

# Chapter 3

## ECONOMIC AND SOCIAL INFRASTRUCTURE

### 3.1 Overview

**I**n 2009, the government continued with its infrastructure development programme amidst difficult fiscal conditions, since a strong infrastructure network is essential for a high economic growth and enhancing the living standards of the people. The development of economic infrastructure across the country would help to broaden the production capacity, raise economic efficiency, improve productivity and reduce regional disparity. The development of social infrastructure is imperative in building a strong human capital base which is a prerequisite of economic growth in a modern knowledge based economy.

**The infrastructure development programme of the government provides the basis for economic infrastructure development under the medium term policy direction of the country.** In 2009, the economic infrastructure development programme focused mainly on the development of roads, energy, water supply and sanitation, ports and aviation, transport and rural infrastructure. This includes national level projects such as the Southern Expressway, Colombo-Kandy

Expressway, Colombo Outer-Circular Road, Upper Kotmale Hydro Power Project, Norochcholai Coal Power Project, Colombo South Harbour Project and Hambantota Port Development Project. Several flyovers in Colombo and suburban areas were opened for traffic in 2009. 'Maga Neguma' and 'Gama Neguma' programmes were continued at the regional level to facilitate a regionally balanced economic development.

**With the end of nearly three decades of conflict in May 2009 and the re-integration of the Northern and Eastern provinces with the rest of the country, priority has been given to infrastructure development activities in these two provinces.** Under the 'Nagenahira Navodaya' (Eastern Revival) programme with a total estimated expenditure of Rs. 197 billion, as well as the 'Wadakkil Wasantham' (Northern Spring) programme with a total estimated cost of Rs. 295 billion, development and rehabilitation activities have been expedited in the areas of construction of roads, bridges, railway tracks, transport services, electricity transmission lines, water supply and sanitation, housing facilities and telecommunications services.

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)
2000	54.7	4.4	16.5	1.3	71.1	5.7
2001	54.9	3.9	14.6	1.0	69.5	4.9
2002	51.7	3.4	15.7	1.0	67.4	4.3
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	5.6
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 (c)	256.4	5.8	53.9	1.2	310.3	7.0

(a) From 2003, data based on 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

While the initiatives taken by the government to improve the economic infrastructure development in the country is admirable, the issues relating to economic infrastructure have to be resolved urgently to place the country in the expected high economic growth path. The state owned enterprises, which provide key economic infrastructure services are operating below optimum level, though the majority of them function as government monopolies. Services rendered by most of these institutions are below the desired level and operate on government assistance rather than functioning as commercially viable business entities. Such operations have created fiscal as well as monetary implications exerting pressure on the macroeconomic stability of the country. Hence, a significant improvement is needed to be implemented in the areas of electricity, petroleum, passenger transportation, air transportation, postal services and water supply. Towards this end, the objective should be to make them financially viable rather than continue their dependence on the government budget. It is also necessary to convert these institutions to be high quality service providers, and be positioned to provide their services on cost recovery basis and implement cost efficient production and service delivery strategies.

**In 2009, the government continued its efforts to improve the social infrastructure facilities**

considering the importance of social infrastructure development in building a healthier society with an educated and productive labour force. The improvement in social indicators, such as mortality rates, life expectancy, educational attainment, access to safe drinking water, poverty indices as well as gender equality that Sri Lanka has achieved over the years have well positioned the country towards accomplishing Millennium Development Goals (MDGs). However, these achievements are jeopardised by several factors which need greater and urgent attention of the relevant authorities. Emerging and re-emerging communicable diseases, such as dengue, high level of non-communicable diseases, relatively high incidence of malnutrition and micro-nutrition and health financing are major issues which foreshadow the performance of the health sector. Meanwhile, it is satisfying to note that there are several improvements being made in the general and higher education sector with a view to improving the quality of education to match the emerging demand in the labour market. In this regard, though the government has already taken progressive steps towards improving general education by providing English and Information Technology (IT) education, further measures should be taken to strengthen these initiatives to address the disparities in the school system. The existing university education system also must target quality improvement, the expansion of the availability of opportunities for university education, and the creation of a more competitive environment by facilitating private sector participation in the higher education sector.

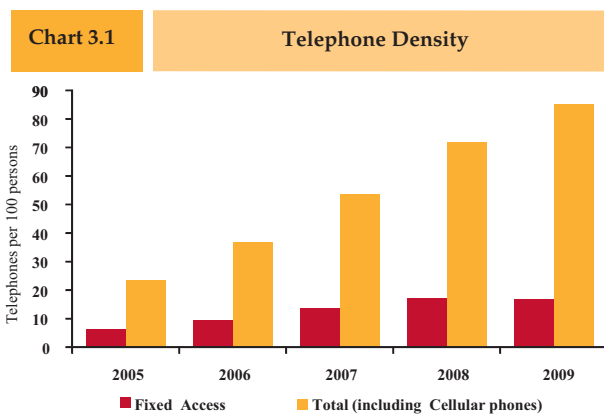
**The government has declared its intention to transform Sri Lanka into a Naval, Aviation, Commercial, Energy and Knowledge hub and develop the country into a strategically important economic centre in the region.** In doing so, it is imperative to complete the ongoing mega infrastructure projects as planned, to realise the full benefits of peace and to enable the fast tracking of development activities. To fast track the implementation of infrastructure projects, and to ensure their maintenance and management in a sustainable manner and to reduce the burden on

the government budget, it is important that private sector participation is also promoted. One option available for this is to encourage Public-Private Partnerships (PPPs) in identified infrastructure projects. In order to attract the private sector investments towards infrastructure projects, it is essential for the government to clearly identify the specific projects in which the private sector can participate and to create a conducive environment for the private sector to actively engage in providing infrastructure facilities.

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

#### Communications Services

**Telecommunications sector registered a significant growth in 2009.** The number of mobile connections increased by 25.9 per cent to 13.9 million, while the number of fixed telephone lines decreased by 0.5 per cent to 3.4 million leading to an overall growth of 19.6 per cent to 17.4 million connections in 2009 when compared to that of 2008. Expansion in coverage and introduction of improved and value added services for comparatively lower price by mobile service providers due to severe competition in the industry brought about discontinuation of existing fixed access telephone connections which in turn led to a negative growth of the total number of fixed access telephone connections during the year. New value added services, technological advancements and reduced calling and connection charges resulted in a higher growth in the mobile telephone connections. The



future growth in the mobile telecommunications industry will be driven by the introduction of 4G technology, encompassing low cost, high speed data transmission and high degree of personalisation and synchronisation between various user appliances. Increase in mobile connections significantly led to an increase in the mobile penetration (mobile connections as a per cent of total population) to 68.2 per cent in 2009 from 54.8 per cent in 2008. With these developments, telephone density (telephones per 100 persons including cellular phones) increased to 85 in 2009 from 71.9 in 2008. As at end 2009, the telecommunications sector consisted of multiple telephone service providers including 4 fixed line operators, 5 mobile operators, 33 external gateway operators, and 22 internet service providers making the industry more competitive.

**Effective regulation in telecommunications industry plays a key role in enabling the country to meet its national Information and Communication Technology (ICT) development goals.** Regulation should ensure fair pricing and competition leading to a level playing field for all the service providers. Hence, it is important to strengthen the regulatory framework to accommodate fast moving new

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

Item	Growth Rate (%)			
	2008	2009(a)	2008	2009(a)
1 Telecommunications services				
1.1 Fixed access services				
Wireline telephones in service (No.) ('000)	934	871 (b)	0.2	-6.7
Wireless local loop telephones ('000)	2,513	2,560	38.8	1.9
Cellular phones ('000)	11,083	13,950	38.8	25.9
Telephone density (Telephones per 100 persons including cellular phones)	71.9	85.0	34.1	18.3
1.2 Other services				
Public pay phones	7,417	7,936	-13.0	7.0
Internet & e-mail ('000)	234	240	15.8	2.6
2 Postal service				
Delivery areas (No)	6,729	6,729	0.0	0.0
Post offices (No)	4,737	4,738	0.0	0.0
Public	4,053	4,054	0.0	0.0
Private	684	684	0.0	0.0
Area served by a post office (Sq.km)	13.8	13.8	0.0	0.0
Population served by a post office	4,311	4,311	1.4	0.0
Letters per inhabitant (No)	21	21	-8.7	0.0

(a) Provisional

(b) Wireline declined in 2009 due to shift of some subscribers to Cellular phones.

Sources: Telecommunications Regulatory Commission of Sri Lanka  
Department of Posts

developments in the telecommunications industry. In doing so, it is important to take measures to revamp the licensing regime to accommodate changes in technology and industry requirements. Non-availability of an effective surveillance mechanism to monitor compliance is also an issue which would need to be addressed in order to ensure effective regulation of the telecommunications industry.

**Postal services registered a mixed performance during 2009.** The postal service consists of 4,738 post offices, including 643 main post offices, 3,411 sub post offices, 463 agency post offices, 156 rural agency post offices and 65 estate agency post offices. The average population served by a post office remained constant at 4,311 people in 2009 compared to that of 2008. The initiatives taken by the Department of Posts (DOP) in 2007 to provide certain banking facilities, insurance services and selling pre-paid phone cards through post offices were continued in 2009. However, the public continues to use post offices primarily for postal services. Hence, it is important to increase the awareness of the public on these new value added services and to position DOP as a new value added service provider rather than a conventional postal service.

**The DOP continued to report operating losses in 2009.** The operating loss of DOP remained high, at Rs. 2,472 million in 2009. The revenue collection by the DOP has increased marginally to Rs. 4,638 million while the operating expenditure has increased by 5.6 per cent, leading to an increase in operating losses. It is important for the DOP to develop a strategy to transform it to a self-financing venture rather than depending on the government budget, by penetrating into more income generating business areas.

