

# 3

## ECONOMIC AND SOCIAL INFRASTRUCTURE

### 3.1 Overview

**T**he massive infrastructure development drive currently in progress is expected to support the country to maintain a high and sustainable growth in the medium term, which will raise the living standards of the people. Timely development of economic infrastructure will help increase economic efficiency while expanding the production capacity of the economy, facilitate productivity enhancement and reduction of regional disparity. Robust social infrastructure is also important in the development of a dynamic human capital base which is essential for the economy to transform into a knowledge based economy. In 2010, the economic infrastructure development programme of the government focused on all areas of infrastructure; development of roads, energy, water supply and sanitation, ports and aviation, transport and rural infrastructure. Several major infrastructure development projects launched by the government during the last few years were nearing completion by

end 2010. The construction work of phase I of Norochcholai Coal Power Plant and phase I of Hambantota Port Development Project were completed in 2010 while the Southern Expressway, the Upper Kotmale Hydro Power Project were nearing completion. Government investment on infrastructure development increased to Rs. 337 billion in 2010. Meanwhile, "Maga Neguma" rural road development programme, rural electrification projects, expansion of telecommunication network, minor irrigation projects and community based water supply projects continued to empower the rural economy, supporting a regionally balanced economic growth.

**As reflected in social indicators, the key social infrastructure facilities in the country continued to be satisfactory.** In 2010, measures were taken to develop physical infrastructure facilities and the human capital base of the health sector. The education sector has also seen numerous improvements

with a renewed focus on enhancing the quality of education provided by schools Island-wide. Steps were taken to initiate the drafting of a new Education Act with the view to revitalizing and re-designing the current education policy. Despite the various measures taken to improve the outcomes of the education sector, the mismatch between demand for and supply of labour continued to exist. Therefore, it is important to take measures to strengthen the education policies in line with the medium and long-term development objectives of the country. Though Sri Lanka has achieved significant progress in social development compared to many other countries in the region, these achievements are presently being challenged by demographic and epidemiological transitions and the structural changes that are taking place in the economy. Issues pertaining to the ageing population, the high prevalence of Non-Communicable Diseases (NCDs), and the re-emergence of communicable diseases, need to be addressed by re-aligning the health care system in the country. With the rapid growth in demand for high quality services globally, Sri Lanka has a potential to be an exporter of high quality health, education and other professional services. The existing competitive advantages such as strategic location, competitive prices coupled with a competent workforce are strong settings that can attract foreign demand for such services. If this potential is harnessed appropriately, these

services can become a significant source of foreign exchange for the country.

**While the commitment of the government to improve the infrastructure base of the country is commendable, it is important to ensure long-term viability of key public sector institutions which provide utility services by improving financial management and pricing.** Less dependence of these entities on the government budget and the banking system to finance their operating losses is important to reduce the likely macroeconomic implications. In order to address such issues, the government has initiated action towards improving the operational efficiency of State Owned Enterprises (SOEs). The focus was on improving performance through management reforms and thereby transforming SOEs into entities which can provide the government with a dividend income while carrying out their social responsibilities. SOEs are encouraged to explore innovative financing, professional boardroom practices and governance, effective corporate planning and increased public accountability to enhance the performance of these enterprises. The Ministry of State Resources and Enterprise Development was established with the aim of restructuring and revitalizing SOEs through appropriate and tailor-made restructuring plans. Public Private Partnerships (PPPs) were also encouraged, as private sector participation is important to instigate dynamism and efficiency in the operations and management of SOEs. The continuation of these efforts is critical to make SOEs financially viable in the long run and to improve the quality of their service delivery.

Table 3.1

Government Investment in Infrastructure

Year	Economic Services		Social Services		Total	
	Rs. bn	% of GDP (a)	Rs. bn	% of GDP (a)	Rs. bn	% of GDP (a)
2001	54.9	3.9	14.6	1.0	69.5	4.9
2002	51.7	3.4	15.7	1.0	67.4	4.4
2003	58.7	3.2	19.2	1.1	77.9	4.3
2004	61.3	2.9	29.0	1.4	90.3	4.3
2005	77.5	3.2	60.4(b)	2.5	137.9	5.7
2006	106.8	3.6	48.4	1.6	155.2	5.3
2007	141.2	3.9	55.0	1.5	196.2	5.5
2008	168.9	3.8	60.2	1.4	229.1	5.2
2009	256.4	5.3	53.9	1.1	310.3	6.4
2010 (c)	280.8	5.0	56.2	1.0	337.0	6.0

(a) From 2003, data based on GDP estimates compiled by the Department of Census and Statistics Sources: Ministry of Finance and Planning Central Bank of Sri Lanka

(b) Inclusive of Tsunami related capital expenditure

(c) Provisional

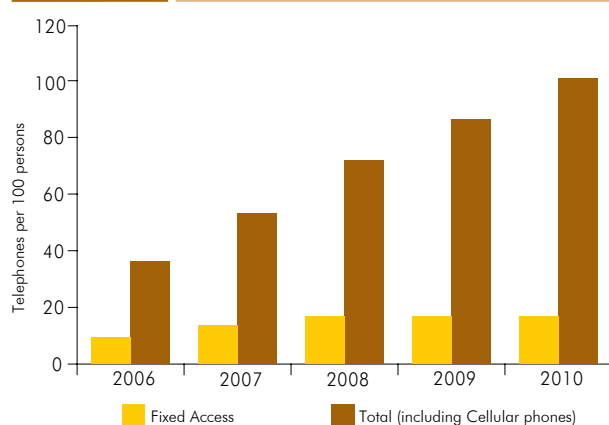
## 3.2 Economic Infrastructure, Policies, Institutional Framework and Performance

### Communication Services

**The growth momentum in the telecommunications sector continued in 2010 reflecting the increased demand mainly from the Northern and Eastern provinces.** The number of mobile connections has recorded a growth of 20.9 per cent to 17.2 million while a

growth of 3.9 per cent was recorded in the fixed telephone connections which increased to 3.6 million. Accordingly, the telecommunications sector experienced an overall growth of 17.6 per cent to 20.8 million connections in 2010. The growth was largely fuelled by the expansion and strengthening of network coverage in the Northern and Eastern provinces provided by mobile service providers. Also, the provision of attractive calling charges and value added services at competitive prices in mobile phone connections, has stunted the growth in the fixed access telephone connections. Increase in mobile connections has led to a significant increase in mobile penetration (mobile connections as a per cent of total population) to 83.5 per cent in 2010 from 69.8 per cent in 2009. With these developments, telephone density (telephones per 100 persons including cellular phones) increased to 100.8 in 2010 from 86.6 in 2009 reflecting that, on average, each person has a telephone. As at end 2010, the telecommunications sector consisted of multiple telephone service providers including 4 fixed line operators, 5 mobile operators, 33 external gateway operators, and 8 internet service providers, making the industry more competitive. However, the level of internet penetration remains at 2.1 per cent. Existing operators face the challenge of expanding broadband penetration in the country up to at least 10 per cent within the next two years. The Telecommunications Regulatory Commission (TRC) has suggested that newcomers may be allowed to operate in the market if the said target is not met.

**Chart 3.1 Telephone Density**



**Several measures have been taken by the TRC to ensure the efficient provision and development of Information and Communication Technology (ICT) services.** The TRC enforced floor prices and interconnection rates for mobile phones. This has helped ensure fair pricing and competition for market players by preventing unnecessary price competition. This facilitates the telecommunications industry to invest in research, development and expansion. A benchmarking process was initiated for Asymmetric Digital Subscriber Line (ADSL) and Worldwide Interoperability for Microwave Access (WiMAX) services to monitor the quality and speed of each service provider.

**A sophisticated telecommunications sector is a prerequisite for Sri Lanka to emerge as a commercial and a knowledge hub.** A modern telecommunication infrastructure contributes to the improvement of efficiency and productivity of all the other sectors of the economy by way of reducing transaction costs. Sri Lanka owns one of the most modern telecommunications industries in the region and has been the first to introduce latest technologies, such as Global System for Mobile Communication (GSM), Code Division Multiple Access (CDMA) fixed wireless telephone services, General Packet Radio Service

**Table 3.2 Growth of Telecommunications and Postal Services**

Item	Growth Rate (%)			
	2009	2010(a)	2009	2010(a)
<b>1. Telecommunications services</b>				
1.1 Fixed access services (No.) ('000)				
Wireline telephones in service	872	897	-6.6(b)	2.9
Wireless local loop telephones	2,564	2,674	2.0	4.3
1.2 Cellular phones (No.) ('000)	14,264	17,247	28.7	20.9
Telephone density (Telephones per 100 persons including cellular phones)	86.6	100.8	20.4	16.4
1.3 Other services				
Public pay phones (No.)	7,378	7,054	-0.5	-4.4
Internet & e-mail (No.) ('000)	240	430(c)	2.6	79.2
<b>2. Postal service</b>				
Delivery areas (No.)	6,729	6,729	0.0	0.0
Post offices (No.)	4,738	4,742	0.0	0.1
Public	4,054	4,058	0.0	0.1
Private	684	684	0.0	0.0
Area served by a post office (Sq.km)	14	14	1.4	0.0
Population served by a post office (No.)	4,316	4,355	0.1	0.9
Letters per inhabitant (No.)	20	17	-4.8	-15.0

- (a) Provisional  
 (b) Wireline telephones declined in 2009 due to shift of some subscribers to cellular phones  
 (c) Including mobile broadband services
- Sources: Telecommunications Regulatory Commission of Sri Lanka  
 Department of Posts

(GPRS), ADSL, WiMAX, High Speed Downlink Packet Access (HSDPA) and 3.5G services. Also, the market hosts a number of players, leading to increased competition, which in turn, fast tracked technological developments and increased market penetration. However, in line with the vision to become services so as to enhance the productive capacity of the economy and the country's attractiveness to foreign investment.

**Postal services registered a mixed performance during the year.** The postal service consisted of 4,742 post offices, including 648 main post offices, 3,410 sub post offices, 156 rural agency post offices and 65 estate and 463 agency post offices. The average population served by a post office is around 4,355 persons in 2010. The initiatives taken by the Department of Posts (DOP) in 2007 to provide certain other revenue generating services such as banking facilities and selling pre-paid phone cards were continued in 2010. The DOP has earned around Rs. 21 million as commissions for these services carried out during the year. DOP launched a four hour express courier service in 2010, in Colombo and suburbs to cater to the emerging demand from the private sector. In 2010, the DOP adopted several strategies such as penetrating into more income generating areas and adopting cost rationalization methods to transform itself into a self-financing venture.

