

# 3

## ECONOMIC AND SOCIAL INFRASTRUCTURE

### 3.1 Overview

**T**he government continued its efforts to expand the country's economic and social infrastructure in 2019 despite tight fiscal constraints, as infrastructure facilitates to harness resources in the economy for production purposes, improve the productivity of resources and enhance the wellbeing of the people. Accordingly, the government continued to facilitate numerous infrastructure projects in several fields and implemented measures aiming at developing the country's human resources. In order to augment the country's infrastructure base, the government proceeded with several road development activities, urban development and housing projects, water supply and irrigation schemes, and telecommunication projects. During the year under review, the Southern Expressway Extension project and Phase III of the Outer-Circular Highway project were completed while making progress in regional road network development projects with the view of enhancing regional connectivity and efficiency of the transport system, which will, in turn, help people to save time for productive activities, leisure and family life. Meanwhile, the land reclamation activities of the Port City project were completed in January 2019 and the land

reclaimed under the project was declared as a part of the Colombo District and as an urban development area under the purview of Urban Development Authority. This landmark project aims to build a world-class financial hub, while attracting investment related to hotels and restaurants, retail and office spaces, education, healthcare and entertainment. In addition, numerous urban and housing development projects continued in 2019 to meet increasing housing requirements in the country and to upgrade the living standards of the people. Improving access to safe drinking water and irrigation water is also essential to enhance wellbeing of the population. In this context, the Uma Oya multipurpose project, which aims to divert water for hydropower generation as well as to provide irrigation water to the drier parts of the Southern Province, was continued in 2019. Four reservoirs under the Uma Oya project were vested with the public in October 2019. Meanwhile, the Information and Communication Technology Agency (ICTA) continued implementing the Lanka Government Network 2.0 project and the Lanka Government Cloud 2.0 project in 2019 with the aim of linking government organisations and creating a big data cluster, thereby improving efficiency

and effectiveness of public services. However, several infrastructure development projects, such as the East Container Terminal at the Colombo Port and Bandaranaike International Airport (BIA) expansion project, progressed at a slower pace during the year. The Easter Sunday attacks had a notable impact on the Sri Lankan economy, and the transport sector is one of the sectors that was heavily affected. Accordingly, both passenger and goods transportation through road, railway and aviation modes declined during 2019 due to low people movements over security concerns and reduced activities in the economy.

The need for reforming State Owned Business Enterprises (SOBES) was felt in 2019, amidst the weak performance of SOBES. The dry weather conditions that prevailed during the first seven months of 2019 resulted in low hydropower generation and more thermal-based power generation. High reliance on fuel oil based power generation resulted in heavy losses to the Ceylon Electricity Board (CEB) during the year. Due to the increased demand for electricity caused by hot weather and limitations in power generation capacity, the CEB opted for scheduled power cuts during March and early April in 2019. Additionally, delays in revising electricity tariffs in tandem with the rising generation cost heightened the financial burden on the CEB. Meanwhile, the implementation of the generation expansion plan of the CEB remained stalled due to bureaucratic inefficiencies and flaws in tender and procurement processes, exacerbating further financial losses to the CEB. Hence, priority must be given to expedite the power generation expansion plan to ensure energy security of the country while reducing the cost of electricity generation of the CEB. Although domestic retail prices of fuel were regularly revised until September 2019, the Ceylon Petroleum Corporation (CPC) recorded a substantial loss,

since retail prices of fuel did not reflect the actual costs. Nonrepayment of trade payables by the CEB and SriLankan Airlines (SLA) also aggravated the financial burden on the CPC. Further, financial performance of many SOBES such as the SLA, Sri Lanka Transport Board (SLTB), Sri Lanka Railways (SLR) and Department of Posts (DOP) remained weak, highlighting the need for productivity improvements and institutional reforms in SOBES, to convert them into results-driven, consumer-centric organisations. The government has already identified the importance of transforming SOBES into financially viable institutions, but medium term plans need to be formulated, while implementing effective policy measures expeditiously to ease the persistent fiscal burden due to the operations of SOBES.