## Energy

**The global financial crisis and the ensuing global economic recession had a dramatic impact on the world energy market in 2009.** International oil prices continued to decline from its high of US dollars 146 per barrel in July 2008 to US dollars 34 per barrel in December 2008. The oil prices continued to increase gradually in 2009 and

by December 2009, oil price was around US dollars 75 per barrel. Annual average crude oil (Brent) price stood at US dollars 62 per barrel in 2009 compared to US dollars 97 per barrel in 2008. The annual average import price of crude oil (C&F) by the Ceylon Petroleum Corporation (CPC) declined by 34 per cent to US dollars 64 per barrel from a high of US dollars 97 per barrel in 2008. The gradual increase in world oil prices towards the end of 2009, indicates the need for identifying alternative energy sources, including renewable energy and promotion of energy conservation measures to deal with future oil price shocks.

## Electricity

**Electricity generation declined in 2009, mainly due to slowdown in the industrial sector.** Total electricity generation in 2009 declined by 0.2 per cent to 9,882 GWh. Hydropower generation decreased substantially by 5.9 per cent to 3,884 GWh due to the severe drought condition that prevailed in the catchment areas during the first few months of the

Table 3.3

Power Sector Performance

Item	2008	2009(a)	Growth Rate (%)	
			2008	2009(a)
Installed capacity (MW)	2,645	2,683	8.2	1.4
Hydro	1,345	1,379	1.6	2.5
Thermal (b)	1,285	1,290	15.2	0.4
Wind	3	3	0.0	0.0
Other	12	12	450.0	0.0
Units generated (GWh)	9,901	9,882	0.9	-0.2
Hydro	4,128	3,884	4.6	-5.9
Thermal (b)	5,763	5,975	-1.7	-3.7
Wind	3	3	50.0	0.0
Other	6	20	500.0	233.3
Total sales by CEB (GWh)	8,417	8,441	1.7	0.3
Domestic and religious	2,799	2,927	1.0	4.6
Industrial	2,678	2,518	1.9	-6.0
General purpose and hotel	1,703	1,768	4.7	3.8
Bulk sales to LECO	1,130	1,120	-1.2	-0.9
Street lighting	108	108	0.0	0.0
LECO sales (GWh)	1,071	1,054	-2.6	-1.5
Domestic and religious	480	486	-3.8	1.3
Industrial	237	208	-11.2	-12.2
General purpose and hotel	327	332	7.9	1.5
Street lighting	27	28	0.0	3.7
Overall system loss of CEB (%)	15.0	14.6	-4.3	-2.6
Number of consumers ('000) (c)	4,546	4,726	5.5	4.0
o/w Domestic and religious	4,026	4,190	5.6	4.1
Industrial	44	46	7.3	4.5
General purpose and Hotel	473	486	5.1	2.7

(a) Provisional  
 (b) Inclusive of Independent Power Producers (IPP)  
 (c) Inclusive of LECO Consumers

Sources: Ceylon Electricity Board  
 Lanka Electricity Company (Pvt) Ltd.



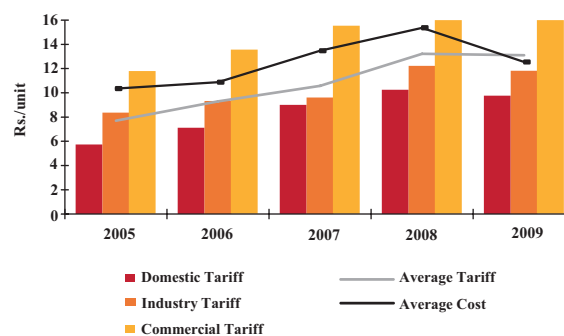
year. Thermal power generation increased by 3.7 per cent to 5,975 GWh due to increased utilisation of thermal power. The system loss, as a percentage of total generation, declined from 15 per cent to 14.6 per cent in 2009. The share of the CEB in total electricity generation stood at 55 per cent in 2009 compared to 58 per cent in 2008, while the share of the private power producers stood at 44 per cent of the total electricity generation.

**The sales of electricity, which exclude system losses out of the total generation, increased marginally by 0.3 per cent to 8,441 GWh in 2009.**

The growth in electricity demand has decelerated in recent years largely due to the high growth experienced in the less energy intensive sectors in the economy and an upward revision of electricity tariff in 2008. The electricity consumption in the household sector and general purpose and hotel sector increased by 4.6 per cent and 3.8 per cent respectively, while in the industrial sector electricity consumption declined by 6 per cent in 2009.

**The financial position of the CEB remained weak.** The operating loss of the CEB amounted to Rs.7.4 billion in 2009 compared to that of Rs. 33.3 billion in 2008. The higher dependence on high cost thermal power generation adversely affected the cash flow of the CEB. In 2009, about 60 per cent of the total electricity demand was met by thermal power. However, due to the relatively low petroleum prices and subsidy granted on furnace oil, the fuel bill of the CEB decreased by 29.3 per cent to Rs. 25.1 billion. On average, the CEB incurred Rs. 6.57 to generate a unit of electricity in 2009. The average purchase price of private power per unit amounted to Rs. 13.81 in 2009. However, comparatively low oil prices in the international market mitigated the heavy pressure on electricity generation costs, reducing the burden on the already weakened financial position of the CEB. Nevertheless, increase in thermal power generation, exemption of Fuel Adjustment Charge (FAC) on the industry and hotel sector and changes to the tariff structure to provide further relief to low income households, affected adversely on the financial position of the CEB. A waiver on the FAC was granted to the hotel and industrial categories from January 2009 under the Economic Stimulus

**Chart 3.2** Average Tariff and Cost of Electricity



Package of the government, considering the difficulties faced by these industries due to the impact of global economic downturn. Further, a discount of Rs. 30.00 per household, which consumes less than 90 units per month, was granted by the budget 2009. The average cost of electricity has come down to Rs. 12.55 per unit in 2009 from Rs 15.37 per unit in 2008, reflecting the impact of subsidised furnace oil and comparatively low oil prices. The average tariff per unit also declined to Rs.13.11 in 2009 from Rs. 13.22 from 2008 due to the waiver in FAC and the subsidy granted to households. CEB's short-term borrowings from banks and other outstanding liabilities to CPC and to Independent Power Producers (IPPs) increased further to Rs. 71.6 billion in 2009. The CEB's accumulated long-term loans amounted to Rs. 93.8 billion by end 2009.

**Continuing weak financial position of the CEB exerts pressure on macroeconomic management of the country.** The persistently high outstanding liability of the CEB to the CPC has made the CPC to borrow substantially from the banking system thereby crowding out lending to the private sector while impacting on market interest rates. This situation highlights the importance of addressing financial issues of the CEB urgently. The implementation of low cost power generation projects as planned, implementation of a realistic and flexible pricing policy and negotiating with the private power producers to make power purchase more cost-effective and to explore the possibility of transforming high cost thermal power plants to run on low cost fuel such as Liquid Natural Gas (LNG) can be considered as ways to improve the financial situation of the CEB in the short to medium term.

**It is vital that the power sector is transformed into a sound and a financially viable sector in the economy.** To improve the balance sheet, the CEB can introduce distinctive profit centres for key areas of operations such as hydropower, thermal power, transmission, distribution etc. as already have been identified. The profit centre concept will help to improve productivity and achieve maximum efficiency, cost saving and thereby improve the profitability of the CEB. With the improvement of the balance sheet of the CEB and to enhance the accountability and transparency of its operations the authorities may consider listing the CEB in the Colombo Stock Exchange to broad base its ownership and provide the general public the opportunity to hold a minority stake of its share capital. At the same time, CEB's financial management system need to be strengthened with an improved financial management system. Access to data in a timely manner would improve the decision making process of the CEB.

**The sustainability of the power sector largely depends on shifting towards low cost power generation in the medium term.** Several power projects were in various stages of implementation in 2009. The second phase (100 MW) of the Kerawalapitiya Combined Cycle Power Plant, which was added to the national grid in March 2010 on a test basis, will be added on a permanent basis by May 2010, enhancing generation capacity by 300 MW. The construction of the phase I of Norochcholai Coal Power Plant (300 MW) and Upper Kotmale Hydro Power Plant (150 MW) was also in progress during the year. These power plants are expected to add to the national grid by 2011. The joint venture between the CEB and National Thermal Power Company Ltd. of India, is expected to contribute another 500 MW, through a coal power plant in Trincomalee. The accelerated implementation of these projects will help to improve the resilience of the economy to face weather related and oil price shocks. Any delay in the implementation of planned low cost power generation projects will lead to the incurring of high expenditure on petroleum imports for electricity generation, which may exert pressure on the country's Balance of Payments. Meanwhile,

several transmission projects have been carried out with the aim of developing the electricity transmission system to improve its quality and reliability, and to reduce transmission losses.

**Rural electrification schemes have been given priority in the government infrastructure programme due to the high socio-economic returns associated with those schemes.** Accordingly, several projects have been carried out during the year to extend rural electrification. The Rural Electrification Project 6 and Conflict Affected Area Rehabilitation Project (CAARP) have been implemented. The rehabilitation and expansion work of electricity transmission in the Northern and Eastern Provinces has provided electricity for 21,000 households affected by the conflict. Further, Rural Electrification Project 4 and Rural Electrification Project 8 were also carried out by the CEB in 2009.

**The Sri Lanka Electricity Act, which was amended in April 2009, empowered Public Utilities Commission of Sri Lanka (PUCSL) to regulate the industry.** The PUCSL issued licences to 50 applicants including 6 licences to CEB, to generate, transmit and distribute electricity. However, according to the provisions of the new Act, several large private power providers and small distributors who previously had licences were not eligible to obtain licences and are now operating without valid licence. Hence, several amendments to the new Act have been proposed to address this issue.

**Importance of energy conservation and promotion of renewable energy has been recognised.** Sri Lanka Sustainable Energy Authority (SLSEA) is empowered to declare energy development areas, implement energy efficiency measures, introduce energy conservation programmes and to promote energy security, reliability and cost-effectiveness in energy delivery. Under the Renewable Energy Development (RED) Programme, which aims to provide 10 per cent of the total electricity generation from Non-Conventional Renewable Energy (NCRE) sources by 2015, several initiatives such as facilitation of project development, streamlining resource allocation to accelerate

renewable energy development were implemented. The increase in the usage of Compact Fluorescent Lamps (CFLs) from 26 per cent in 2005 to 51 per cent by end 2009, has helped to reduce the national peak electricity demand by about 300 MW. In addition, SLSEA carried out long-term energy management activities, such as regulatory interventions, energy efficacy improvement services, awareness creation and financing mechanisms at national level. In order to accelerate renewable energy development, steps have been taken to establish a 100 MW wind power park in Mannar and a pilot biogas project at Narahenpita.