**The DOP continued to report operating losses in 2010.** The operating loss of DOP remained high, at Rs. 3,008 million in 2010. The total revenue of the DOP decreased to Rs. 4,322 million while the operating expenditure increased by 3.1 per cent to Rs. 7,330 million, leading to an increase in operating losses. Hence, it is important for DOP to continue with the efforts taken to generate other sources of income and vigorously follow cost rationalization methods to transform it to a self-financing venture.

## Energy

**In 2010, international oil prices were largely influenced by the global economic recovery.** Since the pace of recovery in the global economy

was slower than expected, increase in oil prices were subdued during the first nine months of 2010. Over this period, oil prices hovered largely in the range of US dollars 70 – 80 per barrel. By the end of the year, prices started to increase rapidly and touched US dollars 90 levels as the US economy showed signs of growth. In 2010, the annual average price of crude oil (Brent) had increased to US dollars 80 per barrel as compared to US dollars 62 per barrel in the previous year. An upward price pressure is expected to persist in 2011 due to increased demand from emerging countries and the geo-political tensions in the Middle East. The annual average import price of crude oil (C&F) by Ceylon Petroleum Corporation (CPC) stood at US dollars 79.52 per barrel reflecting an increase of 24.4 per cent when compared to that of the previous year. Though the international oil price was high, the increased hydropower generation cushioned the pressure of high oil prices on the external sector. The electricity sector benefitted from the high rainfall which prevailed in catchment areas throughout the year. The construction of low cost coal power plants enabling the country to change its energy mix and measures taken to implement renewable energy projects would reduce the country's vulnerability to high oil prices in the long run.

## Electricity

**Electricity generation increased by 8.4 per cent to 10,714 GWh in 2010 reflecting the growth in economic activities and the lower base in 2009.** The share of hydro power in total power generation increased to 52.6 per cent from 39.3 per cent in the previous year reflecting the high rainfall which prevailed throughout the year in catchment areas. As a result, thermal power generation decreased by 16.4 per cent to 4,995 GWh. The system loss, as a percentage of total generation, declined from 14.6 per cent to 13.5 per cent in 2010. The share of Ceylon Electricity Board (CEB) in total electricity generation increased to 60 per cent in 2010 from 55 per cent in 2009, reducing the share of the power produced by the private sector to 40 per cent.

**Table 3.3** Power Sector Performance

Item	2009	2010(a)	Growth Rate (%)	
			2009	2010(a)
Installed capacity (MW) (b)	2,684	2,817	1.5	5.0
Hydro	1,379	1,382	2.5	0.2
Thermal	1,290	1,390	0.4	7.8
Other	15	45	0.0	200.0
Units generated (GWh) (b)	9,882	10,714	-0.2	8.4
Hydro	3,881	5,636	-6.0	45.2
Thermal	5,975	4,995	3.7	-16.4
Other	26	83	188.9	219.2
Total sales by CEB (GWh)	8,441	9,268	0.3	9.8
Domestic and religious	2,927	3,186	4.6	8.8
Industrial	2,518	2,870	-6.0	14.0
General purpose and hotel	1,768	1,903	3.8	7.6
Bulk sales to LECO	1,120	1,201	-0.9	7.2
Street lighting	108	108	0.0	0.0
LECO sales (GWh)	1,050	1,123	-2.0	7.0
Domestic and religious	486	510	1.3	4.9
Industrial	208	229	-12.2	10.1
General purpose and hotel	331	363	1.2	9.7
Street lighting	25	21	-7.4	-16.0
Overall system loss of CEB (%)	14.6	13.5	-2.7	-7.5
Number of consumers ('000) (c)	4,749	4,958	4.5	4.4
o/w Domestic and religious	4,207	4,392	4.5	4.4
Industrial	46	48	4.5	4.3
General purpose and hotel	491	513	3.8	4.5

(a) Provisional Sources: Ceylon Electricity Board  
 (b) Inclusive of Independent Power Producers (IPPs) Lanka Electricity Company (Pvt.) Ltd  
 (c) Inclusive of LECO consumers

**The sale of electricity, excluding system losses from total generation, increased significantly by 9.8 per cent to 9,268 GWh in 2010.** The electricity consumption of the household, general purposes and hotel categories increased by 8.8 per cent, 7.1 per cent and 13.7 per cent, respectively, in 2010. Meanwhile, electricity consumption by the industrial sector increased significantly by 14 per cent, reflecting the growth in industrial activities.

**The financial position of CEB improved during the year.** CEB recorded an operating profit of Rs. 5 billion in 2010 compared to a loss of Rs. 11 billion reported in 2009. The less dependence on high cost thermal power generation helped mitigate the pressure on the cash flow of CEB. At the same time, the availability of furnace oil at a highly subsidised rate has also helped improve the financial position of CEB, though it was a burden on CPC. Meanwhile, measures taken by CEB to curtail costs also helped improved its financial performance

in 2010. The fuel bill of CEB decreased by 34.9 per cent to Rs. 16.4 billion in 2010. On average CEB incurred Rs. 4.33 to generate a unit of electricity in 2010. The average purchase price of power per unit from the private sector amounted to Rs.15.25 in 2010. However, the exemption of Fuel Adjustment Charge (FAC) granted to the industrial category and changes to the tariff structure to provide further relief to low income households under the fiscal stimulus package of the government, adversely affected the financial position of CEB. The average cost of electricity generation decreased to Rs. 13.01 per unit while the average tariff of a unit was at Rs. 13.16 in 2010. CEB's short-term borrowings from banks and other outstanding liabilities to CPC and to Independent Power Producers (IPPs) amounted to Rs. 87.9 billion by end 2010.

**Several changes were introduced to the electricity tariff with effect from January 2011.** The average tariff was increased by 8 per cent with the new tariff revision. The tariff applicable to households which consume less than 120 units was kept unchanged as a relief measure to low-income consumers. At the same time, the tariff applicable to the industrial and commercial sectors was increased and tariff based on the time of use was made mandatory for large scale hotels and industries. The FAC of 30 per cent applicable on some categories which were not given concessions under the fiscal stimulus was removed with effect from January 2011. Though the measures taken to maintain the tariff applicable to domestic users at the same level and the exemption of FAC will ease the cost of living of domestic users, their long-term adverse effect on CEB would be significant. Concessionary tariff may result in lack of power conservation by the public. Also, with the already high tariffs prevailing in the country, increase in the tariff applicable to the industrial and general purpose categories may affect the cost of production of industries and thereby, on external competitiveness. However, the addition of low cost power plants, especially coal power, would bring down the cost of power generation, thereby creating room to maintain the electricity tariff at a competitive level in the medium term.

The CEB has significantly expanded its distribution network and has taken steps to improve its transmission efficiency. The electrification level in Sri Lanka is substantially high compared to many other countries in the region. With the ongoing rural electrification projects, it is expected to achieve 100 per cent electrification by end 2012. To achieve this target, the government launched several rural electrification projects island-wide such as Conflict Affected Area Rehabilitation Rural Electrification Project, Rural Electrification Project 4 and Rural Electrification Project 8. With these efforts, the electrification level which stood at 86 per cent in 2009 increased to 90 per cent by end 2010.

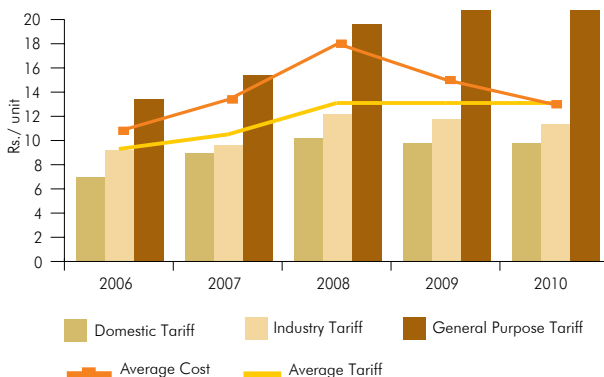
The first electricity tariff filing by the Public Utilities Commission of Sri Lanka (PUCSL), which was established to regulate the major utilities in Sri Lanka, was carried out in 2010. Public hearing and stakeholder consultations were conducted before the revision of the general tariff structure. Non-Conventional Renewable Energy (NCRE) based electricity purchase tariffs were also introduced in order to increase the transparency of the process. Meanwhile, the Multi-Year Tariff review methodology was introduced during the year and licensees were informed on the methodology related to allowed charges.

The capacity limitation which was inherent to the electricity sector for several years has been successfully addressed with the construction

of several new power projects. The second phase of the Kerawalapitiya Combined Cycle Power Plant (100 MW), which was previously in the testing phase, was added to the national grid on a permanent basis in May 2010. The construction of the first phase of the Norochcholai Coal Power Plant (300 MW) was completed by end 2010 and was added to the national grid by end March 2011. The second phase of the Norochcholai Coal Power Plant will add another 600 MW to the national grid by 2014. The construction of Upper Kothmale Hydro Power Plant (150 MW) was also in progress in 2010. The Upper Kothmale Hydro Power Plant is expected to be added to the national grid by end 2011. The Uma Oya Hydro Power Plant, which is at the initial stages of construction, is also expected to add another 120 MW to the national grid. Meanwhile, agreements are being finalized for the construction of a 500 MW coal power plant in Trincomalee. With the addition of these new power plants to the national grid, the total installed capacity of the country will increase by around 62 per cent. Fast implementation of these projects will help to improve the resilience of the economy to face future oil price shocks.

At the same time, emphasis has also been placed on the development of appropriate renewable energy and other low cost energy sources such as Liquefied Natural Gas (LNG), and the promotion of energy conservation in the country in the medium term. Three wind power plants of 10 MW each were added to the national grid in 2010. These wind plants are located in the Puttalam district and two plants were connected to the national grid in May and the other plant in July 2010. The energy labelling programme carried out by the Sustainable Energy Authority (SEA) was successful and the penetration of Compact Florescent Lights (CFLs) has supported the achievement of an annual energy saving of 22 GWh. The SEA has planned to extend the energy labelling programme to other products as well. The estimated annual energy saving due to enhanced use of energy efficient equipment through the labelling programme is 240 GWh. Simultaneously, measures are being taken to promote renewable energy sources such as wind and solar power.