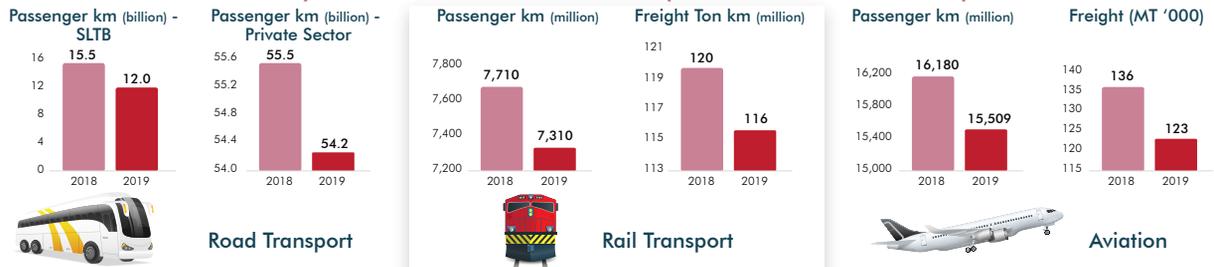
The government, with the support of the private sector, strived to promote human development through the provision of health and education services while continuing with social assistance programmes to uplift living standards of low income households. The '13 Years of Guaranteed Education' and the 'Nearest School is the Best School' programmes continued during the year with a view to improving equitable access to education and to meet dynamic skill demand in the job market. The private sector also continued to play a major role in providing education in the country. However, the legal framework and the monitoring and quality assurance mechanism should be strengthened further to ensure that students acquire necessary knowledge and skills to lead a productive adult life. While noncommunicable diseases continue to exert a substantial burden on the economy causing high level of mortality and morbidity issues within the population, the novel corona virus pandemic, COVID-19, has created serious health concerns in Sri Lanka in 2020, which will pose a notable impact on the socio-economic front as well. Meanwhile,

Figure 3.1  
Performance in relation to Economic and Social Overheads

The **GOVERNMENT**, in collaboration with the **PRIVATE** sector, continued to provide economic and social infrastructure in 2019

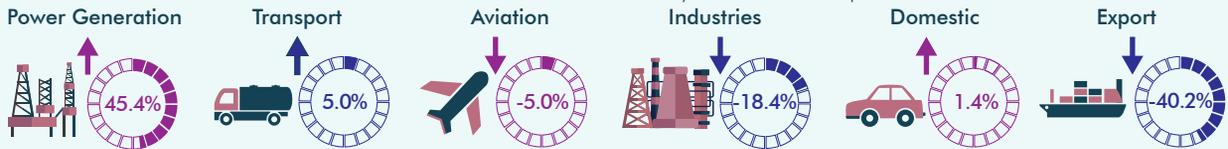
**ECONOMIC INFRASTRUCTURE**

The Easter Sunday attacks exerted a notable impact on the overall transport sector...



Petroleum sales to the power generation sector grew notably due to higher reliance on fuel based power generation amidst dry weather conditions...

Y-o-Y Growth in Petroleum Sales of the Ceylon Petroleum Corporation



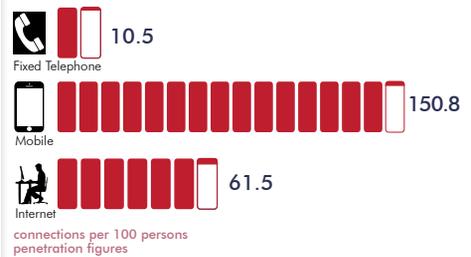
**Electricity**



**Port Activities**



**Telecommunication**



**SOCIAL INFRASTRUCTURE**

Government expenditure on health and education as a percentage of GDP amounted to 1.6% and 1.9%, respectively.



- 3.6 beds per 1,000 persons
- 1 doctor per 1,203 persons
- 1 nurse per 570 persons in government hospitals

**SAMURDHI SUBSIDY**



Total subsidy payments increased from Rs.39.2 bn in 2018 to Rs.44.7 bn in 2019.

Number of Samurdhi recipient families increased from 1.4 mn in 2018 to 1.8 mn in 2019.



The literacy rate in 2018 slightly decreased compared to 92.6 per cent recorded in 2017.

92.5%



**LITERACY**

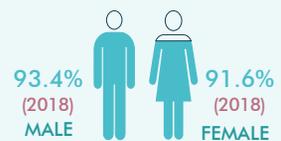


Table 3.1  
Government Investment in Infrastructure

Year	Economic Services		Social Services		Total	
	Rs. billion	As a % of GDP	Rs. billion	As a % of GDP	Rs. billion	As a % of GDP
2015	429.0	3.9	124.4	1.1	553.4	5.1
2016	424.0	3.5	117.3	1.0	541.3	4.5
2017 (a)	474.1	3.6	135.4	1.0	609.5	4.6
2018 (a)	437.9	3.3	133.2	1.0	571.1	4.3
2019 (b)	475.9	3.4	112.9	0.8	588.8	4.1

(a) Revised  
(b) Provisional

Sources: Ministry of Finance, Economic and Policy Development  
Department of Census and Statistics  
Central Bank of Sri Lanka

**3** the government enrolled over 400,000 families for the Samurdhi programme in 2019 with the view of extending financial assistance to a larger number of low income households, increasing the total number of Samurdhi beneficiaries to over 1.8 million households. Although social assistance and poverty alleviation programmes have contributed to reduce poverty in Sri Lanka to a great extent in the past several decades, restructuring the social assistance programmes in the country is vital to effectively target the poor families who actually need assistance, in order to eradicate poverty by 2030 as envisaged by the United Nations' Sustainable Development Goals (SDGs).