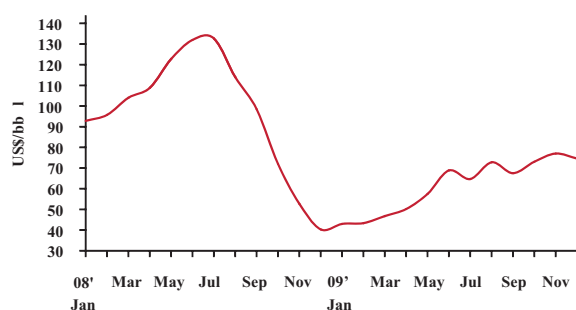
## Petroleum

**The average crude oil (Brent) price declined to US dollars 62 per barrel in 2009 from US dollars 97 per barrel in 2008.** Declining world demand due to the slowdown of the world economy was the main reason for the drop in international oil prices. Oil prices, which declined to a 3 year low level of US dollars 35 per barrel in January 2009, increased gradually thereafter. The average price of crude oil imported by the CPC stood at US dollars 64 per barrel in 2009, reflecting a decrease of 34 per cent compared to the previous year.

**Domestic petroleum prices were adjusted on several occasions in 2009 in keeping with the changes in international oil prices.** With the gradual increase in international prices during the first half of 2009, prices of petrol (90 octane), auto diesel and kerosene were raised to Rs. 130.00, Rs. 73.00 and Rs. 51.00 respectively, with effect from 1 July 2009. Duty waivers of Rs. 16.00 per litre on petrol was granted in two steps in February

Chart 3.3

International Crude Oil (Brent) Prices  
(Monthly Average) 2008/2009



and June, while a duty waiver of Rs. 7.00 per litre on diesel was granted in June 2009 to mitigate the impact of rising oil prices. Further, with effect from 30 December 2009, a duty waiver of Rs. 15.00 was granted for a litre of petrol. The government continued to provide a subsidy on kerosene targeting low income groups through an additional financial grant to Samurdhi recipients.

**The consumption of petroleum products increased during 2009.** The total sales of major petroleum products by CPC and Lanka IOC PLC, increased by 7.1 per cent, in 2009 compared to that

Table 3.4

Petroleum Sector Performance

Item	2008	Growth Rate %		
		2009(a)	2008	2009(a)
Quantity imported (Mt '000)				
Crude oil	1,853	2,066	-4.4	11.5
Refined products (b)	2,103	2,098	-5.1	-0.2
L.P. gas	144	146	-7.7	1.4
Domestic L.P. gas production (Mt '000)	16	25	4.5	56.2
Value of imports (c&f)				
Crude oil (Rs. mn)	143,159	111,715	26.0	-21.9
(US dollars mn)	1,323	973	29.1	-26.5
Refined products (Rs. mn)	200,757	126,148	33.5	-37.2
(US dollars mn)	1,851	1,093	36.3	-41.0
L.P. gas (Rs. mn)	15,378	12,153	27.8	-20.9
(US dollars mn)	142	106	27.9	-25.4
Average price of crude oil (c&f)				
(Rs./barrel)	10,494	7,343	29.3	-30.0
(US dollars/barrel)	97.00	63.93	34.7	-34.1
Quantity of exports (Mt '000)	310	268	9.5	-13.5
Value of exports (Rs. mn)	27,551	15,484	47.4	-43.8
(US dollars mn)	255	135	50.9	-47.1
Local sales (Mt '000)	3,700	3,963	-6.7	7.1
o/w Petrol (90 Octane)	490	526	0.6	7.3
Petrol (95 Octane)	29	22	-6.5	-24.1
Auto diesel	1,606	1,710	-8.3	6.5
Super diesel	9	9	-35.7	0.0
Kerosene	151	150	-10.1	-0.7
Furnace oil	999	1,199	1.3	20.0
Avtur	189	141	-5.0	-25.4
Naphtha	142	111	46.4	-21.8
L.P. gas	174	195	-11.7	12.1
Local price (at period end) (Rs./litre)				
Petrol (90 Octane)	120.00	115.00	2.6	-4.2
Petrol (95 Octane)	133.00	133.00	10.8	0.0
Auto diesel	70.00	73.00	-6.7	4.3
Super diesel	85.30	88.30	6.2	3.5
Kerosene	50.00	51.00	-26.5	2.0
Furnace Oil				
500 Seconds	54.30	54.30	0.0	0.0
800 Seconds	33.90	34.90	-37.1	2.9
1,000 Seconds	52.70	52.70	0.0	0.0
1,500 Seconds	31.70	32.70	-38.7	3.2
3,500 Seconds	25.00	26.00	-46.4	4.0
L.P. Gas (Rs./kg)				
Shell gas	142.80	124.00	35.9	-13.2
Laugfs gas	109.60	119.84	12.9	9.3

(a) Provisional  
(b) Imports by Ceylon Petroleum Corporation, Lanka IOC Ltd. and Lanka Marine Services (pvt.) Ltd.

Sources: Ceylon Petroleum Corporation  
Lanka IOC Ltd.  
Lanka Marine Services (Pvt) Ltd.  
Shell Gas Lanka Ltd.  
Laugfs Gas (Pvt) Ltd.  
Sri Lanka Customs

of the previous year. Sale of petrol has increased by 7.3 per cent due to the comparatively low domestic retail prices that prevailed during the year. Sale of auto diesel increased by 6.5 per cent mainly due to the increased demand for thermal power generation. Sale of kerosene has decreased marginally by 0.7 per cent during the same period.

**The financial position of the CPC registered a marginal improvement in 2009.** The CPC reported an operational loss of Rs. 12.3 billion in 2009 compared to that of Rs. 14.7 billion in 2008. The provision of furnace oil at a highly subsidised rate to the CEB and non-revision of retail prices to reflect the cost when prices were rising in the international market during the second half of the year were the main reasons for operational losses of the CPC in 2009. The outstanding bills receivables amounting to Rs. 64 billion by several institutions, particularly a sum of Rs. 52 billion from the CEB, placed a heavy burden on the CPC's financial situation.

**Several innovative strategies would need to be implemented to make the petroleum sector a dynamic and viable sector in the economy.** A realistic pricing formula needs to be developed to price petroleum products in the local market and the prices should be adjusted at reasonable intervals based on movements in the international oil prices. Profit centre concept covering various key activities of the CPC, such as refinery, agro chemicals, aviation fuel supply may be implemented to improve the financial viability of the CPC. With a view to improving the accountability and transparency of operations, these business units could be diversified, through a possible offering of certain minority stakes of shares to the general public, in order to broad base the ownership through a listing in the Colombo Stock Exchange.

### Oil Exploration

**Some progress has been made in respect of oil exploration efforts in the Mannar Basin.** In 2007, the Ministry of Petroleum and Petroleum Resources Development held its first licensing round for oil exploration and Cairn India Limited was awarded with the contract for oil exploration in block No. 2.

The Government of Sri Lanka signed a petroleum resources agreement with Cairn Lanka Private Limited (CLPL), the local subsidiary of Cairn India Limited, on 7 July 2008. Accordingly, CLPL has taken steps to procure 1,450 sq km of 3D (Three Dimensional) seismic data, which is to be completed by the end of first quarter of 2010. CLPL has also called for bids to hire drilling rigs and logistic services to commence exploratory drilling in early 2011.

**The Ministry of Petroleum and Petroleum Resources Development plans to conduct the second licensing round for oil exploration in the near future.** A few blocks from the Mannar Basin as well as some blocks from the more prospective Cauvery Basin and the southern offshore basin, would be available for competitive bidding.

### Transportation

**The transportation sector reflected a noticeable improvement in 2009.** The improvement was reflected particularly in road development and passenger transportation, while air transportation and port services showed less impressive performances. Construction of highways and flyovers, rehabilitation of existing roads with special focus on roads in the Northern and Eastern Provinces and construction of rural roads under the Maga Naguma programme continued in 2009. With the re-opening of the A9 road, the passenger transportation sector experienced a significant expansion in transport activities. Initiatives have been taken by the Sri Lanka Transport Board (SLTB) and the Sri Lanka Railways (SLR) to cater to this demand in several ways.

### Road Transportation

#### Road Development

**The road density in Sri Lanka, which stood at 1.6 km of roads per every square kilometre in 2009 was higher compared to that of other countries in the region.** Sri Lanka has an extensive road network consisting 11,919 km of Trunk (A class) and Main (B class) roads and 4,200 bridges as at end 2009. The total expenditure incurred by the Road Development Authority (RDA) on roads and bridges increased by 47.6 per cent to Rs. 78,186



million in 2009. The government policy on road development focused mainly on building a national highway system, supported by an integrated road network, improving the management of the existing road network and increasing the private sector participation in investing on new roads.

**The government continued with major road development projects in 2009.** The Southern Expressway Project is scheduled to be completed by 2011. The completion of the project is expected to improve transport facilities, enhance economic activities and reduce poverty in the Southern region. The Southern Expressway will be the first access controlled expressway of the country with eleven interchanges. The total length of the expressway is 131 km while the total cost of the project is estimated to be Rs. 59.5 billion. By end 2009, 60 per cent of phase I and phase II of the project and 92 per cent of phase III of the project have been completed. The construction of the Colombo-Katunayake Expressway Project, a four lane dual carriageway facility of 26 km was commenced and land acquisition and resettlement work were nearing completion by end 2009. The Colombo Outer Circular Highway Project is a ring road around the city of Colombo which links all major roads from Colombo. The estimated cost of the Colombo Outer Circular Highway is Rs.82.6 billion and currently about 60 per cent of the detailed design study has been completed. Meanwhile, the preliminary ground survey work of phase I of the Colombo – Kandy alternate highway project has already been completed in 2009.