Chart 3.2 Average Tariff and Cost of Electricity



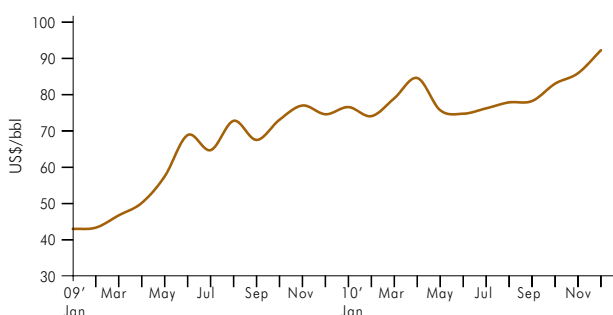
## Petroleum

**International crude oil prices remained high in 2010 compared to lower prices in the previous year.** The average international crude oil (Brent) price increased to US dollars 80 per barrel in 2010 from US dollars 62 per barrel in 2009, reflecting an increase of 29 per cent. International crude oil prices which were in the range of US dollars 70-80 during the first half of the year increased up to US dollars 92 by the end of 2010 mainly due to strong global demand and geo-political instability in certain oil producing regions. The average cost and freight (C&F) price of crude oil imported by CPC increased by 24.4 per cent to US dollars 79.52 per barrel in 2010.

**The consumption of petroleum products increased during 2010 reflecting increased demand for passenger and goods transportation in the country.** The total sales of major petroleum products namely petrol, diesel and kerosene by CPC and Lanka IOC (LIOC) PLC increased by 4.7 per cent, in 2010 compared to that of the previous year. Petrol sales have increased by 14.3 per cent and diesel sales increased marginally by 1.2 per cent reflecting the lower demand for thermal power generation. The sale of kerosene increased by 9.6 per cent reflecting an increased demand from Northern and Eastern provinces' increased fishing activities and industrial activities.

**A duty waiver of Rs. 20 was granted on petrol with effect from November 2010 to compensate the losses made by oil companies due to increased international prices.** Domestic

**Chart 3.3 International Crude Oil (Brent) Prices (Monthly Average) 2009/2010**



retail prices of petroleum products were not revised during the year. Prices have remained the same since December 2009 and continue to shelter consumers from high prices which prevailed in the international market in 2010. At the same time, Social Responsibility Levy (SRL) and Value Added Tax (VAT) on import of petrol were also removed. CPC also increased the price of furnace oil, previously sold to CEB at a subsidized price of Rs. 25, to Rs. 40 per litre with effect from September 2010.

**Table 3.4 Petroleum Sector Performance**

Item	2009	2010(a)	Growth Rate %	
			2009	2010(a)
Quantity imported (Mt '000)				
Crude oil	2,066	1,819	11.5	-12.0
Refined products (b)	2,135	2,936	1.5	37.5
L.P. gas	146	163	1.4	11.6
Domestic L.P. gas production (Mt '000)	24	23	50.0	-4.2
Value of imports (C&F)				
Crude oil (Rs. mn)	111,715	120,180	-22.0	7.6
(US dollars mn)	973	1,064	-26.5	9.4
Refined products (Rs. mn)	126,111	200,634	-37.2	59.1
(US dollars mn)	1,093	1,775	-41.0	62.4
L.P. gas (Rs. mn.)	11,298	16,049	-26.5	42.1
(US dollars mn)	98	142	-31.0	44.9
Average price of crude oil (C&F)				
(Rs./barrel)	7,343	8,985	-30.0	22.4
(US dollars/barrel)	63.93	79.52	-34.1	24.4
Quantity of exports (Mt '000)	268	340	-13.5	26.9
Value of exports (Rs. mn)	15,484	24,403	-43.8	57.6
(US dollars mn)	135	216	-47.1	60.0
Local sales (Mt '000)	3,919	3,951	5.9	0.8
o/w Petrol (90 Octane)	518	595	5.7	14.9
Petrol (95 Octane)	22	22	-24.1	0.0
Auto diesel	1,681	1,699	4.7	1.1
Super diesel	9	12	0.0	33.3
Kerosene	151	165	0.0	9.3
Furnace oil	1,110	1,004	11.1	-9.5
Avtur	229	275	21.2	20.1
Naphtha	111	82	-21.8	-26.1
L.P. Gas	194	209	11.5	7.7
Local Price (end period) (Rs./litre)				
Petrol (90 Octane)	115.00	115.00	-4.2	0.0
Petrol (95 Octane)	133.00	133.00	0.0	0.0
Auto diesel	73.00	73.00	4.3	0.0
Super diesel	88.30	88.30	3.5	0.0
Kerosene	51.00	51.00	2.0	0.0
Furnace Oil				
500 Seconds	54.30	54.30	0.0	0.0
800 Seconds	34.90	34.90	2.9	0.0
1,000 Seconds	52.70	52.70	0.0	0.0
1,500 Seconds	32.70	32.70	3.2	0.0
3,500 Seconds	26.00	26.00	4.0	0.0
L.P. Gas (Rs./kg)				
Litro Gas (c)	124.01	132.16	-13.2	6.6
Laugfs Gas	118.48	121.60	8.1	2.6

- (a) Provisional  
 (b) Imports by Ceylon Petroleum Corporation, Lanka IOC PLC and Lanka Marine Services (Pvt.) Ltd  
 (c) On 04 November 2010, the government purchased remaining 51% stake of Shell Gas Lanka Limited and took over the management and decision making powers. It was later renamed as Litro Gas Lanka Ltd.
- Sources: Ceylon Petroleum Corporation  
 Lanka IOC PLC  
 Lanka Marine Services (Pvt.) Ltd  
 Litro Gas Lanka Limited  
 Laugfs Gas Limited  
 Sri Lanka Customs

Despite this, the government continues to provide kerosene subsidy stamps as an additional financial support for Samurdhi recipients.

**The CPC's financial position eroded further during the year.** The CPC reported an operational loss of Rs. 28.6 billion in 2010 compared to Rs. 26.2 billion in 2009. The main contributory factors for the financial losses of CPC were the provision of heavy fuel at a highly subsidised rate to CEB and Individual Power Producers (IPPs), a subsidy granted on kerosene and the non-adjustment of prices in line with international oil prices during the year. Continuous operational losses of CPC has resulted in a significant loss in tax revenue to the government as well as high borrowing from the banking system by the CPC to undertake their financial operations. The CPC's net borrowing increased by Rs. 68.4 billion from the banking system for their working capital requirements during the year.

**The refinery modernization and expansion project is in the pipe line.** The existing capacity of the oil refinery is 50,000 barrels per day and is sufficient to meet approximately 45 per cent of the total demand for petroleum products of the country. With the expansion and modernization of the oil refinery, the capacity will increase by another 50,000 barrels a day. The final report of the feasibility study of the refinery modernization expansion project was completed in October 2010. Land acquisition for the refinery was in progress. The preparation of the Environment Impact Assessment (EIA) report and obtaining approval of the Central Environment Authority for the project is under way. The refinery modernization will increase the quality of the end product and bring it on par with international standards.

### Oil Exploration

**Oil exploration in the Mannar Basin was in progress in 2010.** Cairn Lanka Private Limited (CLPL), the contractor for block No. 2 of the Mannar Basin, acquired Three Dimensional (3D) seismic data for 1,750 Sq km within the block, in March 2010. An oceanographic and meteorological survey to collect data on ocean currents and wave heights has already been completed by the CLPL.

CLPL plans to commence drilling 3 exploration wells in 2011. In addition to the remaining blocks in the Mannar Basin, blocks identified for exploration in the Cauvery and Southern Offshore Basins are expected to be offered for oil exploration in the next licensing round.

### Transportation

**The transportation sector demonstrated a noticeable improvement in 2010.** This improvement was seen predominantly in the road development sector. Construction of highways, expressways, bridges, rehabilitation of existing roads with special focus on roads in the Northern and Eastern provinces, and construction of rural roads under the "Maga Neguma" programme continued in 2010. Road passenger transportation, rail and bus transportation, port services and air transportation also recorded impressive performance, reflecting the recovery in economic activities.

### Road Development

**Road development in the country, which was left behind during the last few decades, has been given prominence under the "Randora" Infrastructure Development Programme of the government.** The National Road Master Plan has been prepared to direct the government's policy on road development. The National Road Master Plan focused on the construction of expressways and highways, widening of highways, reduction of traffic congestion, road maintenance and rehabilitation, bridge rehabilitation and reconstruction, land acquisition and resettlement of people where necessary. Since the development of road infrastructure is crucial for balanced regional development, and the poor condition of the road network is a major detrimental factor in attracting new investment to the regional areas of the country, emphasis has been given to the construction of several roads, to connect provinces with the centre. Concurrently, under the "Maga Neguma" Programme, the government has taken action to improve the conditions of rural level roads in order to improve the connectivity between regional and urban areas.



**The current road density of Sri Lanka, at 1.6 km of roads per every square kilometre, is high when compared to that of other countries in the South Asian region.** The network of National Highways consisted of 4,219 km of Trunk (A class) and 7,704 km of Main (B class) roads and 4,213 bridges as at end 2010. The road density will further increase with the completion of planned road development activities. However, the economic planning process is in need of proactive assessment of capacity requirements, given the expected high economic growth and the need for increased mobility within the regions. This is essential to gradually bring down the transportation cost per kilometre to levels similar to that of developed countries and thereby, help improve competitiveness. High traffic volumes and poor road maintenance has contributed to congestion cost of Rs. 32 billion per year in Sri Lanka (The World Bank, 2009). Further, proper coordination and planning between other service providers like CEB, National Water Supply and Drainage Board (NWS&DB) and Telecom Service Providers, can help to eliminate the duplication of work, wastage and reduce maintenance costs caused by the expansion of these utility services along the roads.

