaving the country for foreign employment has far exceeded the number entering the labour force in the country. For example, in 2011, the labour force increased by 128,000 from 2010 to 2011, while the number of departures (not adjusted for returnees) for foreign employment was 263,000.⁴² Although promoting foreign employment is attractive in terms of remittances,

as the labour resources become scarcer, policies for promoting foreign employment will need to be re-evaluated.

6.7 The Importance of Health as an Investment for Sustaining Economic Growth

Health has a major role to play in sustaining economic growth. It is now well recognized that healthy children are more effective learners and are more successful in the labour market. At the same time, ill health is known to reduce labour force participation as well as productivity in the labour market.

6.7.1 Nutrition and Economic Growth

The importance of nutrition for reducing morbidity and related health care costs as well as improving the returns to education and productivity in work life are well documented in the literature. Studies have shown that although improvements in living standards are estimated to improve the nutrition levels of a population, these improvements

⁴² CBSL, *Annual Report 2011*.

Table 6.2
Opportunities for Adequate Nutrition, by Sector

		2000		2006	
		Mean	EOI	Mean	EOI
Under five children with at least minimum height-for-age	Sri Lanka	81.5	0.899	82.6	0.926
	Urban	89.8		85.4	
	Rural	81.8		83.7	
	Estate	56.3		59.0	
Under five children with at least minimum weight-for-age	Sri Lanka	77.0	0.903	78.6	0.934
	Urban	84.2		82.7	
	Rural	76.1		78.5	
	Estate	65.4		69.9	
Under five children with at least minimum weight-for-height	Sri Lanka	84.5	0.962	84.9	0.980
	Urban	88.5		85.3	
	Rural	83.0		84.8	
	Estate	86.0		85.7	
Newborns with at least minimum birth-weight	Sri Lanka	83.9	0.965	83.4	0.962
	Urban	86.0		87.1	
	Rural	83.7		83.5	
	Estate	77.2		69.3	
Maternal BMI > 18.5	Sri Lanka	76.4	0.917	83.8	0.931
	Urban	87.5		90.3	
	Rural	75.4		83.9	
	Estate	52.3		68.5	

Note: EOI, constructed using methods developed by Ali and Son (2007) refers to Equity in Opportunity Index. An EOI above one indicates that opportunities are equitably distributed.

Source: Based on data from Department of Census and Statistic, Demographic and Health Surveys 2000 and 2006/07.

take place over a long period.⁴³ Therefore, given the importance of nutrition for upgrading living standards and human development, improving the nutrition levels of a population needs policy attention. On account of the fact that labour resources are becoming scarcer, attention should not only be on improving average levels of nutrition, but also on addressing the inequities in nutrition.

According to the Ministry of Healthcare and Nutrition, the nutritional status of children,

youth and women are not satisfactory in Sri Lanka.⁴⁴ For example, according to the Demographic and Health Survey (DHS) 2006/07, 16.6 per cent of babies in the country were underweight, 21.1 per cent of children under-five were underweight (low weight for age); about 14.7 per cent of under-five children were wasted (low weight for height), and 17.3 per cent of under-five children were stunted (low height for age).⁴⁵ Further, there are wide disparities in the prevalence of malnutrition across the country (Table 6.2).

⁴³ Alderman, Harold (2008), "Stimulating Economic Growth through Improved Nutrition", Disease Control Priorities Project, World Bank. [Accessed on 25th April, 2012] www.dcp2.org/file/223/dcpp-nutritionpolicybrief-web.pdf.

⁴⁴ Ministry of Healthcare and Nutrition (2010), *National Nutrition Policy of Sri Lanka*, Ministry of Healthcare and Nutrition.

⁴⁵ *Ibid.*

Although the nutrition level of the country has improved from 2000 to 2006, these improvements are marginal. Also opportunities for adequate nutrition are inequitable in the country across income classes (Table 6.2). The average opportunities for adequate nutrition are particularly low in the estate sector. Further, opportunities for average nutrition have declined in some sectors for some measures of malnutrition (for example, newborns with adequate birth-weight in the estate sector).

The need to improve nutrition levels in Sri Lanka has been recognized since the early 1980s. The first Nutrition Policy for Sri Lanka was developed in 1986 and the need to revise this policy and address current issues is already recognized by policy makers. This will require the involvement of a variety of stakeholders, targeting different segments of the population such as pregnant mothers, infants, children, youth, and elderly, etc.

6.7.2 Non-communicable Diseases, Injuries and Economic Growth

Diseases that especially affect the working age population such as NCDs can affect labour productivity in terms of loss of work days and reduced productivity. Studies that assess the impact of NCDs on economic development are limited. However, available research indicates that NCDs can have long term macroeconomic impacts in terms of labour supply, capital accumulation and GDP, and further, these effects are likely to be larger in developing countries.⁴⁶ They further find that the loss of labour resources due to NCDs and health care costs owing to NCDs have resulted in reducing the quality

and quantity of labour supply, globally. For example, it is estimated that in the US, men and women with chronic diseases work 6.1 per cent and 3.9 per cent fewer hours, respectively.