**Government continued with the construction of planned flyovers at selected locations to reduce traffic congestion.** The Dehiwala flyover was opened for traffic in October 2009 while the Orugodawatta flyover was opened in December 2009. Flyovers at Gampaha and Pannipitiya were also completed. Four more flyovers are expected to be constructed at Veyangoda, Kohuwela, Kirulapone and Borella-Kanatte junction. The longest bridge in Sri Lanka, 396 metre long Kinniya bridge connecting Trincomalee and Kinniya, was opened for public transportation in October 2009.

**With the re-opening of the A9 road for civilian traffic in July 2009, passenger and goods transportation to Jaffna, which was previously done via air and sea, eased significantly.** Regular bus services commenced connecting Jaffna with Colombo, Kandy, Batticaloa and Trincomalee. Rehabilitation of national roads in the Northern and Eastern provinces has already commenced at a cost of Rs. 123 billion. Under the Northern Spring and Eastern Revival programmes, 1,174 km of roads will be rehabilitated under the Trincomalee Integrated Infrastructure Project (TIIP).

### Passenger Transportation

**The performance of passenger transportation showed a moderate improvement in 2009, though the quality and efficiency of operations remained subdued.** Public passenger transport, comprising railway and bus transportation, accounts for approximately 73 per cent of the total motorised passenger transport and serves as the primary source of transportation for the general public. Of this, bus transportation accounts for 68 per cent with state owned bus services accounting for 23 per cent and private bus operators accounting for 45 per cent. Nearly 99 per cent of freight movements are done by roads. With the complete integration of the Northern and Eastern provinces with the rest of the country, there will be a strong demand for goods and passenger transportation. To meet this emerging demand, an efficiently formulated institutional arrangement is needed. Hence, strong measures are needed to transform state owned passenger transportation entities to run efficiently without burdening the government budget.

### Road Passenger Transportation

**The road passenger transportation further improved during 2009.** The average number of buses operated per day by the SLTB increased by 7.7 per cent to 4,481 in 2009. The total operated kilometres and passenger kilometres of SLTB increased by 6.6 per cent and 0.3 per cent, respectively. A total of 199 new buses were added to the bus fleet of SLTB, while 90 buses were revamped by end 2009. However, new registration of passenger

buses decreased significantly by 37.4 per cent to 739 in 2009.

**Several measures have been taken to improve the efficiency of the state owned bus service.** A new IT system was installed to monitor the performance of the regional depots with online links to the head office. 15 depots of the SLTB have reached breakeven level in their operations during 2009. Introducing a new incentive scheme for employees, improving human resource capabilities, introducing management changes and re-allocation of buses enhanced the operations of the SLTB. This progressive step taken by the SLTB need to be continued to improve the financial position of the SLTB and to reduce the burden on the government budget.

**Several programmes were launched by the SLTB to recommence the transport services in the Northern and Eastern Provinces.** Under the Northern Spring programme, bus services have commenced to Jaffna from various places including Colombo, Vavuniya and Trincomalee, on a daily basis. 3 bus depots in Vavuniya, Mallawi and Killinochchi have been revamped. In the Eastern Province, 4 depots at Muttur, Kinniya, Kalawanchikudi and Kanthankudi that were revamped have commenced operations. In addition to these programmes in the Northern and Eastern provinces, the SLTB continued with several other services in 2009. With a view to provide a reliable transport service to the rural masses, 'Gamiseriya' bus service was continued in several provinces. The 'Sisuseriya' school bus service continued covering 495 school services and 'Nisiseriya' night time bus service also continued to provide extended services. Furthermore, bus-rail connecting services were continued covering several railway stations. Several other services such as, 'Colombo City Liner Coach Service' and 'park and ride service' have been introduced to reduce the number of private vehicles entering Colombo city limits.

**The financial position of the SLTB continued to remain weak in 2009.** The total revenue increased by 18.5 per cent to Rs. 17,022 million due largely to the increase in passenger fares by an average rate

Table 3.5

## Salient Features of the Transport Sector

Item	2008	2009(a)	Growth Rate(%)	
			2008	2009(a)
<b>1. New registration of motor vehicles (No.)</b>				
Buses	265,199	204,075	-11.0	-23.0
Private cars	1,180	739	-55.3	-37.4
Three wheelers	20,237	5,762	-10.5	-71.5
Dual purpose vehicles	44,804	37,364	4.0	-16.6
Motor cycles	2,856	1,280	-45.0	-55.2
Goods transport vehicles	155,952	135,421	-14.6	-13.2
Land vehicles	14,038	8,225	-23.7	-41.4
	26,132	15,284	11.3	-41.5
<b>2. Sri Lanka Railways</b>				
Operated kilometers ('000)	8,971	8,790 (b)	-6.2	-2.0
Passenger kilometers (mn)	4,669	4,568 (b)	-2.1	-2.2
Freight ton kilometers (mn)	121	118 (b)	-9.4	-2.2
Total revenue (Rs.mn)	3,671	4,020	22.4	9.5
Operating expenditure (Rs.mn)	8,225	8,788	12.7	6.8
Operating loss (Rs.mn)	4,553	4,768	5.9	4.7
<b>3. Sri Lanka Transport Board</b>				
Operated kilometers (mn)	313	333 (b)	2.5	6.6
Passenger kilometers (mn)	15,080	15,131 (b)	2.6	0.3
Total revenue (Rs.mn)	14,361	17,022 (b)	23.8	18.5
Operating expenditure (Rs.mn)	20,622	22,205 (b)	21.3	-7.7
Operating loss (Rs.mn)	6,261	5,183 (b)	5.3	-17.2
<b>4 Sri Lankan Airlines</b>				
Hours flown (hrs.)	67,796	54,228	-2.0	-20.0
Passenger kilometers flown (mn)	9,169	7,851	-6.8	-14.4
Passenger load factor (%)	74	76	-5.9	2.3
Weight load factor (%)	59	58	-2.0	-1.3
Freight (Mt. '000)	87	69	-11.2	-20.7
Employment (No.)	4,874	4,664	-6.5	-4.3

(a) Provisional  
(b) Estimates

Sources: Department of Motor Traffic  
Sri Lanka Railways  
National Transport Commission  
Civil Aviation Authority of Sri Lanka  
Sri Lankan Airlines

of 5.3 per cent in September 2009. The operating expenditure of the SLTB increased by 7.7 per cent to Rs. 22,205 million resulting in an operational loss of Rs. 5,183 million. The payment of the government to the SLTB on account of operation in uneconomic routes, season tickets for students and other services amounted to Rs. 4,135 million.

## Railway Transportation

**The railway sector registered a mixed performance during 2009.** Both passenger and goods transportation decreased by 2.2 per cent, mainly due to the curtailment of unproductive train operations and in response to the increase in passenger fare and freight charges in June 2008. Currently, the SLR contributes only 5 per cent to the total passenger transportation in the country and 1 per cent to the cargo transportation. The total revenue of the SLR amounted to Rs.4,020 million. The operating expenditure of the SLR increased by 6.8 per cent to Rs. 8,788 million while the operational

loss increased by 4.7 per cent to Rs. 4,768 million compared to the previous year.

**The SLR initiated several projects in 2009 to improve the railway sector.** The new railroad spanning Matara – Kataragama is expected to be completed in 3 phases. The construction activities of the phase I of the project has already commenced. The double tracking of railway lines from Ja-Ela to Seeduwa and Kalutara North to Paiyagala North along the coast line was completed. After 30 years, the ‘Yal Devi’ train commenced operations up to Thandikulam station in June 2009. The Northern railway line is to be reconstructed in 5 phases. The 90 km railway stretch between Omanthai and Pallai will be reconstructed at a cost of Rs. 21 billion. Work on the railway line between Vavuniya and Omanthai has already commenced. The 56 km railway stretch from Pallai to Kankasanturai is due to commence construction soon. The construction activities of the Madawachchiya-Talaimannar rail line is in progress and is expected to cost Rs. 8.4 billion. The reconstruction of the coastal rail line from Kalutara to Matara was also in progress at a cost of Rs. 168 million. The rehabilitation work to improve the rail track from Polgahawela - Anuradhapura which will enable an increase of the speed limit up to 100 km per hour has also commenced.

**Several measures have been taken to improve the performance of the SLR.** Several measures were initiated with the intention of increasing the share of the SLR in passenger and freight transportation from the current 5 per cent and 1 per cent respectively, to a level of 10 per cent and 5 per cent respectively, by 2016. These include, rehabilitation of rail tracks and stations, electrification of suburban railway services, introducing a Light Rapid Transit System in the Colombo metropolitan area, rationalisation of passenger and freight tariffs.

### Civil Aviation

**The performance of the civil aviation sector reflected a set-back in 2009, due to the sharp decline in travel and tourism globally.** As per International Air Transport Association (IATA)

statistics, in 2009 the demand for air travel and air freight decreased by 3.5 per cent and 10 per cent respectively. The global tourism industry registered a negative growth of 4 per cent due to the global economic recession. The Bandaranaike International Airport (BIA) handled 28,602 air craft which was a decline of 9.6 per cent over that of the previous year. The total number of passengers passing BIA decreased by 10.5 per cent to 4.2 million, including transit passengers. During the year, BIA handled 131,841 metric tons of cargo which was a decrease of 9.9 per cent compared to that of the previous year. The passenger and cargo handled by the national carrier, SriLankan Airlines (SLA), declined by 24.1 per cent and 20.9 per cent, respectively, compared to that of the previous year. SLA has commenced a route rationalisation programme to minimise its losses, under which SLA temporarily suspended its operations to several destinations. The revenue of SLA declined by 39 per cent to Rs. 53.7 billion and the operating expenditure curtailed by 24.3 per cent to Rs. 65.9 billion in 2009. The operating loss of SLA recorded Rs. 12.2 billion in 2009.