**Construction activities of major road development projects continued in 2010.** Around 83 per cent of the first three sections of the Southern Expressway was completed by end 2010. It is expected to be open to the public by mid-2011. The fourth section of the project, from Pinnaduwa to Matara, is to be awarded to a consortium of local contractors upon the completion of the first three sections. Land acquisition for Stage I of the Colombo Outer Circular Highway was nearing completion by end 2010 and construction work was in progress. For the construction of Stage II of the Outer Circular Highway, land acquisition was commenced and for Stage III, 60 per cent of the detailed design study was completed by end 2010. Furthermore, construction of the Colombo-Katunayake Expressway Project was in progress during the year. Field surveys of the Colombo-Kandy Expressway are nearing completion and the preliminary design and land acquisition were in progress. Under the Weak

Bridge Programme (WBP), 169 bridges were identified, of which 15 bridges were rehabilitated in 2010 and the construction of 32 bridges is under way. The rehabilitation of the Kantale-Trincomalee and Ambepussa-Dambulla roads were at the initial stages. Meanwhile, rehabilitation of rural roads under the "Maga Neguma" Rural Road Rehabilitation Programme continued in 2010 throughout the country. The fund allocation for the "Maga Neguma" Programme for the year 2010 stood at Rs.3 billion. During the year, a total of 703 km of roads were improved or reconstructed under this programme.

**The liberation of the North and East has created new opportunities to link these two provinces with the rest of the country, for which an efficient road network is essential.** Recognizing this, the Conflict Affected Area Rehabilitation Project (CAARP), was commenced to reconstruct 190 km of roads in the Northern and Eastern Provinces. As at the end of 2010, 83 km of national highways have been completed under this project. A further 170 km of national roads in the North Central and Northern Provinces and 140 km of provincial roads in the Northern Province will be rehabilitated under the North Road Connectivity Project (NRCP). The initial work for the rehabilitation of the Kandy-Jaffna (A9) road project, and the Rehabilitation of Northern Roads Project has commenced. Under this project, a total of 512 km of roads in the Northern Province will be rehabilitated. The Sanguppidi Bridge that connects the Jaffna Peninsula to the mainland was opened in January 2011. This 288 metre long two-way bridge situated on the A32 (Colombo - Pooneryn) road will reduce the distance to Jaffna by nearly 80 kilometres and help cut down travel time to Jaffna by roughly three hours.

## Road Passenger Transportation

**Public passenger transportation showed mixed performance in 2010.** The total operated kilometreage of the Sri Lanka Transport Board (SLTB) increased by 2.7 per cent while total passenger kilometreage increased by 7.6 per cent, during the year. Though SLTB owned a fleet

of 7,746 buses, the operated average number of buses in 2010 was 4,441 per day compared to the requirement of 7,131 buses. Refurbishment of buses and adding them to the fleet was a progressive step taken by SLTB to maintain the operative bus fleet. The number of buses owned by private operators increased by 6.1 per cent to 19,805 while the operated average number of buses increased to 15,884 in 2010. The total operated kilometreage by private operators increased by 21.6 per cent while total passenger kilometreage increased by 21.6 per cent, during the year.

**Several projects were carried out to address weaknesses in the road passenger transportation sector during the year.** The 'Nisi Seriya' night time bus service, 'Sisu Seriya' school bus service, and 'Gami Seriya' to provide transport facilities in uneconomic routes and remote areas continued during the year. The Treasury provided Rs. 1,662 million to cover losses on account of operations on uneconomic routes, season subsidies and the operation of "Nisi Seriya" and "Sisu Seriya" during the year. Bus fares were not revised as per the national bus fare policy during the year as there was no significant change in the cost elements linked to fare revision.

**Several measures were taken to improve the efficiency of the state owned bus services.** In order to improve the productivity of SLTB, a broad network was established between the head office, regional offices and depots, to exchange information. A pilot project was carried out to introduce electronic ticket machines with GPRS facilities. The financial position of the SLTB continued to remain weak in 2010. The total passenger revenue of the SLTB increased to Rs.15.2 billion while the operating expenditure amounted to Rs.23.6 billion. As a result, the operating loss amounted to Rs. 8.4 billion in 2010. The subsidy payment of the government to the SLTB on other services amounted to Rs. 5 billion during the year. The weak financial position of the SLTB highlights the importance of continuing efforts to make state owned passenger transportation entities run efficiently without burdening the government budget.

**Reflecting the recovery in economic activities, the number of vehicle registrations increased significantly during the year.** The number of vehicles registered increased by 76 per cent to 359,243 during the year. The number of buses registered increased by 237 per cent during the year. The number of motor cars registered increased by 300 per cent, reflecting the reduction of import duties and increased income levels.

## Railway Transportation

**Sri Lanka Railways (SLR) registered a mixed performance in 2010.** Passenger kilometreage decreased by 4.7 per cent mainly due to the closure of the coastal railway line between Galle and Matara for rail track upgrading. Meanwhile, goods kilometreage increased substantially by 44 per cent, reflecting increased utilization of railway for oil transportation, which helped SLR to reduce its operating losses by 33.5 per cent to Rs. 3,173 million in 2010. The substantial reduction of operating expenditure by Rs. 1.6 billion in 2010 also helped to curtail the operating loss. SLR contributes only to about 5 per cent of passengers and 2 per cent of freight transportation via its 1,640 kms of rail network. The railway network coverage, reliability and the service delivery should be improved in line with the emerging transport demand of the country.

**With the view to improving the efficiency of railway transportation, SLR initiated several fleet upgrading measures and continued with railway infrastructure development projects in 2010.** In order to increase the punctuality and reliability of the railway service, measures were taken to expedite maintenance of locomotives thereby increasing their availability for services. With this initiative, SLR was able to make available the daily requirement of 60 locomotives. Steps have also been taken by SLR to import 20 Diesel Multiple Units (DMUs) and 3 Locomotives in two phases to strengthen the rolling stock position of SLR. Out of the 13 DMUs to be delivered in 2011, 2 are luxury units which are to be specifically used for tourism purposes while others would be used to strengthen operations in the hill country and Kelani Valley railway lines. In order to increase the



second international airport, the airline industry in the country could grow rapidly with the potential to emerge as a highly competitive regional hub. Also, bilateral air services with more than 60 countries, the presence of domestic land aerodromes, and potential for water aerodromes and recreational aviation facilities can help the country exploit the tourism potential associated with the aviation hub. However, it is essential to align government agencies and industry partners to bring about certain infrastructure improvements so as to create a competitive business environment which will contribute to increased growth and efficiency of the aviation industry. Issues related to the human resources of the aviation industry need to be addressed via setting up of specialized training centres and introduction of appropriate specialized curricula at all education levels so as to build an industry oriented human resource base. Furthermore, in order to emerge as a successful aviation hub, greater collaboration, information sharing and efficient use of existing technologies across the aviation value chain is needed. This can help streamline airport processes and improve service delivery and customer satisfaction. Encouraging the private sector to play an active role can help fast track the country's transformation into an aviation hub in an efficient and sustainable manner.

**The construction work of several aviation development projects were in progress.** The construction work of the Mattala International Airport was in progress in 2010 and phase I would be completed by 2013. The BIA expansion project also was in progress. This includes expansion of the transit area, construction of a new baggage re-claim area, multi-storey car park and widening of the existing runway. The feasibility study for the second runway of the BIA commenced in 2010. Development of the domestic airport network is also planned and priority was given to Koggala, Ampara and Palali airports.

### Port Services

**With the gradual recovery in international trade, the performance of port operations increased significantly in 2010.** The Colombo

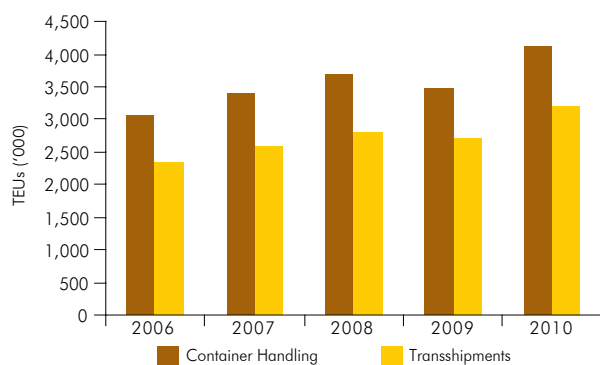
Port achieved a new record of 4.1 million containers supported by steadfast growth in both import-export and transshipment cargo. Total container handling throughput increased by 19.4 per cent to 4.1 million TEUs in 2010. This also reflects a 10.8 per cent increase compared to the total of 3.7 million TEUs in 2008, the highest-ever performance before the global recession. Transshipment handling increased by 18 per cent, while the cargo handling at the port of Colombo increased by 26.7 per cent in 2010.

**The global economic recovery has helped the Sri Lanka Ports Authority (SLPA) to improve its financial performance.** The revenue of the SLPA increased by 21.2 per cent to Rs. 28.3 billion, while the operating expenditure increased by 11.7 per cent to Rs. 23.9 billion. The operating profit of the SLPA increased by 126 per cent to Rs. 4.4 billion in 2010. The capital expenditure incurred by the SLPA during the year increased to Rs. 6.1 billion compared to Rs. 3.8 billion in 2009.