## 3.2 Economic Infrastructure Policies, Institutional Framework and Performance

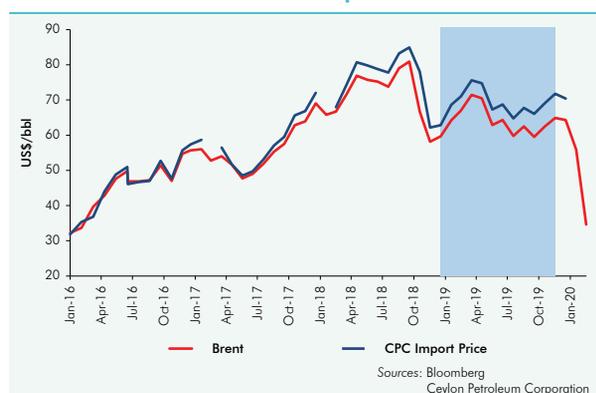
### Petroleum

**International crude oil (Brent) prices remained low on average in 2019, compared to the previous year.** The average Brent price fell by 10.7 per cent to US dollars 64.04 per barrel in 2019, from US dollars 71.76 per barrel in 2018. During the first four months of 2019, the Brent price followed an increasing trend and peaked at US dollars 71.45 per barrel in April 2019, before showing a declining trend in general thereafter until mid October 2019 due to the escalation of the US-China trade war that

partly resulted in subdued global growth. However, prices temporarily increased in July due to expectations of a revival of global demand. Further, oil prices surged significantly in mid September in response to a terrorist attack on two oil producing facilities in Saudi Arabia, one of the largest producers in the world. Nevertheless, this price increase was short-lived as Saudi Arabia assured that production would be restored within a month. Accordingly, the monthly average international Brent price fell to US dollars 59.54 per barrel in October 2019. Towards the end of the year, the Brent price escalated with the expectations that the US-China trade deal would boost demand for oil. At the beginning of December 2019, the Organisation of the Petroleum Exporting Countries (OPEC) agreed to cut output by 50 per cent until March 2020, further supporting the upward price movement. Meanwhile, the Brent price escalated to US dollars 70 per barrel at the beginning of January 2020, with escalating tensions in the Middle East. As worries of the Middle East tensions faded, crude oil prices fell and a sharp reduction was observed with the spread of the COVID-19 outbreak in China, the world's largest oil importer. As a result, the average price of Brent was US dollars 51.65 per barrel in the first three months of 2020. In line with international price trends, the average price of crude oil imported by the CPC also declined by 9.8 per cent to US dollars 68.80 per barrel in 2019 from US dollars 76.25 per barrel in 2018. Meanwhile, the average import price of refined petroleum products by the CPC decreased by 3.6 per cent to US dollars 571 per MT in 2019, from US dollars 592 per MT in 2018.

**Domestic retail prices of petroleum products were revised regularly until September 2019 with the implementation of a pricing formula in May 2018 and kept unchanged thereafter.** Accordingly, domestic retail prices of petroleum products of the CPC were revised eight times during

Figure 3.2  
Average Price of Crude Oil (Brent) in the International Market and the Crude Oil Import Price of the CPC



2019. Further, Lanka IOC, which is the second player in the market, also revised their retail prices during the year. The administered retail prices of the CPC for a litre of petrol (92 Octane), petrol (95 Octane), auto diesel, super diesel, kerosene and industrial kerosene were at the levels of Rs. 137.00, Rs. 161.00, Rs. 104.00, Rs. 132.00, Rs. 70.00 and Rs. 110.00, respectively, at end December 2019. Compared to end 2018, price of petrol (92 Octane), petrol (95 Octane), auto diesel and super diesel were higher by 9.6 per cent, 8.1 per cent, 3.0 per cent and 9.1 per cent, respectively, at end 2019. Meanwhile, the prices of furnace oil 800 and furnace oil 1,500 were also increased to Rs. 96.00 per litre by end June 2019, compared to Rs. 92.00 per litre at end September 2018. Sales of petroleum products in the domestic market grew by 4.8 per cent during 2019 with increased fuel oil based power generation and higher demand from the transportation sector. During the year, local sales of petrol grew by 4.2 per cent mainly due to increased demand from the transport sector. Reflecting the increased fuel oil based electricity generation owing to drought conditions, sales of diesel increased by 6.5 per cent during 2019, in comparison to the previous year. During 2019, total petroleum sales to the industrial sector declined, reflecting subdued growth in the industrial activities.