**The outlook of the civil aviation industry indicates the potential to develop the country as a regional aviation hub.** As the global civil aviation industry is expected to recover from the severe set-back resulting from the world economic recession, the airline industry in the country is expected to grow rapidly and the BIA has the potential to emerge as a highly competitive regional hub given its geographical location. With the positioning of the country as a regional air hub, a high growth potential could be envisaged in the air transportation industry in the areas of aircraft maintenance, repairs, re-building, bunkering and catering services. Furthermore, a considerable growth is anticipated in the domestic air services with the ending of the conflict and resultant growth of the tourism industry. Hence, the country could considerably intensify domestic air travel by way of expediting the development of domestic airports. To capture the potential demand in the domestic air travel, it is important that the Civil Aviation Authority, in collaboration with the Ministry of Tourism develops an innovative business plan, including tour packages, etc. to attract domestic and foreign tourists.

Several projects were implemented in 2009 with a view to enhancing the capacity and competitiveness of the civil aviation sector. The Stage 2 of phase II of the modernisation project of the BIA was in progress. The Airport and Aviation Services (Sri Lanka) Limited (AASL) constructed a luxury hotel for transit passengers at a total cost of Rs. 120 million. In respect of the second international airport at Mathala, the AASL entered into a contract agreement in November 2009 with China Harbour Engineering Co. Ltd., to execute major construction work at a cost of US dollars 209 million. The project will be financed by the Exim Bank of China under a concessional loan of US dollars 190 million.

**Air transportation further expanded in 2009.** In December 2009, SLA recommenced its operations to Italy with a view to attracting the large Sri Lankan community working in Italy and to tap potential tourists to the country. With the end of the conflict in 2009, several air lines including Oman Air, Kingfisher and Air Asia commenced operations to Sri Lanka. SLA expects to increase its fleet and route network beginning mid-2010 through the acquisition of new aircraft and expansion of operations by adding more frequencies to destinations with expected high growth potential as well as to add new routes to the existing route network. The second national carrier 'Mihin Lanka' recommenced its operations in January 2009 with government support. However, the operational losses incurred by Mihin Lanka during 2009 amounted to Rs. 930 million due mainly to the low passenger load factor.

### Port Services

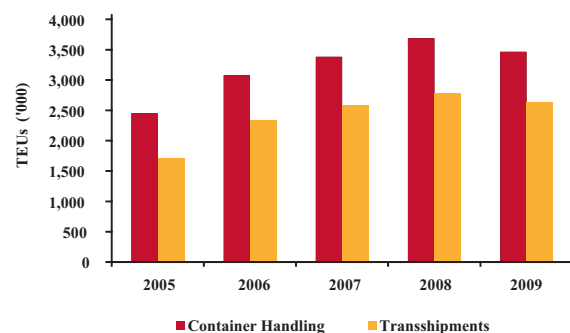
**Development of port infrastructure has been given the highest priority in recent years.** Several port developmental projects were in progress in 2009. The construction work of the Colombo South Harbour Project (CSHP) was in progress and 2.2 km of breakwater out of 6.8 km has already been completed. When all phases are completed, the port will have 4 terminals with the capacity to handle 10 million TEUs per annum. The operation of the first container terminal of CSHP is scheduled to commence in 2012. The phase I of the

Hambantota Port Development Project is scheduled to be completed by April 2011. The construction of the cofferdam and all other preliminary work have already been completed. The construction of breakwaters, general purpose berth, service berth and oil berth were at different stages of completion. Under the bunkering facility and tank farm project at Hambantota, 14 tanks for storing and blending of marine fuel, aviation fuel and Liquefied Petroleum Gas (LPG) are to be constructed with a total estimated cost of US dollars 77 million. The construction work of Olivil Port Development Project at a total estimated cost of euro 46 million was in progress and is scheduled to be completed by end 2010. Initial work has also been completed in respect of Galle Port Development Project.

**The performance of the port services in 2009 was adversely affected by the drop in world trade due to the global economic crises.** In 2009, majority of the top world ports recorded double digit drop in volumes. The cargo handling at the port of Colombo decreased by 3.3 per cent. Total container handling throughput decreased by 6 per cent to 3.5 million TEU's in 2009. Transshipment handling also decreased by 5.5 per cent. The total number of vessels arriving at the port of Colombo recorded a decline of 7.4 per cent compared to the previous year. As a result of the global economic recession, the operating profit of SLPA decreased by 30.9 per cent to Rs. 2 billion in 2009. The revenue of the SLPA decreased by 7.2 per cent to Rs. 23 billion, while the operating expenditure decreased by 4.1 per cent to Rs. 21 billion in 2009. Nevertheless, the SLPA has incurred Rs. 9.3 billion as capital expenditure for the development of port projects in 2009.

Chart 3.4

Volume of Container Handling and Transshipments





**Box 4****Economic Benefits of Ports Development**

Sri Lanka's strategic location within close proximity to the east-west maritime route used for international trade, ensures minimum diversion time for ships arriving at the Sri Lankan ports. The growing trade in the Indian sub-continent and the increased level of integration with the rest of the world create the demand for enhanced port facilities which should ideally accommodate the new generation vessels including the Post-Panamax ships. However, the existing ports in Sri Lanka are not capable of accommodating such vessels that are today increasing in numbers. There is also a need to increase the efficiency of cargo handling at Sri Lanka's ports. Although there has been a substantial improvement in handling capacity in recent years to around 3.7 million Twenty Foot Equivalent Container Units (TEUs) per annum, it continues to be lower than those of the more efficiently operating competitors. Thus, it is vital that Sri Lanka's ports are developed and modernised through the infusion of new technology to meet the growing demand and cater to the larger vessels that sail on the international east-west maritime route. Considering the 200-300 merchant ships sailing on this route each day, Sri Lanka has a massive opportunity to develop the port and shipping industry to be one of the prime sectors of the economy, which would help generate a range of direct and indirect employment opportunities.

In this context, the government has already commenced building new ports in Hambantota, Colombo and Olivil and enhanced the capacities of existing ports in Colombo, Galle and Kankesanthurai, under the Randora National Infrastructure Development Programme.

**Hambantota Port Project**

The Hambantota port was envisioned during an effort to synchronise the different aspects of port development including shipping, transshipment, ship building and bunkering and construction commenced in January 2008. It is a landmark project built inland on dry conditions and is the first major port built in Sri Lanka

**Chart B 4.1****Layout Plan of the Port of Hambantota**

Source: Sri Lanka Ports Authority

after the Port of Colombo which was built in the 1870s. The total estimated cost of this project is US dollars 361 million and Phase I of the Hambantota Port Development Project is expected to be completed by April 2010, an year ahead of the scheduled completion date. The entire project is to be completed in 4 phases over a time span of 15 years. Upon completion, this project would be able to handle 100,000 DWT (deadweight tonnage) vessels. The project comprises a bunkering facility and an oil tank farm project housing 14 tanks for storing and blending marine fuels, aviation fuel and Liquefied Petroleum Gas (LPG) which is expected to cost US dollars 77 million. The bunkering terminal is designed to store 80,000 metric tons and handle up to 500,000 metric tons of oil products a year with provision for further expansion. The new facility planned for transshipment of vehicles would be beneficial as trade of vehicles in this region has increased significantly. The project is estimated to yield an Internal Rate of Return (IRR) of 11.31 per cent (after tax), which is higher than the cost of capital with a payback period of 9.7 years. Large scale projects of this nature tend to have strong multiplier effects, in terms of direct and indirect employment generation which in turn enhances the living conditions of the people in this area through the development of ancillary and support services.

### Colombo South Harbour Project

The port of Colombo needs to be rapidly expanded to meet the increasing demand for cargo handling, especially transshipment cargo, and to retain its position as an important regional hub in the South Asian region. Further it would reach its maximum capacity of around 4.5 million TEUs by 2011. Therefore, the new Colombo South Harbour Project is being developed to accommodate the increasing demand. It is expected to operate as a Public Private Partnership (PPP) where the government will provide basic infrastructure of the construction of the breakwater, and the private sector

Chart B 4.2

Layout Plan of the Colombo South Harbour Project



Source: Sri Lanka Ports Authority

is expected to develop the terminals. The total initial estimated cost of the project is US dollars 345 million. The capacity of the new Colombo South Harbour project will be 10 million TEUs by 2020, nearly 2.5 times the existing port. Initially the port will have three terminals with space to develop a fourth one with ample yard space and equipped with new modern quayside and yard gantry cranes, the project is bound to lead to high level of operational efficiency and will increase the earnings capacity of the port. Furthermore, improvements to the Electronic Data Interchange (EDI) will enable the port of Colombo to compete with competitors such as Singapore Port, which provides high quality facilities through the use of advanced EDI systems.

### Oluvil Harbour Project

The Oluvil Harbour is envisaged to be developed mainly as a fisheries harbour. The construction work of the Oluvil harbour project commenced in July 2008 and is scheduled to be completed by end 2010 at a total estimated cost of euro 46.1 million. The project comprises the construction of two rubble mound breakwaters as the northern breakwater with a length of 550m and the second breakwater with a length of 773m. Around 10 hectares of water area would be used exclusively for fisheries activities. The stage I basin of the commercial harbour would cater to 5,000DWT vessels. The completion of this harbour project will create income generating avenues for the people residing in this area through increased trade, fisheries activities and the development of small industries. Hence, the harbour project will create ample employment opportunities and uplift the living standards of the people residing in the area. This harbour will also provide facilities for cargo transport from the East to the other regions of the country, thus playing an important role in reducing time and cost involved in road transportation.

### Conclusion and Way Forward

Considering the emerging competition for port services in the region, it is vital that the construction and operation of new ports are carried out as planned to secure a competitive advantage. Sri Lanka would need to differentiate its services as a unique, high quality and timely service provider to face the competition. It is also important to enhance the efficiency of all aspects of the services offered by the Sri Lanka's ports, including the introduction of EDI system, which will enhance operational efficiency through the reduction in paper work and help expedite clearance of goods and thereby increase Sri Lanka's competitive edge. Furthermore, some activities can be outsourced or restructured to operate as PPP to ensure operational efficiency and sustained productivity growth.

Sri Lanka will benefit immensely from these port development projects, given the improved security situation and the improving global economic outlook. The economic benefits of port projects are multi-faceted in terms of increasing foreign exchange earnings, employment creation and regional development.