**The development of port infrastructure and services is at the forefront of the government's infrastructure development agenda.** Phase I of the Mahinda Rajapaksa Port in Magampura was inaugurated in November 2010. The port is expected to initially function as a service and industrial port. It will later be developed to handle transshipment cargo, specifically from the Indian Sub-Continent, East Africa and other neighbouring regions. Construction work of Phase II of the Port

Chart 3.4

Volume of Container Handling and Transshipments



**Table 3.6** Performance of Port Services

Item	2009	2010(a)	Growth Rate (%)	
			2009	2010(a)
1 Vessels arrived (No.)	4,456	4,067	-7.4	-8.7
Colombo	4,114	3,910	-7.0	-5.0
Galle	32	48	-52.9	50.0
Trincomalee	310	109	-3.7	-64.8
2 Total cargo handled (Mt '000)	48,778	61,240	-3.6	25.6
Colombo	46,373	58,768	-3.3	26.7
Galle	167	318	-63.6	90.4
Trincomalee	2,238	2,154	3.5	-3.8
3 Total container traffic (TEUs '000) (b)	3,464	4,137	-6.0	19.4
4 Transshipment container (TEUs '000) (b)	2,712	3,205	-2.6	18.2
5 Employment (No.) (c)	13,367	12,828	-2.5	-4.0
Colombo	12,263	11,747	-2.3	-4.2
Galle	513	480	-7.2	-6.4
Trincomalee	591	601	-3.7	1.7

(a) Provisional  
(b) TEUs = Twenty-foot equivalent container units  
(c) Only for Sri Lanka Ports Authority

Source: Sri Lanka Ports Authority

is under way at an estimated cost of US dollars 800 million. Construction of bunkering facilities and a Tank Farm with 14 Tanks with a total storage capacity of 80,000 cubic metres of petroleum products is scheduled to be completed by October 2011. The supply of bunkers at the port is expected to commence in 2011. Upon completion, the Mahinda Rajapaksa Port will be the largest port in South Asia. Meanwhile, 48 per cent of the construction work of the breakwater was completed in the Colombo South Port by end 2010. The construction work of the 1st terminal is expected to commence in early 2011 and is expected to be ready for operation in 2013. The South Terminal of the Colombo South Port project is designed as a Public Private Partnership (PPP) project on Build, Operate and Transfer (BOT) basis. The Colombo South Port project with three terminals, and each terminal having the capacity of 2.4 million TEUs per annum, will increase the capacity of the Colombo Port by 160 per cent upon completion. Construction work of the Port of Oluvil is expected to be completed by mid-2011. Construction work at the Galle and Trincomalee ports were under way in 2010.

**The government has declared its intention to develop the country as a regional shipping hub.** Sri Lanka's strategic location within close proximity to the East West maritime route used for international trade, the growing trade in the Indian

sub-continent and the increased level of integration with the rest of the world, has helped Sri Lanka to emerge as a shipping hub in the region. The SLPA has been proactively involved in addressing the capacity limitations of the port sector and the modernization of port operations through infusion of new technology to make Sri Lanka a shipping hub in the region. Sri Lanka has a massive potential to develop the port and shipping industry into one of the prime sectors of the economy, which would help generate foreign exchange and a range of direct and indirect employment opportunities in the medium term.

**The SLPA has taken several measures to improve productivity and efficiency of port operations.** It is necessary for Sri Lanka to differentiate itself as a unique, high quality and timely service provider to emerge as a shipping hub. Separate bays have been planned within the Port of Colombo to facilitate importers and their representatives to clear cargo with minimum delay. Facilities at the Jaye Container Terminal of the Port of Colombo are being upgraded to enhance efficiency and productivity. Steps were taken to set up a "Cargo Village" at Peliyagoda on a land with road and rail connectivity. Also, an electronic documentation transfer system is to be introduced for importers and exporters to submit shipping documents without visiting the port. An online payment system will also be made available for port users.

**Although, Sri Lanka is strategically positioned on a popular maritime route, the ports sector faces competition from counterparts in the region.** Hence, to maintain the competitiveness, it is essential to continuously focus on improving the infrastructure of the ports. While many measures are under way, less importance has been placed on the development of an effective inter-modal transport system. It is important to improve the road and rail connectivity to and from the port to ensure cost-effective transportation within the country. Further, there is an urgent need to implement the planned port information systems and to develop information systems linking with other key ports in the region.

It is also necessary for the SLPA to engage in cooperative ventures with ports in countries such as China, India and those in Africa. This can help SLPA to gain expertise related to the development and management of state-of-the-art ports. This will also provide an opportunity for SLPA to forge partnerships with major shipping lines.

## Water Supply and Irrigation

**The demand for pipe borne water is growing continuously with the increased level of urbanization, change in lifestyles and expansion of commercial and industrial activities.** To meet the increasing demand, the National Water Supply and Drainage Board (NWS&DB) provided 87,245 new connections during the year. The total number of connections has reached a total of 1.35 million with new additions, reflecting a 6.9 per cent increase during the year. The unaccounted water losses of the NWS&DB are still at a high level due to various reasons. These include high incidence of leakages as a result of the decayed distribution network, illegal connections and shortcomings in meter readings. In 2010, unaccounted water increased to 31.5 per cent from 31.3 per cent in the Greater Colombo area and to 26.6 per cent from 25.1 per cent in other regions.

**The financial position of the NWS&DB was satisfactory in 2010.** The total revenue of the NWS&DB increased by 10 per cent in 2010 mainly due to the increased number of connections during the year and the operational and maintenance costs increased by 10 per cent. The NWS&DB recorded an operational profit of Rs.11 million during the year. The financial performance of the NWS&DB are hindered by a high level of unaccounted water losses due to various reasons.

**The NWS&DB implemented several water supply development projects in 2010, of which some were completed during the year.** The Nuwara Eliya District Group Town Project, Rehabilitation & Augmentation of Kirindioya Water Supply Project, Water Treatment Plant (WTP) - Moratuwa, Ambatale and in Negombo, Augmentation of Nawalapitiya, Ampara, and

Table 3.7

### Water Supply by National Water Supply & Drainage Board

Item	2009	2010(a)	Growth Rate (%)	
			2009	2010(a)
Total number of water supply schemes (b)	312	315	1.0	1.0
Total number of new connections given during the period	79,395	87,245	-26.5	9.9
Total number of connections (b)	1,266,328	1,353,573	6.7	6.9
Total water production (Mn. Cu. Mtr.)	449	469	2.0	4.5
Unaccounted water (%)				
Greater Colombo	31.3	31.5	-17.4	0.6
Regions	25.1	26.6	0.8	6.0

(a) Provisional  
(b) As at year end

Source: National Water Supply and Drainage Board

Koggala projects were completed during the year at a cost of Rs.12 billion. The Towns South of Kandy Project will be completed in 2011 at a cost of Rs. 9,626 million and will address the water requirements of 360,000 people. To build a proper waste water disposal and sewage disposal facility, several projects were initiated in the Central and Western provinces at a total cost of Rs. 28.4 billion. New water supply projects initiated and planned for 2011 include, the Rehabilitation & Augmentation of Labugama - Kalatuwawa WTP, the Greater Ratnapura Integrated Water Supply Project - Phase I, Jaffna Peninsula Water Supply & Sanitation Project, Kolonna and Balangoda Water Supply Project, Ruhunupura Water Supply Development, Energy Conservation Project at Ambatale WTP and Greater Kurunegala Water Supply & Sanitation Project at a total cost of Rs.70.8 billion.

**Several major irrigation projects were in progress in 2010.** The Uma Oya Multipurpose Development Project was in progress and is expected to irrigate 5,000 ha of new lands and provide for the drinking and industrial water requirements of the South East dry zone. Some of the other projects implemented by the Irrigation Department include the Deduru Oya Reservoir Project, the Rambukkan Oya Reservoir Project, Weheragala Reservoir Project and the Lower Uva Minor Irrigation Project. These projects will facilitate around 23,670 ha of land extent. Under the Eastern Revival Programme, several irrigation schemes were commenced in the Ampara, Batticaloa and Trincomalee districts at a total cost of Rs.1,190

million. A total of 14,457 ha will be cultivable under these schemes and a total of 14,300 families will be benefitted. Under the Northern Spring ("Vadakkil Vasantham") programme, several irrigation schemes commenced in the Vavuniya and Mannar districts at an estimated cost of Rs. 947 million. The total land extent of 14,270 ha will be made cultivable when these irrigation schemes in the North become operational.

### 3.3 Social Infrastructure Policies, Institutional Framework and Performance

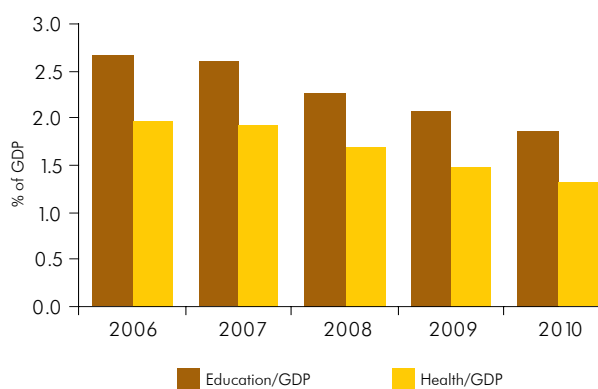
The status of the health and education achievements of a country reflects the nature of the human capital endowment, which is a critical factor in the overall economic progress. The long standing government policy on universally free health and education to facilitate human development and the implementation of generous welfare schemes in Sri Lanka has delivered abundant results in the areas of education and health and has facilitated the improvement of the living conditions of the people. However, achievements by both the education and health sector in Sri Lanka are now being challenged by demographic and epidemiological transitions and the structural changes that are taking place in the economy. Meanwhile, reduction of regional disparities in health and education outcomes, to bring about "spatial blindness" in basic human development, continue to remain a challenge which is to be addressed in the socio-economic policy front.

#### Health

Sri Lanka's health sector standards continued to improve though achievements are now being challenged by newly emerging issues. The country's health indicators show a steady improvement over the recent decades, particularly, in maternal and infant mortality, and life expectancy. Though post neo-natal mortality has declined significantly, there has been less success in pre-natal and neo-natal mortality. A neo-natal mortality rate of 8.4 per 1,000 live births suggests the need for special attention. Further, nutritional status remains a serious problem especially among the poor and vulnerable

Chart 3.5

#### Government Expenditure on Health and Education



groups. Sri Lanka's malnutrition is puzzling in the presence of its relatively high income level and its extraordinary achievements in female literacy. It is being recognized that, the improvement of nutritional status of the people should be a coordinated effort of all the stakeholders. Therefore, measures were taken to rally the support of all stakeholders, with a prominent role being played by the Ministry of Health. The re-emergence of certain communicable diseases, and a rising trend in Non-Communicable Diseases (NCDs), are also threatening the achievements of the health sector. The rising instances of NCDs suggest the need for a mass scale national awareness campaign to change the lifestyle of the people and to discourage unhealthy food patterns.

Sri Lanka has an extensive network of different types of primary level health care institutions that provide community health services, out-patient and in-patient care. However, a study carried out by the Ministry of Health has revealed that, though community health services are well utilized, primary level government curative health care facilities are underutilized, while services provided by secondary and tertiary care institutions are over-burdened. Bypassing of primary care needs provided by peripheral health care institutions and there being addressed at higher level hospitals or by private specialists increases the cost of health care to the government as well as to patients. This urges the importance of establishing a proper referral system with continuous medical education for service providers operating at the peripheral level.