Table 3.2  
Petroleum Sector Performance

Item	2018 (a)	2019 (b)	Growth Rate (%)	
			2018 (a)	2019 (b)
Quantity Imported (mt '000)				
Crude Oil	1,674	1,842	5.2	10.0
Refined Products	4,959	4,740	1.3	-4.4
Coal	2,167	2,390	-14.3	10.3
L.P. Gas	413	430	6.7	4.1
Domestic L.P. Gas Production (mt '000)	22	27	13.7	22.2
Value of Imports (CIF)				
Crude Oil (Rs. million)	160,024	173,547	49.0	8.5
(US\$ million)	978	971	38.9	-0.8
Refined Products (Rs. million)	475,521	483,462	26.7	1.7
(US\$ million)	2,937	2,706	19.3	-7.9
Coal (Rs. million)	38,750	38,719	-2.4	-0.1
(US\$ million)	237	215	-9.5	-9.3
L.P. Gas (Rs. million)	43,162	43,156	21.6	-0.01
(US\$ million)	266	241	14.0	-9.1
Average Price of Crude Oil (CIF)				
(Rs./barrel)	12,475	12,302	41.5	-1.4
(US\$/barrel)	76.25	68.80	31.9	-9.8
Quantity of Petroleum Exports (mt '000)	1,093	984	12.5	-10.0
Value of Petroleum Exports (Rs. million)	101,467	93,194	53.1	-8.2
(US\$ million)	622	521	43.2	-16.2
Local Sales - Refined Products (mt '000)	5,273	5,528	-2.0	4.8
o/w Petrol (92 Octane) (c)	1,179	1,269	6.4	7.6
Petrol (95 Octane)	189	158	12.3	-16.6
Auto Diesel (d)	1,987	2,139	-9.5	7.7
Super Diesel	101	85	10.6	-16.3
Kerosene	210	206	30.4	-1.6
Furnace Oil	949	1,011	-8.8	6.6
Avtur	499	474	9.3	-5.0
Naphtha	137	162	-1.6	18.1
Local Sales - L.P. Gas (mt '000)	435	466	5.7	7.0
Local Price (End Period) (Rs./litre)				
Petrol (92 Octane)	125.00	137.00	6.8	9.6
Petrol (95 Octane)	149.00	161.00	16.4	8.1
Auto Diesel	101.00	104.00	6.3	3.0
Super Diesel	121.00	132.00	10.0	9.1
Kerosene	70.00	70.00	59.1	-
Furnace Oil				
800 Seconds	92.00	96.00	11.9	4.3
1,500 Seconds	96.00	96.00	20.0	-
3,500 Seconds	n.a.	n.a.	n.a.	-
L.P. Gas (Rs./kg)				
Litro Gas	138.64	119.44	21.1	-13.8
Laugfs Gas	138.64	119.44	21.1	-13.8
International Market Crude Oil Prices (US\$/bbl)				
Brent	71.76	64.04	31.0	-10.7
WTI	64.99	56.96	27.6	-12.4
World Oil Supply (million barrels per day)	100.3	100.3	2.9	-
World Oil Demand (million barrels per day)	99.3	100.3	1.1	1.0
(a) Revised	Sources: Ceylon Petroleum Corporation			
(b) Provisional	Lanka IOC PLC			
(c) Including XtraPremium Euro 3	Lanka Marine Services (Pvt) Ltd			
(d) Including XtraMile Diesel	Litro Gas Lanka Ltd			
	Laugfs Gas PLC			
	Sri Lanka Customs			
	Bloomberg			
	International Energy Agency			

Further, petroleum sales to the aviation sector also declined by 5.0 per cent due to the negative impact of the Easter Sunday attacks on the aviation sector. Meanwhile, sales of kerosene decreased by 1.6 per cent during the period under review.

**The financial position of the CPC remained weak in 2019.** As per the provisional unaudited financial statements, the CPC reported a loss of Rs. 11.9 billion, before taxes, in 2019, mainly due to the setting of administered prices of major petroleum products, namely petrol (92 Octane), diesel and kerosene, below the cost of the product in spite of price revisions. Accordingly, the operating loss per litre of petrol (92 Octane), auto diesel for the transport sector and kerosene for the domestic sector during 2019 stood at Rs. 4.72 Rs. 7.30 and Rs. 29.01 respectively. Further, the loss from petrol (92 Octane) and auto diesel for the transport sector, and kerosene for domestic sector during 2019 amounted to Rs. 8.7 billion, Rs. 16.0 billion and Rs. 7.7 billion, respectively. Accordingly, the CPC made an operational loss of Rs. 19.1 billion in 2019. In addition, the finance cost of the CPC amounted to Rs. 14.7 billion in 2019. Meanwhile, borrowings of the CPC from the banking sector increased during the period, as a result of liquidity management issues faced by the CPC due to non-payment of trade receivables by major customers such as the CEB and the SriLankan Airlines. Accordingly, the CPC's outstanding trade receivables from SOBEs increased by 87.9 per cent to Rs. 154.3 billion as at end 2019. At end 2019, the CEB and SriLankan Airlines accounted for 55.7 per cent and 31.3 per cent of outstanding total trade receivables of the CPC, respectively.