**Table 3.6** Performance of Ports Services

Item	2008	2009(a)	Growth Rate (%)	
			2008	2009(a)
1 Vessels arrived (No.)	4,814	4,456	2.2	-7.4
Colombo	4,424	4,114	2.3	-7.0
Galle	68	32	-21.8	-52.9
Trincomalee	322	310	8.4	-3.7
2 Total cargo handled (MT '000)	50,582	48,777	9.1	-3.6
Colombo	47,960	46,373	10.2	-3.3
Galle	459	167	-26.8	-63.6
Trincomalee	2,163	2,238	-2.3	3.5
3 Total container traffic (TEUs '000)	3,687	3,464	9.1	-6.0
4 Transshipment container (TEUs '000)	2,785	2,633	8.0	-5.5
5 Employment (No.) (b)	13,715	13,296	0.4	-3.1
Colombo	12,548	12,150	0.6	-3.2
Galle	553	534	-4.2	-3.4
Trincomalee	614	612	-1.0	-0.3

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

Source: Sri Lanka Ports Authority

Given the highly competitive nature of the port services and considering the development of several major port projects in the country, it is important to strategise port operations within a new business model. In this respect, PPPs have proven successful when considering the operation of South Asia Gateway Terminal (SAGT).

### Water Supply and Irrigation

The demand for pipe borne water is growing continuously with the increased level of urbanisation, change in lifestyles and expansion of commercial and industrial activities. National Water Supply and Drainage Board (NWS&DB) provided 80,060 new connections during the year resulting in a total of 1.3 million connections including industrial and commercial establishments. The proportion of households with access to safe drinking water sources was 84.8 per cent (2006/2007 Household Income and Expenditure Survey, Central Bank of Sri Lanka), which was relatively high compared to other developing countries. However, only about 35.5 per cent of households and commercial establishments have access to pipe borne water.

Several major water supply projects were in progress in 2009 to improve the capacity, and distribution network. These included, Greater Kandy Water Supply Phase I Stage II, Towns South

of Kandy Water Supply Project, Nuwara Eliya District Group Town Water Supply Project, Rehabilitation and Augmentation of Kirindi Oya Water Supply Project, Towns North of Colombo Water Supply Project Stage II, Kelani Right Bank Water Treatment Plant Project and Greater Colombo Water Rehabilitation Project.

The financial position of the NWS&DB improved in 2009. Revision of water tariff with effect from February 2009 has had a significant positive impact on the revenue of the NWS&DB. Owing largely to the tariff revision, total revenue of the NWS&DB increased by 36 per cent in 2009 and with the operational and maintenance cost increasing by 10.4 per cent, the NWS&DB recorded an operational profit of Rs. 192 million in 2009. The operations of the NWS&DB are hindered by a high level of unaccounted water losses due to various reasons.

Unaccounted water remains at around 36 per cent in Greater Colombo area and 25 per cent in regions. High incidence of leakages as a result of decayed distribution network, illegal connections and shortcomings in meter readings are the major reasons for unaccounted water. The cost of purification of water has increased over the years due to pollution of water sources by industrial effluents and other human activities such as improper waste water disposal, solid waste dumps and use of agro chemicals. Hence, strong actions need to be taken to reduce the unaccounted water to an acceptable level and efforts would also be needed to reduce the level of water pollution.

**Table 3.7**

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

Item	2008	2009(a)	Growth Rate (%)	
			2008	2009(a)
Total number of water supply schemes (b)	309	310	0.3	0.3
Total number of new connections given during the period	108,039	80,060 (c)	21.0	-25.9
Total number of connections (b)	1,186,931	1,266,991 (c)	10.0	6.7
Total water production (Mn. Cu. Mtr.)	440	449 (c)	3.8	2.0
Unaccounted water (%)				
Greater Colombo	37.9	36.2 (c)	0.0	-4.4
Regions	24.9	24.9 (c)	-6.5	0.0

(a) Provisional  
(b) As at end year  
(c) Estimates

Source: National Water Supply & Drainage Board

The irrigation sector plays an important role in improving the productivity in the agriculture sector. The current policy of the irrigation sector emphasises the development of new water resources and rehabilitation and improvement of existing reservoirs and schemes to improve the productivity in the agriculture sector. There were several irrigation projects in progress to improve the irrigation facilities. During 2009, the Irrigation Department (ID) commenced rehabilitation of selected major irrigation schemes at a total cost of Rs. 1,000 million to help increase the extent of cultivation by 8,000 hectares. Other major projects implemented by ID included Deduru Oya, Rambukkan Oya, Menik Ganga and Kekirioboda reservoirs at a cost of Rs. 1,382 million. Under the Eastern Revival programme, several schemes have commenced in Ampara, Batticaloa and Trincomalee districts at a total cost of Rs. 1,990 million. Under the Northern Spring programme, several irrigation schemes commenced in Vavuniya and Mannar districts at an estimated cost of Rs. 835 million.

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

The commendable progress that Sri Lanka has achieved in the areas of social infrastructure is mainly due to continuously high budgetary allocations to provide universal free health and education. The level of social development, as measured by key indicators such as life expectancy and adult literacy rates, are well ahead of the other countries at the same income levels, and stands out even when compared with high income countries. However, the social infrastructure has not yet evolved into an internationally competitive service framework, capable of promising high economic growth and satisfying the growing demand of the population, especially with respect to the provision of high quality education and health.

#### Health

The government continued to support its long standing policy of providing free health for the

Table 3.8

## Salient Features of Health Services

Item	2008	2009(a)
<b>Government</b>		
Hospitals (practicing Western medicine) (No.)	619	555 (b)
No. of beds	65,835	68,897
Primary Healthcare Units (No.) (c)	411	475
Total no. of doctors	13,026	13,633
Total no. of assistant medical practitioners	1,229	1,198
Total no. of nurses	22,996	25,549
Total no. of attendants	7,184	8,301
<b>Private</b>		
Hospitals (practicing Western medicine) (No.)	220	n.a.
No. of beds	8,850	n.a.
Total no. of Ayurvedic doctors (d)	19,054	19,529
<b>Total government expenditure on health (Rs.bn)</b>		
Current expenditure	74.5	71.5
Capital expenditure	55.9	58.8
	18.7	12.7

(a) Provisional

(b) Under the re-categorisation in 2009, 64 government hospitals were re-named as Primary Healthcare Units

(c) Central dispensaries were re-named as Primary Healthcare Units and 64 government hospitals were re-categorised as Primary Healthcare Units

(d) Registered with the Department of Ayurvedic Commissioner

Sources: Ministry of Healthcare and Nutrition  
Department of Ayurveda  
Ministry of Finance and Planning  
Central Bank of Sri Lanka

public at all government hospitals. In 2009, the total health budget of the government was Rs. 71.4 billion which was about 1.5 per cent of GDP. There are 555 government hospitals with 68,897 beds in the country which amounts to 3 beds per 1,000 persons. There were 13,633 qualified doctors, a doctor for every 1,500 persons and 25,549 qualified nurses, a nurse for every 800 persons. The private sector also plays a significant role in providing healthcare in the country. At present, the private sector provides services to around 5 per cent of in-patients and around 53 per cent of out-patients annually. However, the overall responsibility of consumer protection and assuring the value for money that consumers pay for healthcare services lies with the government, hence regulation plays an important role. The Private Health Regulatory Council, which was established in 2007, would need to take necessary measures to strengthen its regulatory framework to ensure consumer protection.

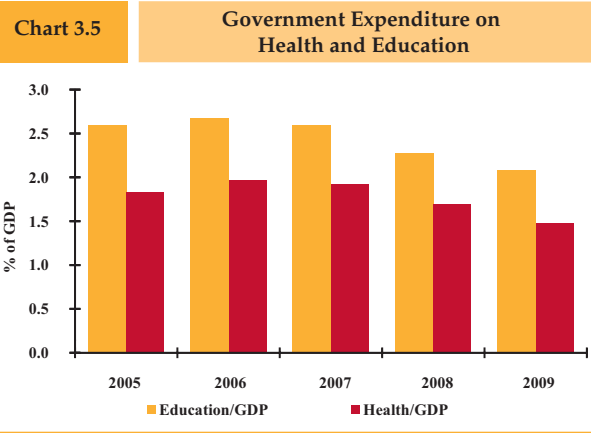
Sri Lanka has achieved remarkable standards in its health outcome focusing on communicable diseases, in improving maternal and child health by eliminating vaccine preventable



**diseases.** However, these achievements are now being challenged by certain widely spreading Non-Communicable Diseases (NCDs). The ageing population, lifestyle changes and urbanisation are the reasons behind this epidemiological transition. An analysis of age-standardised data for 1991-2001 has shown that the chronic NCDs mortality is 20-30 per cent higher in Sri Lanka than in many developed countries (World Bank Ageing Study, 2008). Cardiovascular diseases, diabetes mellitus, chronic respiratory diseases, renal diseases, and cancer are the major NCDs reported in Sri Lanka. The rising trend in NCDs demands additional financing for the healthcare pressurising the resource allocation by the government. The Ministry of Healthcare and Nutrition has formulated a national policy and a strategic framework for the prevention and control of chronic NCDs.

**The re-emergence of certain communicable diseases jeopardise the gains of the country's health sector.** The outbreak of Dengue Haemorrhagic Fever (DHF) in 2009 placed a serious strain on the entire health sector. The significant increase in the incidence of dengue calls for urgent measures to control the spread of dengue. Meanwhile, in 2009, there were several cases of Novel Influenza (AH1N1) reported in Sri Lanka and immediate steps were taken by the health authorities to control the spread of the disease.