## BOX 6

## Infrastructure for Inclusive Growth

**Introduction**

Inclusive growth refers to a rapid pace of sustainable growth which is broad based across sectors. At the same time, there should be enhanced opportunities in terms of access to markets, resources and social protection. Inclusive growth encompasses both the pace and pattern of growth which are critical in providing opportunities for many who are excluded from the growth process so that all members of the society could contribute to and benefit from growth. Inclusive growth is not simply income redistribution. The emphasis of inclusive growth is on improving the productive capacity of individuals and creating a conducive business environment for employment rather than income redistribution (Ianchovichina and Lundstrom, 2009). The most pressing obstacle to achieving inclusive growth is the lack of adequate economic, social and financial infrastructure (Rauniyar and Kanbur, 2009).

**Inclusive Growth – Why for Sri Lanka?**

As the Sri Lankan economy progresses on the high growth path, policy responses are required to promote inclusive growth. At present, a significant proportion of the population remains outside the ambit of basic physical, social and financial infrastructure, lacking the opportunity to contribute to this growth momentum. This urgent need for policies to be growth oriented has been recognized in the “Mahinda Chintana” (The Development Policy Framework of the Government). *“The development strategy relies not only on promoting investments on infrastructure based on commercial and economic returns but also on the creation of equitable access to such infrastructure development to enable people to engage in gainful activities.”* Therein, the infrastructure development agenda of the government encompasses policies which are focused on transforming the nature of the economic growth into one which is broad-based, faster and inclusive so as to effectively reduce inequality and improve socio-economic progress. Hence, the government’s infrastructure drive comprises of emphasis on regional infrastructure development to achieve a regionally balanced growth. It is equally important to identify public policy priorities to improve economic, social and financial infrastructure to achieve inclusive growth and increased spatial equity.

**Economic Infrastructure for Inclusive Growth**

Economic infrastructure includes transport, energy, information and communication technology, and

irrigation. Investment in economic infrastructure is important to expand the production base, enhance competitiveness and the generation of employment. Furthermore, economic infrastructure enhances trade potential between provinces while raising growth and productivity and increasing the efficiency of resource utilization. Therefore, physically connecting leading and lagging areas with better infrastructure such as transport, roads and telecommunication services can reduce the cost of transport, create a market for agricultural products produced in lagging areas and thereby generate more employment opportunities. The “Maga Neguma” rural road development programme has laid the foundation for connecting peripheral areas with the centre. Meanwhile, investments made to develop inter-regional highways and railroads, to promote mobility of people and goods, under the Government’s national level infrastructure development programme are expected to deliver tangible economic returns in the near future. With the development of economic infrastructure, market forces would emerge to change the economic structure of lagging areas. In case of failure of market forces, integrated interventions may be needed to change the economic structure of those lagging areas allowing people to actively participate in the growth process.

**Social Infrastructure for Inclusive Growth**

Social infrastructure relates to the facilities and mechanisms which ensure education, health care, community development and social welfare. There is a strong linkage between the attainment of economic prosperity and the associated enrichment of the quality of life, seen in indicators such as health, literacy and environmental sustainability. Improvements in the social infrastructure of a country will influence the creation of a more productive and more skilled workforce capable of meeting the demands brought forth by economic growth and ensuring that the country is also able to mature into one which is conducive for further well-paced economic growth and development.

Education and health have been identified as key aspects of social infrastructure which can directly contribute to inclusive growth. Sri Lanka’s universally free education and health has helped the geographical balancing of access to education and health services. However, improvements in the educational standards (in terms of quality and relevance to the market needs) can help provide people in lagging areas with the ability



to enter labour markets in dynamic places. This will help enhance labour mobility and thereby reduce poverty in lagging provinces. Compared to many of Sri Lanka's international counterparts, investment in education particularly in higher education and vocational training, is comparatively low. Hence, the current move to encourage private sector participation is to be welcomed. Improving access to high quality education is a vital step in inclusive growth as lagging areas are home to a large portion of labour whose potential has not been tapped into, due to lack of basic skills and knowledge in areas ranging from Ordinary Level Mathematics and English to ICT skills. Further, entrepreneurial skill development is another important area that the education system in Sri Lanka still lacks. Limited investment in human capital particularly skills and entrepreneurship training, is a constraint for inclusive growth (McKay, 2008).

The health of the population of a country makes an important contribution to the efficiency and productivity of human capital. In this regard, Sri Lanka's public health service coverage is commendable with 3.2 beds per 1,000 people and a doctor for every 1,462 people. While it has performed higher than its regional counterparts in this aspect, ground reality is highly skewed in terms of distribution of key health personnel. Colombo has the highest health personnel-to-population ratio for doctors, nurses and midwives, while remote provinces suffer from the lowest. The health sector has to focus on targeted intervention to overcome malnutrition and micro nutrition deficiencies which are significant in lagging areas and to introduce tailored policies to overcome area specific health needs.

### Financial Infrastructure for Inclusive Growth

Financial infrastructure is the set of institutions that enable effective operation of financial intermediaries. It also encompasses the existing legal and regulatory framework for financial sector operations. For financial infrastructure to contribute to inclusive growth, it is not only important to improve access to credit but also make available affordable credit facilities, safe and secure savings and payment products, insurance products, international remittances and access to financial advice. In the context of Sri Lanka, the lack of access to credit is one of the major bottlenecks for inclusive growth. There are demand and supply constraints for access to credit. On the demand side, insufficient collateral hinders the ability of the poor to access credit services. They also lack the financial literacy to open a bank account and to access credit services. On the supply side, banks may consider it costly and not worth to work with poor and rural clients due to high transaction costs and inadequate

financial infrastructure (Ianchovichina and Lundstrom, 2009). In addition, geographic obstacles are a key hindrance on both the demand and supply side.

While measures are being taken by the Sri Lankan government to achieve full financial inclusion by 2015, banks have to play a proactive role in coming forward and exploiting this opportunity. Hindrances to financial inclusion are poor awareness of financial products and inflexibility of such products. Also, the non-availability of appropriate banking technology due to lack of proper physical and financial infrastructure in rural areas such as low penetration of broadband services, continues to be a challenge to financial inclusion. The development of financial infrastructure can help address both demand and supply side constraints which hinder inclusive growth.

Inclusive growth focuses on both the pace and pattern of growth, which enable economic growth which is not only high but is also of an inclusive nature. Though public policies implemented in Sri Lanka for several decades have delivered abundant results, halving the country's poverty, helping the integration of the country economically, and allowing access to public services in all the provinces in Sri Lanka's journey towards an upper middle income country, it has to focus more on socio-economic policies which strive to improve living standards of people across provinces. For the benefits of accelerating growth to spread across the country, let alone households and income levels, it is important for policy makers to be more concerned on reshaping the economic geography, improving the human capital base through re-aligning health and education policies, enabling people access to credit, and improving social safety nets.

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Table 3.8

## Salient Features of Health Services

Item	2009	2010(a)
<b>Government</b>		
Hospitals (practicing western medicine) (No.)	555	568
Beds (No.)	68,897	69,501
Primary Health Care Units (No.)	475	476
Doctors (No.)	13,633	14,125 (b)
Assistant medical practitioners (No.)	1,198	1,158
Nurses (No.)	25,549	27,494
Attendants (No.)	8,301	8,189
<b>Ayurvedic</b>		
Ayurvedic physicians (No.) (c)	19,529	20,004
<b>Total government expenditure on health (Rs.bn)</b>		
Current expenditure	71.5	73.8
Capital expenditure	58.8	60.5
	12.7	13.3
Sources: Ministry of Health		
(a) Provisional	Department of Ayurveda	
(b) Including Intern Medical Officers	Ministry of Finance and Planning	
(c) Registered with the Department of Ayurvedic Commissioner	Central Bank of Sri Lanka	

**Health care financing has become more challenging in the wake of the rising cost of health care, demand for quality health care and changing demographic and epidemiological patterns of the country.** In Sri Lanka, around 49 per cent of total health care expenditure is financed by the government budget, through the central and provincial ministries of health. Around 4.9 per cent of the expenditure is financed by voluntary health insurance schemes and only 0.1 per cent is financed by social health insurance. Around 43.6 per cent of the total health expenditure is financed through out-of-pocket payments or household expenditure (WHO, 2009). It is important to recognize that the current level of high out-of-pocket expenditure may affect vulnerable communities. Hence, it is important to rationalize government expenditure for the better use of health care provisioning and at the same time, to explore alternative health financing mechanisms for affordable groups to ensure free health for needy people. Also, measures are being taken by the government to implement Senaka Bibile's drug policy to prescribe drugs by their generic names to increase access to reasonably priced health care.

**The Ministry of Health carried out several programmes in 2010 to further improve health care delivery.** In 2010, a total of Rs. 2.4 billion was allocated for the development of infrastructure facilities in the health sector, out of

which 96 per cent was utilized. There were specific health projects implemented in the Northern and Eastern provinces in 2010, with a total estimated expenditure of Rs. 1,055 million on the Jaffna hospital development project. In addition to physical infrastructure development programmes, measures were taken to strengthen the human capital base of the health sector. Accordingly, 1,700 nurses were appointed to the Health service and 1,075 persons were recruited for professions supplementary to Medicine, paramedical services and technical service categories during the year.

**The potential for promoting health tourism in Sri Lanka is significant.** Looking at the existing competitive advantages of the industry, such as the highly skilled and trained workforce, strategic location, competitive prices and hospitality, there are opportunities to attract foreign demand for health services and transform the health sector into a high value added source of foreign exchange earnings for the country. In promoting Sri Lanka as a health tourism destination, it is important to develop new strategies, especially in relation to service delivery, quality, and pricing.

## Education

**The education system plays a vital role in creating a productive workforce, which possesses appropriate knowledge and skills.** Recognizing the importance of a dynamic education sector which can meet the requirement of the changing needs of the labour market, a series of changes has been initiated by the government. In doing so, the strengthening of capacity, improvement of quality and relevance of primary, secondary and higher education sectors have been identified. At the same time, the need to improve technical and vocational training to fill the knowledge gaps has also been recognized. In reshaping the education sector, it should be noted that the education policy, in general, has to be closely linked with the labour demand and economic policy of the country.