**Renovation and modernisation of the Sapugaskanda oil refinery continued during 2019.** A bid round was called to select a suitable designer for the Front end Engineering Design for replacing the main crude distillation column, diesel hydrotreater, and platformer unit of the Sapugaskanda oil refinery, which have reached the end of their life span. Several projects on repairing crude oil lines, fuel oil lines and storage tanks were in progress during the year. During this year, bitumen production was 17,103 MT, following the capacity enhancement in the refinery.

**The Petroleum Resources Development Secretariat (PRDS), the regulatory authority for offshore hydrocarbon exploration, continued its activities related to offshore hydrocarbon exploration, development and production work during 2019.** The PRDS announced a mini bid round in January 2019, to select a suitable investor for the development and production of the existing natural gas discovered in the M2 Block in the Mannar Basin and further exploration of the Block. The bid round was closed in June 2019 and the evaluation of bids progressed. Further, the marketing round of the M2 Block commenced in March 2019. The PRDS launched a bid round in May 2019, inviting operators to submit proposals expressing their interest in undertaking exploration work in the M1 and C1 Blocks. Upon closing the bid round in July 2019, the PRDS commenced its evaluation process.

## Electricity

**Electricity generation increased by 3.3 per cent to 15,879 GWh in 2019, in comparison to 15,374 GWh generated in 2018, with increased dependence on thermal power generation.** The drought conditions that prevailed during the first seven months of the year resulted in a decline in hydropower generation excluding mini hydro generation, by 26.5 per cent to 3,783 GWh in 2019. However, the share of hydropower in electricity generation gradually improved towards the end of the year with increased rainfall to the catchment areas. Meanwhile, the generation of electricity through fuel oil and coal increased by 38.2 per cent and 12.5 per cent, respectively, to 5,016 GWh and 5,361 GWh, respectively. However, the contribution of nonconventional renewable energy (NCRE) sources including mini hydropower plants to electricity generation, decreased by 6.2 per cent to 1,718 GWh in 2019 compared to the

previous year. This was mainly due to the reduction in power generation by mini hydropower plants owing to the dry weather conditions. Accordingly, in 2019, shares of hydro, fuel oil, coal and NCRE power generation in the total generation were 24 per cent, 32 per cent, 34 per cent and 11 per cent, respectively. Towards the end of the first quarter of 2019, hydropower generation dropped drastically, and accordingly, the CEB operated all thermal power plants including high cost gas turbines at their maximum capacity while resorting to load shedding to accommodate the increased electricity demand with the hot weather condition. The CEB issued a schedule for daily power cuts during March and early April in 2019. However, interruptions to electricity supply ended with effect from 11 April 2019. These power cuts caused a considerable level of inconvenience to the public while activities in the industry and services sectors were also affected. Meanwhile, power plants owned by the CEB contributed 71.1 per cent of the total

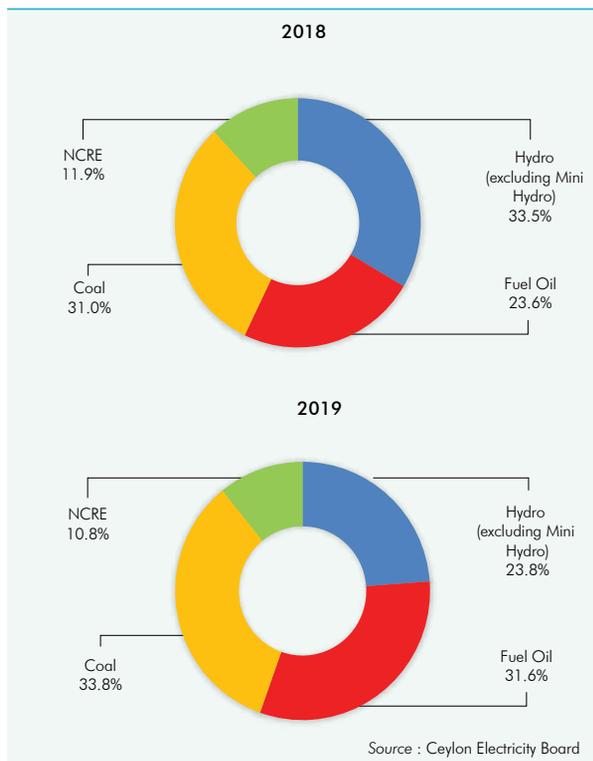
Table 3.3  
Electricity Sector Performance