**Several health projects were in progress in 2009.** The Ministry of Healthcare and Nutrition faced a major challenge of providing required urgent health facilities for approximately 300,000 Internally Displaced Persons (IDPs) in the Northern province after the humanitarian operations. In order to cater to this massive influx of IDPs, the Ministry of Healthcare and Nutrition had to mobilise required resources within and outside the country and co-ordinate with relevant authorities to attend to urgent health needs as well as to prevent the spread of diseases, with the support of provincial health departments. In addition, the Ministry of Healthcare and Nutrition supported the provincial departments of health in the Northern, Eastern and North Central provinces to upgrade and improve the hospitals, establishing 5 hospitals in welfare villages, establishing 28 Primary



Health Care Centres (PHCC) to provide out-patient services, conducting special clinics in addition to regular clinics attended by specialists of respective fields, introducing comprehensive public health services in welfare villages, providing preventive healthcare services, mobilisation of required human resources for health service provision in the welfare villages and carrying out numerous psychological activities targeting the IDPs with a view to bring their lives to normality. Targeting the Northern and Eastern provinces, 3 main infrastructure projects, namely, improvement of Teaching hospitals of Jaffna and Batticaloa and the base hospital in Akkareipattu were in progress during 2009.

### Education

**The development of human capital is recognised as one of the key factors needed for sustained high economic growth in a country.** This is particularly important for a country aiming at developing a knowledge-based economy. Sri Lanka has a high literacy rate and school enrolment ratio than most developing countries, and these indicators are on par with those of some developed countries. The strong commitment of successive governments to expand and continue the free education system has provided universal access to primary education. However, the quality of human capital produced by the public education system has not, in general, kept pace with labour market requirements. Although this issue was debated over the years, its severity was felt more strongly in the recent years with the enhanced participation of the private sector

in economic activities. Emphasising general and university education and overlooking the importance of technical and vocational training is also partly responsible for the shortage of skilled manpower, and unemployment among the educated youth.

**Investment in education is necessary to explore new frontiers of knowledge and match it with the dynamic needs of the labour market.**

To address the issues in the general education, a comprehensive medium-term Education Sector Development Framework and Programme (ESDFP) has been developed covering the period 2006-2010 using a combination of bottom up as well as top-bottom planning approach, giving a greater focus to the needs of schools. ESDFP incorporates 4 major policy themes: increasing equitable access to basic and secondary education, improving the quality of basic and secondary education, enhancing the economic efficiency and equity of resource allocation and strengthening education governance and service delivery. The present national education policy on curriculum reforms has been formulated by the National Education Commission (NEC) and it aims to move towards a competency based curriculum from an examination oriented content based curriculum, promote English and IT education and to provide facilities for children to acquire skills for life. The Ministry of Education and provincial education authorities have also taken steps to promote ICT education at the school level. The Ministry of Education has identified 150 schools as 'Isuru Schools', with the objective of developing these 'Isuru Schools' to the level of national schools for secondary education in selected divisional secretariat areas to ease the high demand for admission to national schools. It is expected to increase the number of Isuru Schools to 325 by end 2012.

**With the liberation of the Northern and the Eastern provinces, the need for recommencing general education for all school aged children who were affected by the conflict has been identified by the Ministry of Education.** The Ministry of Education has allocated Rs. 40 million for the rehabilitation of schools in Vavuniya and Mannar

Table 3.9

## Salient Features of General and University Education

Item	2008	2009(a)
<b>1. General education</b>		
a. Total number of schools	10,447	10,205
Government schools	9,662	9,410 (b)
o/w National schools	330	334
Other schools	785	795
Private (c)	92	98
Pirivena	691	697
b. Students ('000)	4,101	4,032
c. New admissions ('000) (d)	326	328
d. Teachers ('000)	224	224
e. Student/Teacher ratio (government schools)	20	19
f. Total govt. expenditure on education (Rs. bn) (e)	100.1	100.5
Current expenditure	77.1	82.4
Capital expenditure	22.9	18.1
<b>2. University education</b>		
a. Universities (No)	15	15
b. Students (No) (f)	66,891	65,588
c. Lecturers (No)	4,452	4,738
d. Number graduating (f)	12,958	n.a.
Arts and oriental studies	4,012	n.a.
Commerce & management studies	2,547	n.a.
Law	345	n.a.
Engineering	1,114	n.a.
Medicine	1,294	n.a.
Science	2,274	n.a.
Other	1,372	n.a.
e. New admissions for first degrees (No) (f)	20,069	20,846
Sources: Ministry of Education University Grants Commission Ministry of Finance and Planning Central Bank of Sri Lanka		
(a) Provisional		
(b) All government schools in Mullative and Killinochchi districts and some govt. schools in Mannar and Vavuniya districts were temporarily closed at the census date due to war situation		
(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)		
(d) Government schools only		
(e) Includes government expenditure on higher education		
(f) In all Universities, excluding the Open University of Sri Lanka		

districts in the Northern Province. The Ministry has provided temporary learning shelters, uniform kits, furniture, text books, learning materials and other basic facilities to students displaced and living in relief villages.

**The University Grants Commission (UGC) has taken several measures to improve the higher education sector in Sri Lanka.** To monitor the quality of academic programmes offered by public universities and higher education institutions, the UGC has established a separate division for the quality assurance in the UGC Secretariat. The Quality Assurance Council, has carried out 3 university reviews in 2009. Meanwhile, an interim board for external degrees has been appointed to

regularise the external degree programmes and discussions have been carried out to formulate a national policy for external degrees. Staff development activities have also been launched to upgrade the skills of academic and non-academic staff in public universities. With the view to recognise the importance of private sector participation in higher education, the UGC has granted degree awarding status for specific degrees for 8 institutions established by the private sector. Meanwhile, under Section 25 A of the University Act No. 16 of 1978, the UGC has recognised the National Institute of Business Management (NIBM) as a degree awarding institute for 2 specific degrees. In addition, initiatives have been made to establish a common National Higher Education Management Information System (N-HEMIS) under the Improving Relevance and Quality of Undergraduate Education (IRQUE) project. The N-HEMIS is a management information system which is able to generate information for planning, monitoring and evaluating the entire higher education sector.

**Increasing private investment in university education could provide greater benefits, including enhanced access to university education.** While it would increase the overall resource mobilisation to the university education, it would also help improve the quality of education with increased competitiveness. The government could seek alternative methods to encourage private investments in university education, such as establishment of private degree awarding colleges/institutions in selected disciplines with quality maintained at high standards, establishment of affiliated university colleges, provision of infrastructure facilities, establishment of joint or collaborative degrees, facilitating distance learning programmes etc. In the meantime, the existing education system can be improved with proposed and ongoing reforms targeted at quality improvement, expanding the availability of opportunities for university education, and creating a more competitive environment as well.

**The Technical and Vocational Education Training (TVET) sector continued to expand**

**during the year.** The Technical and Vocational Education Commission (TVEC) which is the apex policy setting and regulatory body for the TVET sector, developed a national TVET policy framework. The intention of developing this policy framework was to introduce conducive policies and strategies to rationalise TVET to provide training that match the labour demand at the national and international levels. The TVET plans were designed in 2009 with a special focus on the Northern and Eastern provinces. University of Vocational Technology (UNIVOTEC), which was set up in 2008, established the faculty of education in 2009. Furthermore, TVEC worked on a new programme where TVET plans are developed to supply trained skilled workers depending on the labour demands of specific geographic areas.

### Housing and Urban Development

**The National Housing Policy emphasises the need for encouraging private sector participation, utilise government lands into higher and better uses and maximise the use of the existing housing stock by providing basic services.** With the increase in income levels and changing lifestyles, the private sector has emerged as the major provider of housing for the middle and high income groups while the government is involved in facilitating housing for the low income families and other specific groups.

**The growth in the housing market was hindered in 2009 due to several reasons.** The main reasons for the gap in housing demand and supply in Sri Lanka, were the high lending rates and relatively high house prices precluding low and middle income households from affording a house, low penetration of banks and micro finance institutions into low income groups, weak credit information and cautious lending by banks to irregularly salaried employees. Although the national housing needs are substantial, the effective demand was much smaller than housing needs. Only 3-4.5 per cent of the population have taken mortgages in Sri Lanka since access to housing mortgages is restricted by the tapered housing finance market. The amount of

housing loans provided by the banking sector in 2009 amounted to Rs. 167.8 billion reflecting a contraction of 1.5 per cent compared to 2008. Meanwhile, the costs of building materials have increased substantially over the years while the slowdown in economic activities due to global recession has also had an adverse impact on the housing market.

**The Ministry of Housing and Common Amenities (MHCA) carried out several housing development programmes during the year.** Gama Neguma Housing Programme, Public Servants' Housing Project, Pallimunai Housing Project, Estate Housing Programme and Janasevana Housing Grant Programme were among the main housing projects carried out by the MHCA. The main objective of the Gama Neguma Housing Programme is to provide permanent houses to low income poverty stricken people in 14,000 villages. Under this programme, The National Housing Development Authority (NHDA) provides financial and technical assistance for construction of new houses and improvement to existing houses. The performance of most of the programmes have been disturbed by budgetary constraints faced by the MHCA. Meanwhile, the Ministry of Defence and Ministry of Fisheries have taken measures to build houses for the members of the armed forces and fishing community, respectively. Under the 'Api Wenuwen Api' programme, 1,620 housing units were built in Ipologama and the next stage is to commence in Horowpathana. The Ministry of Nation Building and Estate Infrastructure Development carried out the North East Community Restoration and Development Project (NECORD) to reconstruct houses in the Northern and Eastern provinces.

### Poverty Alleviation

**Formal safety net programmes aim at redistributing resources to low income households to reduce chronic poverty or to protect them against risks to their livelihood.** Safety net programmes facilitate the living of the poor, while a safety net programme coupled with safety ropes, aims to alleviate poverty in a more sustainable manner. The mechanisms used

as safety net programmes include cash grants, food stamps, supplementary feeding programmes, price subsidies and agriculture input subsidies. Safety ropes help the poor to cross the poverty line, which is more sustainable in the long run in alleviating poverty. Creation of micro businesses through micro financing programmes is a major strategy under the safety rope programmes in alleviating poverty.