**Several measures were taken to address the issue of regional disparity in general education.** The Ministry of Education has identified 150 schools

as “Isuru Schools” with the objective of developing these schools to the level of national schools for secondary education in selected divisional secretariat areas to ease the high demand for admission into national schools. It is expected to increase the number of “Isuru Schools” to 325 by end 2012. Further, the government has taken measures to develop 1,000 full-fledged secondary schools island-wide, with the establishment of a primary school network as a measure to ensure quality education for all. Measures are being taken to establish “Teacher Villages” for teachers to facilitate their livelihood in remote areas so as to effectively address the shortage of teachers in those areas. At the same time, several measures are being taken to broaden opportunities for education in Information and Communication Technology (ICT) for schools in remote areas.

It has been recognized that the general education system requires substantial modernization to create the human capital foundation of the country needed to emerge as a knowledge hub. With the aim of re-designing the education policy, steps have been initiated to draft a new Education Act. It is envisaged that this new legislation would ensure accelerated and optimally qualitative educational development. At the same time, measures are also being taken to introduce reforms to the general education system such as moving towards a competency based curriculum from an examination oriented, content based curriculum, promoting English and IT in education and providing opportunities for children to gain life skills.

Sri Lanka ranks at 82 out of 149 countries in the Knowledge Economy Index (KEI) prepared by the World Bank (2009). The knowledge economy is one that creates, disseminates and uses knowledge to enhance growth and development in a country. A successful knowledge economy is characterized by close links between science and technology, greater importance placed on innovation for economic growth and competitiveness, increased significance of education, greater investment in R&D, information technology, and education. Since Sri Lanka is

Table 3.9

## Salient Features of General and University Education

Item	2009	2010(a)
<b>1. General education</b>		
a. Schools (No.)	10,205	10,492
Government schools	9,410 (b)	9,675
o/w National schools	334	340
Other schools	795	817
Private (c)	98	98
Pirivena	697	719
b. Students (No.) ('000)	4,038	4,112
c. New admissions (No.) ('000) (d)	330	332
d. Teachers (No.) ('000)	226	228
e. Student/Teacher ratio (government schools)	18	18
f. Total govt. expenditure on education (Rs. bn) (e)	100.5	104.2
Current expenditure	82.4	85.2
Capital expenditure	18.1	19.0
<b>2. University education</b>		
a. Universities (No.)	15	15
b. Students (No.) (f)	68,768	66,305
c. Lecturers (No.)	4,735	4,918
d. Number Graduating (f)	13,952	n.a.
Arts and Oriental studies	4,830	n.a.
Commerce & Management studies	2,705	n.a.
Law	425	n.a.
Engineering	1,157	n.a.
Medicine	943	n.a.
Science	2,504	n.a.
Other	1,388	n.a.
e. New admissions for basic degrees (No.) (f)	20,846	21,547
(a) Provisional	Sources: Ministry of Education	
(b) All government schools in Mullaitivu and Kilinochchi districts and some govt. schools in Mannar and Vavuniya districts were temporarily closed at the census date due to war situation	University Grants Commission	
(c) Private schools approved by the government and schools for children with special needs (This figure excludes international schools which are registered under the Companies Act)	Ministry of Finance and Planning	
(d) Government schools only	Central Bank of Sri Lanka	
(e) Includes government expenditure on higher education		
(f) In all Universities, excluding the Open University of Sri Lanka		

poised to realize faster growth and thereby move into the upper middle income status, the country needs to formulate robust “Knowledge Economy” oriented strategies and reform appropriate sectors at the national level. Since the improvement that has so far been made is limited, it is important to focus on improving the country’s rank in the areas of ICT, innovation, and economic incentive regime. Sri Lanka has consistently remained at a low level with regard to patents, journal publications and research.

University education in Sri Lanka, which is mainly a public sector monopoly, suffers from both, the inability to meet demand and failure

## BOX 7

## Expanding Opportunities for Higher Education

With the rising of income levels, there has been a rapid growth in demand for high quality services such as health and education. While there has been rather wide choice available for people who wish to avail of health services in the country, the choices available for higher education have been limited as the state had been the monopoly provider. To cater to the increased demand for high quality higher education, it has been widely acknowledged that there is a strong need to increase the opportunities available domestically.

At present, in Sri Lanka, the public university system faces a severe capacity constraint to accommodate all those aspiring for university education. In 2010, although 61 per cent of the students who sat the GCE Advanced Level examination were eligible for admission to a university, only 17.2 per cent (21,547 students) were in fact admitted, due to capacity limitations. This serious limitation locally has led to local students seeking admission in universities in developed and developing countries, including neighbouring countries such as India, Nepal and Bangladesh at a significant cost.

Despite the prevalence of this serious capacity limitation, private sector participation in higher education in Sri Lanka was not permitted, on the misguided view that such a policy will deny the opportunity for higher education for low income students. Unfortunately, however, the outcome of this policy was that, due to inadequate placements in the public university system, those with financial affordability had to secure placements in foreign

universities at a significantly high cost, while the opportunities for the poorer sections of society were, limited by the number of available positions in the state sector universities. In the meantime, the expansion of the middle class' affordability led to further increase in demand for higher education, since parents of students who could not secure opportunities domestically, search for opportunities elsewhere to educate their children.

In this context, by opening the higher education sector for non-state universities, Sri Lanka will be able to expand the opportunities and choices available for Sri Lankan students for higher education. It has also been noted that the viability of this option is enhanced by the availability of competitive advantages such as the strategic geographical location of the country, the service culture of the workforce and the intellectual capacity of local academia. This policy will therefore result in Sri Lanka being able to provide education on par with international institutions, at a lower cost and in turn, open up venues to "export" higher education services in the near future. Since in the past, investment in this sector had been artificially restricted, this new move can also stimulate the higher education sector in the areas of research and development as well as capacity building. This initiative will also prompt more efficient resource mobilisation, and serve to improve the quality of education with increased competition amongst universities. Such increased competition, in turn, will act as an incentive to improve quality, which will probably serve to rectify the supply and demand "mismatch" in the domestic labour market.

**to supply a quality education compatible with labour market requirements.** Private sector participation in higher education was opposed for several decades, on the ground, that it will deny the opportunity for higher education for low income students. However, due to inadequate placements in the public university system of Sri Lanka, those with financial affordability, have left to foreign universities resulting in an outflow of a large volume of foreign exchange. In this context, the government has clearly stated that participation in the higher education system will be opened up to the non-state sector, allowing foreign

universities to set up affiliated universities in Sri Lanka. The attraction of renowned universities with appropriate regulations and accreditation policies in place would also enable Sri Lanka to attract foreign students to these universities.

**While promoting foreign investment in the higher education sector in the country, it is important to improve the existing university education system.** In doing so, due to the limited fiscal space, it is important to explore alternative sources of funding for higher education of a greater quality. For this purpose, the existing administrative

and financial regulations would need to be reviewed and suitably amended without compromising academic standards, quality and examination integrity. Though public universities enjoy a considerable level of autonomy, administrative constraints could result in reducing revenue generated through consultancy, research activities and study programmes. Entrepreneurial orientation of university education is another possible avenue for alternative financing as well as attracting foreign students from other countries. Even with the expansion of the private general education system in the country, proper criteria are yet to be set up to admit students of private education institutions into public universities via a suitable cost sharing mechanism. Simultaneously, it is important to introduce a quality assurance rating system to make public universities competitive which in turn would spur academic and research excellence in public universities.

**The University Grants Commission (UGC) executed several measures during the year to improve the quality of the higher education sector in Sri Lanka.** The UGC streamlined the process to recognise postgraduate courses by adopting a new format for the application and evaluation procedure, with the assistance of the Quality Assurance and Accreditation Council of the UGC. Further, the UGC also executed measures to regularise the external degree programmes and external courses with the intention of improving the quality of the respective courses. Further, to regularise and to facilitate private sector participation in the higher education sector, guidelines were published to grant degree awarding status for state and non-state higher degree awarding institutions. Meanwhile, the Quality Assurance Programme of the higher education sector was continued in 2010.

**The technical and vocational education sector continued to expand during the year.** The National Policy Framework on Higher Education and Technical and Vocational Education was finalized during the year and the policy implementation plan was presented in December 2010. Tertiary and Vocational Education Commission (TVEC), with the association of the International Labour

Organization (ILO) Sri Lankan branch, designed a customized policy framework especially for the provision of skills training for vulnerable groups. A Vocational Education and Training (VET) Plan was developed for the Eastern province. In addition to this, Industry specific VET Plans were developed for the leather and ICT sectors, in collaboration with the Industrial Development Board (IDB) and the University of Colombo School of Computing (UCSC). Under National Vocational Qualifications (NVQ) programme there were 13,249 NVQ certificates issued during the year from a total of 736 accredited courses. A Technical and Vocational Education and Training (TVET) Rationalization Programme was implemented by the Ministry of Youth Affairs and Skills Development, in association with the TVEC, to streamline TVET delivery by public sector training institutions. Nine Technical Colleges in nine provinces have been upgraded to Colleges of Technologies which offered National Diplomas in 2010.

## Housing and Urban Development

**The government has taken many steps to cope with the housing and urban infrastructure demand resulting from urbanization.** Amidst scarcity of lands, the government is now focused on urban development with a view to increasing quality of life and facilitating commercial activities in the centre of cities. Severe flooding after torrential rains in many areas of the country including the capital, Colombo, highlighted the importance of urban planning. The primary reason for flooding within the Colombo city was the unauthorized construction of buildings within the city. Such unauthorized construction has also given rise to the increased incidence of health hazards such as dengue and other serious environmental issues.