Item	2018 (a)	2019 (b)	Growth Rate (%)	
			2018 (a)	2019 (b)
Installed Capacity (MW)	4,046	4,213	-2.2	4.1
Hydro (c)	1,399	1,399	1.1	-
Fuel Oil (d)	1,137	1,282	-12.1	12.8
Coal	900	900	-	-
NCRE (e)	610	632	8.7	3.6
Units Generated (GWh)	15,374	15,879	4.8	3.3
Hydro (c)	5,149	3,783	68.4	-26.5
Fuel Oil (d)	3,629	5,016	-28.1	38.2
Coal	4,764	5,361	-6.7	12.5
NCRE (e)	1,832	1,718	25.1	-6.2
Total Sales by CEB (GWh)	14,091	14,612	4.9	3.7
Domestic and Religious	4,641	4,863	4.0	4.8
Industrial	4,290	4,392	6.2	2.4
General Purpose and Hotel (f)	3,412	3,563	5.9	4.4
Street Lighting	108	109	-	0.7
Bulk Sales to LECO	1,640	1,684	2.8	2.7
LECO Sales (GWh)	1,566	1,646	3.2	5.1
Domestic and Religious	640	692	1.7	8.1
Industrial	288	293	2.5	1.7
General Purpose and Hotel (f)	617	640	5.3	3.7
Street Lighting	21	21	-4.5	-
Overall Transmission and Distribution Loss of CEB (%)	8.3	8.0	-1.9	-4.3
Number of Consumers ('000) (g)	6,354	6,501	-5.7	2.3
o/w Domestic and Religious	5,583	5,692	-5.7	2.0
Industrial	63	64	-1.9	2.8
General Purpose and Hotel (f)	709	744	-5.5	4.9

(a) Revised  
(b) Provisional  
(c) Excluding mini hydro power plants  
(d) Inclusive of Independent Power Producers (IPPs)  
(e) Refers to Non-Conventional Renewable Energy including mini hydro  
(f) Inclusive of sales to government category  
(g) Inclusive of LECO consumers

Sources: Ceylon Electricity Board (CEB)  
Lanka Electricity Company (Pvt) Ltd (LECO)

Figure 3.3  
Electricity Generation Mix



power generation in 2019, while the remainder was purchased from independent power producers (IPPs). The overall transmission and distribution loss as a percentage of total power generation reduced to 7.98 per cent in 2019 from 8.34 per cent in the previous year.

**Electricity sales increased by 3.7 per cent to 14,612 GWh in 2019 from 14,091 GWh in 2018.** Sales to general purpose, religious, domestic and industry categories, which account for 21.1 per cent, 0.6 per cent, 32.7 per cent and 30.1 per cent of sales, respectively, increased by 5.1 per cent, 4.9 per cent, 4.8 per cent and 2.4 per cent, respectively, in 2019. However, electricity sales to the hotel sector, which accounts 1.9 per cent of sales, declined by 5.4 per cent in 2019, mainly due to poor sectoral performance following the Easter Sunday attacks.



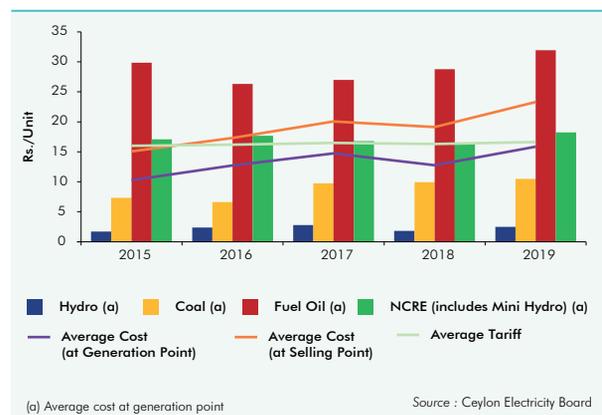
**3** The financial performance of the CEB weakened in 2019, mainly due to the heavy reliance on fuel oil for electricity generation. According to the unaudited provisional financial statements, the CEB recorded a loss of Rs. 85.4 billion before tax in 2019 compared to a loss of Rs. 30.5 billion reported in 2018. Increased dependence on thermal power due to dry weather conditions that prevailed during the first seven months of 2019 was the main reason for the deterioration of the financial position of the CEB. The average costs to the CEB in relation to hydro, coal and fuel oil power generation were Rs. 2.49, Rs. 10.48 and Rs. 31.93 per kWh, respectively. The average cost of electricity purchases by the CEB from IPPs amounted to Rs. 26.47 per kWh in 2019 as against Rs. 24.47 per kWh recorded in the previous year. Further, the overall average cost of electricity at the selling point was Rs. 23.29 per kWh, whereas the overall average tariff amounted to Rs. 16.62 per kWh in 2019 resulting in a loss of Rs. 6.7 per kWh. Accordingly, the overall average cost of electricity at the selling point as well as the overall average tariff registered increases of 21.8 per cent and 2.0 per cent, respectively, in comparison to the preceding year. In 2019, the average electricity tariffs charged by the CEB from domestic, general purpose, government, industrial and hotel sectors were Rs. 14.11, Rs. 23.91, Rs. 18.19, Rs. 14.72 and Rs. 17.75 per kWh, respectively. The CEB's short term borrowings from banks and other short term liabilities to the CPC and IPPs increased to Rs. 223.2 billion by end 2019 from Rs. 142.2 billion at end 2018. Meanwhile, the CEB's long term outstanding liabilities increased to Rs. 421.7 billion by end 2019 from Rs. 392.2 billion recorded at end 2018. The weakened financial position of the CEB emphasises the urgent need for power generation through cheaper sources by introducing an optimal and feasible energy generation mix for the country. Further, accelerating the implementation process of a cost reflective pricing mechanism for the CEB in collaboration with the