**Various poverty alleviation programmes were continued under the Department of the Commissioner General of Samurdhi in 2009.** Major programmes included the Samurdhi subsidy programme, nutrition allowance programme, dry rations for IDPs, Samurdhi social security programme, 'Sipdora' scholarship programme and kerosene subsidy programme. In addition, community development programmes were also carried out by the Sri Lanka Samurdhi Authority. A total number of 1.6 million families benefitted from the Samurdhi subsidy programme in 2009 at a total cost of Rs. 9,298 million. However, the existing food rations programmes need to be reviewed through follow-up work to outline specific next steps for geographic, poverty and age targeting to improve their cost-effectiveness and potential for impact on nutrition. The potential for linking some of these food programmes with community-driven development programmes needs to be explored as malnutrition in the country is challenging the sustainability of the level of social development.

**Under the Samurdhi subsidy programme, benefits are provided to about 32 per cent of the**

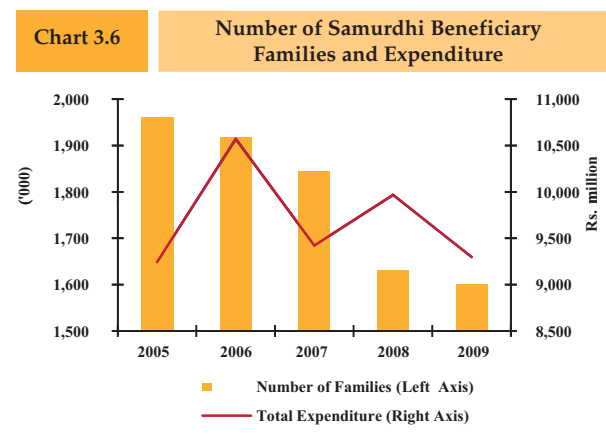




Table 3.10

**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)
2004	1,864,058	8,593	155,048	2,226	103,967	218
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	9,298 (c)	173,450	2,859	71,762	518

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

(b) As at end year

(c) Including kerosene subsidy

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

**population.** Compared to the Poverty Head Count Index (PHCI) which was 15.2 per cent, (2006/2007 Survey), the percentage of Samurdhi recipients at 32 per cent is substantially high. This highlights the ability to further streamlining the Samurdhi programme to a more realistic one, while providing more benefits to the needy people. Meanwhile, the targeting of the Samurdhi subsidy scheme was carried out in 2009 at the village level.

## Environment

**Balancing the goal of achieving a high economic growth with the preservation of the environment is a challenging task.** Unsustainable consumption patterns sometimes motivated by individual profit intentions, continued to result in increasing demand on natural resources threatening the stability of the ecosystem. Fast economic growth, requiring the use of natural resources in great volumes, produces waste-matter in large scale leading to environmental degradation, unless the environment conservation is inbuilt to the development process.

**The Ministry of Environment and Natural Resources (MENR) has taken several measures to protect the environment during the year.** To reverse the present trend in pollution and degradation of coastal and marine environment due to land based activities, the MENR has developed a national programme of action with short, medium and long-term goals with the assistance of the United Nations Environment Programme and Global Programme

of Action. This programme has identified the need for incorporating appropriate public spending programmes, pollution control methods, market and fiscal incentives for pollution prevention and capacity building initiatives. With the view to addressing the issues threatening sustainable development, a National Council for Sustainable Development was established, to function as a national platform to facilitate development planning and decision making through a holistic approach. The MENR initiated a new programme called 'Haritha Lanka' covering air, fauna and flora, climate change, coastal areas and other land resources. The Cabinet of Ministers has approved the implementation of the National Policy on Solid Waste Management, which is based on 'the polluter pays' principle and emphasises the need for reducing consumption, promoting recycle and re-using waste materials.

**The Central Environment Authority (CEA), the regulator in the environment sector processed several Environmental Impact Assessments (EIA) in respect of various projects including Greater Hambantota Development Plan and Northern Province Development Plan.** Recognising the importance of decentralising the activities of the CEA, in 2009 the CEA expanded its network by establishing 8 provincial offices and 7 district offices under the environmental regionalisation programme which was launched in 2002. The initiative taken by the CEA to decentralise the activities is a progressive step towards the protection and development of the natural resources across the country.

## Box 5

## Greening the Economy

**Introduction<sup>1</sup>**

Greening the economy refers to the process of re-configuring businesses and infrastructure to deliver better returns on natural, human and physical capital investments while reducing the adverse impact on environment. This could be achieved by reducing greenhouse gas emissions, extracting and using less natural resources, creating less waste and reducing social disparities and ensuring the sustainable use of natural resources. A green economy is considered to be able to create green jobs, ensure sustainable real economic growth and prevent environmental pollution, global warming, non-renewable resource depletion and environmental degradation. Therefore, many governments now take initiatives to green their economies by re-shaping and re-focusing policies, investing in a range of sectors, such as clean technologies, renewable energies, water supply services, green transportation, improved waste management, green buildings and sustainable agriculture and forests.

The need for greening the economy has arisen out of the well known economic concept, market failure. An economy produces a multitude of goods and services for the use of its members by utilising natural, human and man-made physical resources. In the process of production and consumption, both the producers and consumers take into account only the private costs and benefits, when they make their respective decisions. Apart from these private costs and benefits, in any production or consumption activity, there are external costs and benefits which are generally borne by society. This issue, generally identified as the ‘externality problem’, creates a divergence between what the private individuals consider as optimal for them and what the society at large considers as optimal for the entire society. Such divergence, often leads to a failure in the market system. However, it would not of course, pose a serious problem, if all the parties could reach a consensus to internalise the negative externality, and if the cost of reaching such a consensus is affordably low (Coase, 1960)<sup>2</sup>. However, when these two conditions do not exist, the presence of a negative externality in production and consumption gives rise to a market failure, which in turn has to be corrected through deliberate policy intervention. That particular adjustment is done through ‘greening’ the economy.

**Need for ‘Greening’**

The atmospheric balance in planet earth was maintained until the industrial revolution disrupted when the expansion of all sectors in the world economy, particularly the industrial sector, led to the increase of the emission levels of green house gases. In fact, major green house gas emission quantities increased significantly between the pre-industrial period and after 2005 (Table B 5.1).

**Table B 5.1 Major Green House Gases in Atmosphere in Pre-industrial Period and 2005**

	Carbon Dioxide (CO <sub>2</sub> )	Methane (CH <sub>4</sub> )	Nitrous Oxide (N <sub>2</sub> O)
Pre industrial period	280 ppm	715 ppb	270 ppb
2005	379 ppm	1774 ppb	319 ppb

ppm= parts per million ppb= parts per billion

Source: Ministry of Environment and Natural Resources

With these adverse developments, the earth has faced a challenging situation due to the uneconomical use of the environment, including natural resources.

**Greening Agriculture, Industry and Energy**

This situation suggests the need for corrective actions in many areas including agriculture, industry and energy. Greening agriculture involves the sustainable use of land resources to meet existing and potential human needs while reducing poverty and strengthening food security. Unsustainable use of land resources results in land degradation through soil erosion, nutrient loss and reduction of water retention capacity, leading to productivity inefficiencies, desertification and other economic and social impacts. Promotion of green industry will result in multiple benefits in terms of environmental sustainability, job creation and consequently, long-term economic growth. In greening industries, the main challenges that countries confront are the increasing volume of industrial waste, especially e-waste, shortage of land for landfills, and escalating costs of incineration plants. In order to green industries, there must be a coordinated effort to develop the recycling industry and to initiate Public-Private

<sup>1</sup> The Central Bank of Sri Lanka acknowledges the information provided by the Ministry of Environment and Natural Resources.

<sup>2</sup> His proposition gave rise to the celebrated ‘Coase Theorem’. See, Coase, Ronald, ‘The Problem of Social Cost’, Journal of Law and Economics, 1960.

Partnerships (PPPs) that will advance environmental friendly technologies. Therefore, governments have to play a crucial role in greening industries by facilitating the formation of strategic collaborations among organisations, and by reconciling the twin objectives of sustainability and profitability. Moreover, a significant share of energy production today relies on the use of fossil fuel, which has been largely blamed for the current wave of global warming and adverse climate changes. Therefore, it is necessary for the country to prepare itself for the world movement towards 'clean and green energy' sources by encouraging investments in green energy development such as tapping of unutilised hydro-power, wind power and solar power.

#### **Global Initiatives for Greening**

The protection of natural resources or the prevention of harmful climate changes are global issues that have to be tackled at global fora at which all nations should reach consensus for doing same. In line with this, while recognising the serious repercussions of climate change, the United Nations adopted the United Nations Framework Convention on Climate Change (UNFCCC) in 1992. Under the UNFCCC, the Kyoto Protocol was adopted in 1997 to cut 5.2 per cent of overall greenhouse gas emissions of industrialised countries and created Carbon Trading as an economic instrument to cut back on the production of greenhouse gases. However, with the unsuccessful ending of the Copenhagen Summit in December 2009, the world has failed to come up with consensus for the global as well as national issues relating to the long-term environmental degradation facing the world. In greening an economy, deliberate intervention by the government has also become necessary as producers or consumers are not in a position to take initiatives in greening their

production or consumption, respectively, on their own. This is often because of the high commercial rates and high research and development expenses they would have to incur in greening their activities.

#### **Greening in Sri Lanka**

Greening economic activities in a single country will involve the active engagement of numerous public and private agencies and the participation of the general public. Therefore, in order to promote the green economy and ensure the sustainable development of economic activities in Sri Lanka, several initiatives, including the following, have been taken:

1. Establishment of the National Council for Sustainable Development (NCSA) in 2009 to promote the green economy.
2. Formulation of the Haritha Lanka Programme in 2009, which has been prepared to cover the environmentally sensitive thrust areas to be implemented from 2009-2016 by 36 ministries and 70 government institutions.
3. Introduction of the Environmental Conservation Levy in 2008 as one of the Market Based Instruments (MBI), which is widely used as an important environmental policy measure.
4. Establishment of the Climate Change Secretariat and the Sri Lanka Carbon Fund in 2008 under the Ministry of Environment and Natural Resources in order to mitigate the impact of climate change.
5. Development of a National Cleaner Production Policy and Strategy in 2005 in order to promote ecologically sustainable production and consumption throughout the country.