**In 2010, the Urban Development Authority (UDA) played a proactive role in urban development.** It has been recognized that Colombo, being the major administration city, requires strategic development to boost both commercial and housing activities in an environment friendly and effective manner. The Development Plan, formulated by the UDA, focuses on development issues in the City of Colombo that have emerged as a result of rapid

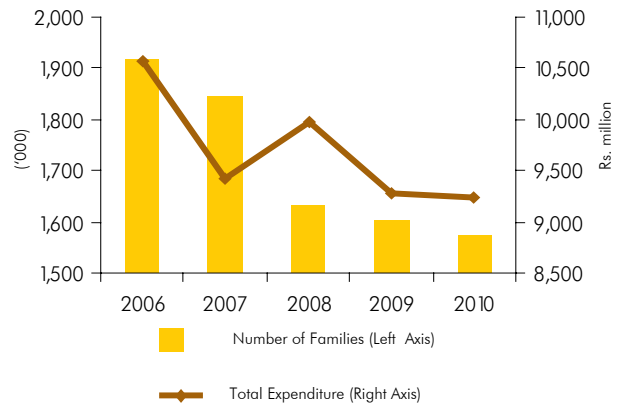
urbanization. A comprehensive planning approach, including all urban issues, has been taken to address the current and future infrastructural needs of the city. The UDA implemented urban development projects and urban renewal projects for under-served settlements to improve their living standards. This project will release nearly 250 ha of land within the city of Colombo and its suburbs for investments targeted at urban development. The UDA carried out urban development projects worth Rs. 3.1 billion in 2010. At the same time, the UDA made a self-financing debenture issue of Rs.10 billion to provide a low-income housing scheme for shanty dwellers in the Colombo metropolitan city limit.

**The housing finance market faces several issues, which inhibit its growth.** The failure to include low and middle income groups and other self-employed categories in the formal housing sector, due to various reasons, takes a significant toll on the physical infrastructure of developing urban areas such as Colombo. The maturity mismatch characteristic of lending institutions, legal and other institutional issues, problems relating to land titles, high cost of construction materials and lack of skilled labour inhibits the growth in the housing sector. However, it should be noted that the cost of housing financing has reduced with the reduction of interest rate charged on housing loans in 2010.

### Safety Nets and Poverty Alleviation

**The incidence of poverty declined significantly in Sri Lanka during last few years.**

**Chart 3.6** Number of Samurdhi Beneficiary Families and Expenditure



The Poverty Head Count Index (percentage of population below the poverty line) has come down to 7.6 per cent from 15.2 per cent in 2006/ 2007 as per the first round data of the 2009/2010 Household Income and Expenditure Survey. Decline in poverty is significant in the estate and rural sectors while decline in urban poverty is moderate. This indicates the success of public policies in levelling social welfare. The government's policy to ensure that basic infrastructure is improved despite the conflict, has allowed benefits to trickle down to low income households. However, it should be noted that the identification of disparities in poverty, among different geographical locations, is needed. These have to be then assessed through a proper poverty mapping exercise to improve targeting of poverty alleviation programmes.

**Various poverty alleviation programmes continued under the Department of Commissioner General of Samurdhi in 2010.**

**Table 3.10**

**Samurdhi Welfare Programme**  
Number of Beneficiary Families and Value of Grants (a)

Year	Income Supplementary Programme		Dry Ration Programme		Nutrition Programme	
	Number of Families (b)	Value (Rs.mn)	Number of Families (b)	Value (Rs.mn)	Number of Families (b)	Value (Rs.mn)
2005	1,960,664	9,244	98,223	1,142	122,186	250
2006	1,916,594	10,570	122,269	1,359	186,211	576
2007	1,844,660	9,423	105,105	1,234	102,020	594
2008	1,631,133	9,967 (c)	102,662	1,457	86,480	386
2009	1,600,786	9,274 (c)	173,450	2,860	71,762	505
2010	1,572,129	9,241 (c)	30,320	1,016	61,495	388

(a) Number of families decreased in 2008, 2009 and 2010 due to improvement in targeting and increase in income levels

(b) As at year end

(c) Including the kerosene subsidy

Sources: Department of the Commissioner General of Samurdhi  
Ministry of Finance and Planning

Such major programmes were the Samurdhi subsidy programme, nutrition allowance programme, dry rations for Internally Displaced Persons (IDPs), Samurdhi social security programme and kerosene subsidy stamp programme. However, the existing food rations programme needs to be reviewed through follow up work to outline specific steps for geographic, poverty and age targeting to improve the programme's cost effectiveness and its potential impact on nutrition in the future. The potential for linking some of these food programmes with community-driven development programmes needs to be explored as malnutrition in the country could challenge social development. In addition to these food programmes and income supportive schemes, community development programmes were also carried out by the Samurdhi Authority of Sri Lanka. A total number of 1.6 million families benefited from the Samurdhi subsidy programme in 2010. The total expenditure amounted to Rs. 9,241 million during this period.

**The Samurdhi Authority of Sri Lanka launched various income generation programmes, community development programmes as well as capacity building programmes in 2010 to enable the Samurdhi beneficiaries to escape from poverty.** The Samurdhi social security programme was launched with the view to preventing poor families from falling into the lowest depths of poverty due to unexpected incidents such as deaths, hospitalisation and childbirth. These disbursements amounted to Rs. 33.8 million during the year. Under the social development programmes, programmes on prevention of drug abuse and uplifting moral values were conducted on the Divisional Secretariat level.

## Environment

**A sustainable balance needs to be maintained between high economic growth and its impact on environment.** Sri Lanka has ratified a range of international conventions, agreements and protocols related to the environment. Although this has helped to keep Sri Lanka away from serious environmental hazards, the country

continues to face several challenges in preserving the environment. These include forest cover depletion, land degradation, haphazard waste disposal, depletion of biodiversity, air pollution, climate change, unsustainable utilization of natural resources and pollution of inland waters and marine and coastal ecosystems. These environmental problems are a result of the growing needs of the population pressurizing the natural environment. In turn, this has caused many parts of the island's natural environment to be converted for human uses such as settlements and agricultural lands.

**The Ministry of Environment has played a proactive role in designing and implementing measures focused on the sustainable and efficient use of natural resources.** The "Haritha (Green) Lanka" programme, initiated in 2009, continued in 2010. The "Dayata Sevana" programme was initiated in 2010 in line with the "Green Country" theme outlined in the government's policy. Under this programme, 1.1 million trees were planted across the country. Steps have also been taken to improve and maintain the quality of water in key water bodies, to a level suitable for human use. Under the "Pavithra Ganga" programme, the Ministry has collaborated with the Central Environment Authority (CEA) and the NWS&DB to monitor the quality of the river water on a bi-weekly basis. Climate change has also been recognized as a challenge, and in this regard, the Ministry in collaboration with UN Habitat has prepared and finalized the National Climate Change Policy Framework and adopted the SAARC three year Action Plan on Climate Change, in 2010. The "Green Circle Project" was implemented to introduce the development of wetlands while conserving resources and providing recreation space to promote the sustainable tourism industry. A variety of awareness programmes such as "Parisara Paagamana" (eco-march), tree planting campaigns and green awards ceremony were also conducted in 2010.

**The CEA also implemented several measures to protect the environment.** The CEA commenced a Strategic Environmental Assessment (SEA)

## BOX 8

## Global Warming and Carbon Credits

Global warming and the resultant climate change are among the most serious environment problems facing the world community. The repercussions of climate change already are being felt worldwide. The impact will be seen on a broad array of human and natural systems, with consequences for human health, food production, water supplies, and many other areas vital to economic and social well-being. While certain effects may in the nearer term prove beneficial to some, in the long-term, these will be largely detrimental. Adapting to these changes in order to minimize their human and environmental consequences has become a significant challenge to the world.

The Kyoto Protocol, a 'modus operandi' to the International Framework Convention on the reduction of greenhouse gas emissions, is an amendment to the United Nations Framework Convention on Climate Change (UNFCCC), an international treaty to unite countries to reduce global warming and the resultant climate change. It was formulated to tackle global warming by setting target levels for countries to reduce greenhouse gas emissions worldwide. While targets tend to vary between regions and countries, the initial worldwide target is the reduction of greenhouse gas emissions to 5.2 per cent below base levels (1990 levels) during the 'commitment period' ranging from 2008 – 2010. While the convention covers all greenhouse gases, the prime focus of the Kyoto Protocol is on the reduction in the levels of Carbon Dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous Oxide (N<sub>2</sub>O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Sulfur Hexafluoride (SF<sub>6</sub>).

The carbon trading scheme as a whole aims to provide a means of reducing greenhouse effect emissions on an industrial scale by capping total annual emissions and then assigning a monetary value to the shortfall via trading. The credits can be exchanged among businesses or traded at market prices prevailing in international markets. The carbon market valued at

USD 10.9 billion in 2005 is known to have grown at compound annual growth rate of 89 per cent to reach USD 139 billion in 2009. It is expected that the global carbon trading market will experience a high growth after 2012 and may reach USD 1.2 trillion by 2020.

However, of recent times, it has been recognized that the Clean Development Mechanism of Carbon Trading has failed to incorporate the "Polluter Pays" principle. As countries realize that the prices of carbon credits have not acted as a disincentive to pollution and now introduce higher floor prices, consumers of products of energy intensive industries seem to have been hit hard. The pass-through of the environmental externalities of economic activities by the producers has increased the costs of production causing consumers to bear higher costs. The phenomenon has extended to one where the polluter pays and passes down to consumers, thereby creating little or no benefit to consumers or to the world as a whole. In turn, the issue may be magnified to encompass the fact that countries which sell carbon credits or less pollutant may, in turn, have to bear higher costs when they import from countries which have added the costs of pollution in order to set off the costs associated with buying carbon credits from low polluting countries. Hence, countries which have not polluted may actually be poorly benefitted by reducing their pollution levels, as they may have to purchase final products or services from high polluting countries by paying more to set off the cost incurred by them to buy carbon credits. Therefore, it seems as if the mechanism in itself has initiated a vicious cycle where the aim of curbing emission remains unfulfilled. Hence, the only solution which will compel a commitment of countries to curb their pollution without causing costs to consumers, is for them to refrain from any activities which will cause them to go beyond the pollution level targets set for their respective countries.

in the Northern and Southern provinces. In the Southern province, land has been identified as suitable for development projects such as airport, seaport, cricket stadium, industrial estates and for tourism. The Northern province SEA is expected to facilitate development activities while preserving the environment. Further, the CEA has also developed

an Environmental Resource Information System containing all environment and socio-economic data of Sri Lanka up to the Grama Niladhari level. This spatial database will play a vital role in environmental assessment, management, monitoring and identification of development sites and in the disaster management planning.