The NCD prevalence rate in Sri Lanka is high and increasing. Working and near retirement population groups are more likely to be affected by NCDs. Presently, the mortality rate due to NCDs in Sri Lanka is 20-50 per cent higher compared to developed countries.⁴⁷ Specifically, mortality rate for hypertension, ischemic heart disease (IHD), cancer, and diabetes are significant among working and near retirement age groups. Further, the mortality rates are higher for males than for females.⁴⁸ Also, a recent World Bank study finds that NCDs contribute most to the disease burden in Sri Lanka, accounting for 85 per cent of ill health, disability and early death.⁴⁹ Although NCDs were earlier a disease of the affluent, the study finds that NCD prevalence amongst the poorer groups is increasing in the country. As the country's health care system is less engaged in caring for NCDs, individuals have to bear the cost of treatment.

A number of factors influence NCD prevalence. According to DHS 2006/07, imbalanced diets, sedentary lifestyles, and lack of physical activity are factors affecting overweight, and other diet related NCDs such as diabetes mellitus, cardiovascular disease, hypertension and certain types of cancers.⁵⁰ In addition, obesity, tobacco and alcohol consumption and diets high in sugar, oil and salt are also proven to influence the prevalence of NCDs.

⁴⁶ Bloom, D.E., et. al. (2011), "The Global Economic Burden of Non-communicable Diseases", World Economic Forum.

⁴⁷ E., Michael et al., (2010), "Prevention and Control of Selected Chronic NCDs in Sri Lanka: Policy Options and Actions", World Bank

⁴⁸ *Ibid.*

⁴⁹ World Bank, "Tackling Non-Communicable-Diseases in Sri Lanka", <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/SOUTHASIAEXT/0,,contentMDK:22839556~menuPK:158844~pagePK:2865106~piPK:2865128~theSitePK:223547,00.html> [accessed, 2nd May, 2012].

⁵⁰ Ministry of Healthcare and Nutrition (2010), *National Nutrition Policy of Sri Lanka*, Ministry of Healthcare and Nutrition.

Although not exactly a disease, injuries are also a major cause of morbidity and deaths in Sri Lanka. They contribute to reducing the quality and quantity of labour supply in the country both directly and indirectly. When working age people are injured, the supply of labour is directly affected. In addition, even when non-working age people are injured, working age people who are caregivers may miss work time. Although a number of initiatives have been started to reduce the number of accidents and injuries in the country, these continue to be a main health burden. According to the Ministry of Health, traumatic injuries remain the major cause of hospitalization in the country, and they have increased over time. One of the major contributory factors for traumatic injuries is road traffic injuries caused by excessive speeding, drinking and driving, and not using safety methods such as seat belts and helmets. According to the Traffic Division of the Department of Police, there were 2,721 deaths and 26,847 injuries due to road accidents in 2010. Further, it has been reported that Sri Lanka loses around 500,000 man-days due to occupational accidents.⁵¹

In 2009, the National Policy and Strategic Framework for Preventive and Control of Chronic NCDs was established with the objective of reducing premature mortality (less than 65 years) due to chronic NCDs by 2 per cent annually, over the next 10 years.⁵² This framework addresses issues concerning awareness programmes, and regulation aimed at reducing the prevalence of NCDs, screening for NCDs, strengthening capacity for caring for NCD related diseases, improving information on NCD related issues and raising funds for the prevention and management of NCD related health services. Health services for NCDs are provided through special clin-

ics in the secondary care facilities and above. Some of the lower level facilities provide follow up care for NCDs. Government initiatives for improving health care for NCDs are still being piloted. Careful monitoring of the impacts of present initiatives and their effectiveness in controlling and managing NCDs will need to be in place to ensure desired health outcomes related to NCDs. Sri Lanka has also started several initiatives to reduce morbidity and mortality relating to injuries and accidents. Indeed, 2011-2020 has been declared as the Decade of Action for Road Safety and Decade of Action Programmes, in an attempt to reduce the health burden and related economic losses relating to accidents.

6.8 Conclusion and Policy Recommendations

Sri Lanka's development initiatives aim to transform the country into a knowledge-based strong middle income country. The government is particularly focused on developing the naval, aviation, commercial, and energy and knowledge sectors of the economy. With the ending of the conflict, prospects for growth look promising. However, sustaining the growth momentum, among other things will require an adequate and skilled workforce that is able to create and adapt to new technologies, and has the necessary general skills to be competitive in the global market.