Public Utilities Commission of Sri Lanka (PUCSL) is necessary to improve the financial performance of the CEB. Due to the nonrepayment of payables by the CEB, the CPC was compelled to borrow substantially from the banking sector, which highlights the urgent need of addressing the financial issues of the CEB to reduce bank lending to SOBEs. In March 2020, the Cabinet approved the establishment of a crude oil price stabilisation fund aiming to maintain domestic prices at stable levels by absorbing global oil price fluctuations.

In 2019, the CEB submitted the annual Least Cost Long-Term Generation Expansion Plan (LCLTGP) pertaining to the period from 2020 to 2039 for the approval of the PUCSL. The energy mix proposed through the LCLTGP, which is to be achieved by end 2039, comprises 30.0 per cent Natural Gas, 30.0 per cent coal power, 25.0 per cent large hydro and 15.0 per cent from both other renewable energy sources and furnace oil. Timely implementation of this generation expansion plan is of paramount importance to meet the growing demand for energy while minimising the costs to the CEB.

Construction work of several major power projects was in progress in 2019 while plans were underway to set up additional thermal power plants. During 2019, the Cabinet of Ministers

Figure 3.4  
Average Cost and Average Tariff of Electricity



granted approval to construct two 300 MW natural gas combined cycle power plants in Kerawalapitiya, and a 300 MW coal fired plant as an extension to the existing complex in Norochcholai, which are expected to add to the national grid by 2023. The preparation of the Request for Proposals (RFP) for diesel power plants to be constructed in Habarana, Moneragala, Horana and Pallekele, which comprise 24 MW in each unit, was also in progress during the year and these plants are expected to be connected to the national grid by 2022. Construction work of the Uma Oya hydropower project (120 MW) and the Broadlands hydropower project (35 MW) was in progress during 2019 and these power plants are expected to be connected to the national grid in 2020. Further, preparatory work was in progress in relation to Seethawaka Ganga hydropower project (24MW), Thalpitigala hydropower project (15 MW) and Moragolla hydropower project (30 MW).

**The government continued its efforts to promote renewable energy generation expansion projects in the country in 2019.** The feasibility study, environmental impact assessment and land procurement process of the Mannar wind park, which is expected to add 100 MW to the national grid, have been finalised and the site construction work commenced in 2019. Project completion and the commencement of commercial operation are expected in 2020. In 2019, the prefeasibility study for the Pooneryn solar-wind hybrid energy park was conducted by the International Finance Corporation (IFC). Accordingly, it has been proposed to develop a 130 MW solar power plant in the first stage of the project within a two year period and develop a 238.5 MW wind power plant during the next three year period. Meanwhile, 35 solar photovoltaic (PV) projects, in which each project has the capacity of 1MW, were under construction, while tender awards for 75 solar PV projects were in progress in 2019. Meanwhile, in 2019, 1,545 consumers joined the *Soorya Bala Sangramaya*, and 18 MW have been added to the national grid under the project.

**In 2019, the Sri Lanka Sustainable Energy Authority (SLSEA) actively engaged in developing strategies to promote reliable, affordable and sustainable energy to all citizens.** The SLSEA continued to facilitate energy conservation in the commercial, industrial and domestic sectors, and accordingly, seven energy managers were accredited in 2019. By the end of the year, 223 energy managers were registered with the SLSEA. During the period under review, the SLSEA conducted energy education and energy conservation promotion programmes and the *Vidulka* national energy symposium to educate the general public. Further, the SLSEA was in the process of formulating action plans on meeting the challenging goal of generating 80 per cent of electricity from renewable resources and increasing energy efficiency by 20 per cent by 2030.

**In 2019, several measures were taken to regulate the electricity sector.** During the year, the PUCSL prepared a policy advice document for the government on the increase in electric vehicle usage in the country. Accordingly, it was proposed to revisit the tax structure on Electric Vehicles (EV), incorporate EV charging facilities in urban development plans, include EV charging facilities as a basic requirement in the building plan approval processes, improve EV usage for government institutions and encourage private investment in EV charging station facilities at public parking areas. Further, the licensing framework for electricians was finalised in 2019 and was forwarded for the approval of the Cabinet of Ministers. During the period under review, the PUCSL conducted a public consultation on the national draft policy on the liquid natural gas industry to obtain stakeholder views on the draft policy for its better implementation.