The employment opportunities envisaged to be created through the government's vision to develop Sri Lanka as a knowledge-based economy has already increased the demand for highly skilled workers who are particularly skilled in ICT and English language skills. In addition, to sustain productivity enhancements and to remain competitive in

⁵¹ Ministry of Healthcare and Nutrition (2009), *National Policy and Strategic Framework on Injury Prevention and Management in Sri Lanka*.

⁵² Ministry of Healthcare and Nutrition (2009), *Non-communicable Disease Policy*.

the global market, Sri Lanka will need to expand its workforce in S&T. However, the ability of the present education system to cater to these emerging demands is questionable.

At present, the main provider of tertiary and vocational training in the country is the public sector. Lack of resources has limited the expansion of the tertiary and vocational education sector and contained improvements to its relevance and quality. At the same time, the scope of university education in the country is very limited. The options for improving resources in the higher education sector include, either increasing public investments in the sector or, encouraging private participation in the sector. Given the current budget constraints facing the government, large increases in public investments to higher education are unlikely. Further, an increase in public investments alone will not make the universities dynamic centers of teaching and learning that react to changes in the market in a timely manner. To introduce such changes, the way universities are governed and financed will need to be changed. Although there is no explicit legal barrier, the political economy context of the country discourages investment in private universities. Sri Lanka is one of a very few countries in the world that has discouraged foreign universities functioning in the country. Those who cannot enter public universities have few options for pursuing higher education. Only those from highly affluent families are able to obtain university education outside the country. The absence of an accreditation system for private sector higher education providers makes it difficult to regulate the quality of the offered programmes. Unless these issues in improving access to better quality education in the country are addressed, Sri Lanka will soon face a severe talent shortage.

The foundation for more productive tertiary education in S&T related subjects and rel-

evant competencies in general skills such as ICT and English language skills, are laid at the general education level. Available data indicate that the education outcomes in these vital subject areas are lacking in the country. Although the need to improve skills in ICT, English, science and mathematics have been well recognized and several programmes have been implemented to improve delivery of education, changes are taking place slowly.

Life expectancy in Sri Lanka has increased over the past several years, raising the number of years in retirement. Longer years in retirement could increase the propensity to save for current workers, thereby increasing savings and investments in the country. However, in the case of Sri Lanka, as only a limited proportion of workers rely on their savings for old age support, longer life expectancy can lead to lower savings.

Increasing life expectancy and reducing fertility rates are changing the age structure of the population. These demographic transitions are also reflected in the labour force. Sri Lanka's working age population is shrinking, while the older population is growing. Labour force projections for the country indicate that the labour force growth has already stagnated, and it will start to decline around 2030. Estimates for other countries where similar demographic changes are taking place shows that such changes to the labour force can slow economic growth. However, the effect of these changes on economic growth can be minimized by improving productivity and increasing labour force participation. Sri Lanka's labour force participation rates are low for females, youth and older adults. The country will increasingly need to find means of encouraging labour force participation of these groups of individuals. Along the same lines, introducing programmes to train and retrain workers so that they remain employable and productive throughout their lives, are important.

Health is estimated to play an important role in contributing to increasing labour supply and productivity. Health is also instrumental in enhancing the effectiveness of education. Although Sri Lanka performed well in terms of lowering infant and maternal mortality and in increasing life expectancy, it has several existing and emerging health challenges. With nearly a fifth of its population malnourished, the nutrition level of the country is low. Studies for other countries indicate the importance of improving the nutrition level as an important strategy for increasing growth. Several programmes have already been started to improve the level of nutrition in the country. Unlike the earlier programmes, the new initiatives are looking at a multi-sectoral approach for improving nutrition. Given the importance of nutrition for sustaining growth, it is prudent to monitor the impact of these initiatives in improving nutrition in the country, and take necessary action to revise and reform programmes as needed.

Demographic change, increases to living standards, and lifestyle changes to the country have resulted in increasing NCDs and the prevalence of injuries in the country. Again, studies for other countries show that increased disease burden, especially among the working age population, has the potential to

decrease the quality and quantity of labour supply in the country. As shown earlier, labour is becoming increasingly scarce. As such, it will be important to initiate programmes to improve health services for prevention and management of NCDs and injury-related health issues.

In summary, the global environment is changing constantly, and with it, the skills that are in demand in the market are changing. At the same time, the demographic and epidemiological structure of Sri Lanka has changed over time. Labour resources are increasingly getting scarce, and the age structure of the work force is changing. As discussed in this Chapter, to cater to these changes, the country needs to pay attention to making the best use of available resources by encouraging labour force participation and employability and minimizing loss of workdays due to illnesses and disability. To remain competitive in this changing global market, the education system at all levels will also need to be modernized and improved, giving particular attention to education in science and mathematics and to improving competencies in general skills. Complementary strategies to promote innovation and entrepreneurship will be discussed next, in Chapter 7 of this report.