## BOX 6 Powering Sustainable Growth and Development

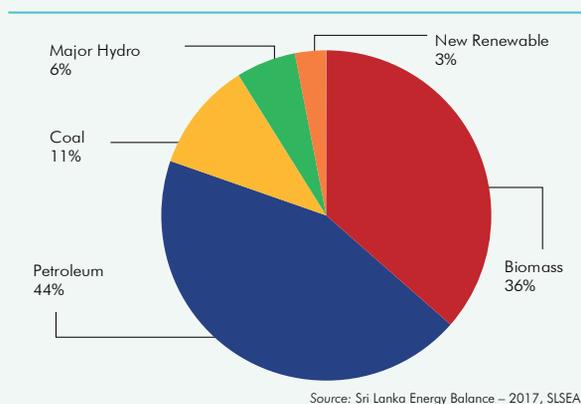
### Introduction

Energy is imperative for economic growth as it is a fundamental input for all economic activities including industrial production, transportation and household consumption. Though the gains from economic growth through increased energy consumption have been impressive across the globe, such high energy usage has far-reaching implications on environmental systems and the society mainly due to unsustainable practices. These unsustainable energy usage practices not only result in a rapid depletion of energy sources, but also cause climate change that can have detrimental effects on living beings as well as the environment. Though the basic need for energy cannot be changed, policymakers have identified the need to opt for more sustainable energy sources, due to adverse effects caused by fossil fuel based energy sources. Hence, management and development of energy sources are identified by the United Nations as core requirements for achieving Sustainable Development Goals (SDGs). Under the SDG-7, all countries are committed to provide 'access to affordable, reliable, sustainable and modern energy for all'. In a broader sense, sustainable energy underpins almost all SDGs, particularly related to industrialisation, economic growth, sustainable cities, poverty reduction, health, education as well as climate change. The Paris Agreement - 2015, of which Sri Lanka is also a signatory, has recognised that carbon-intensive economic growth is no longer a route for sustainable development. Therefore, clean and sustainable energy sources should be the centre of Sri Lanka's sustainable development agenda.

Sustainable energy is a multidimensional concept that advocates the provision of adequate and reliable energy to both current and future generations, at affordable prices in an environmentally friendly manner. Sustainable energy usage includes three facets: first, environmental sustainability that aims to reduce greenhouse gas emissions and harmful and toxic waste, and minimise adverse effects on biodiversity; second, social sustainability that encompasses poverty eradication, improving living standards and wellbeing of the people as well as energy security; third, economic sustainability that ensures low cost and affordability of energy sources, reliability of the energy supply and employment creation in relation to energy generation. Although renewable energy is generally referred to as sustainable energy sources, not all renewable energy projects are necessarily sustainable. For instance, biomass is renewable energy, but clearing of forests for biomass production and cultivation of plants for biomass production in a water scarce area are not environmentally sustainable practices. Therefore, renewable energy also needs to be used in a sustainable manner. All energy sources have their own advantages and disadvantages in relation to environmental, social and economic fronts.

Hence, a country needs to consider the full range of energy sources available for the country by weighing their pros and cons and select an appropriate sustainable energy mix. Meanwhile, the shift towards sustainable energy usage not only focusses on the supply side of energy, but also emphasises on its demand side, particularly in terms of improving energy efficiency and optimising energy usage.

Figure B 6.1  
Sri Lanka's Primary Energy by Source - 2017



Economic development of a country has a strong positive correlation with energy usage, and most often with high greenhouse gas emissions. However, renewable energy sources can play an important role in reducing this correlation and contributing towards sustainable development than non-renewable energy sources. However, as depicted by Figure B 8.1, fossil fuels account for 55 per cent of primary energy supply in the country. Meanwhile, the total energy demand in Sri Lanka has increased from 336.8 petajoules<sup>1</sup> in 2005 to 423.8 petajoules by 2017, reflecting approximately 1.9 per cent growth in overall energy demand per annum. According to the Sri Lanka Energy Balance – 2017 report, the transport sector, which primarily uses petroleum as the source of energy, accounted for 36 per cent of the energy demand in the country. From the energy supply point of view, electricity, which is the main secondary energy<sup>2</sup> source in Sri Lanka, has met 11.4 per cent of the total energy demand in the country (Sri Lanka Energy Balance – 2017). However, Sri Lanka's electricity sector is heavily reliant on carbon-intensive primary energy sources, which contributed 66 per cent of the total electricity generation in 2019. With the increased fuel oil and coal based power generation in the country, the carbon dioxide emission factor<sup>3</sup> of Sri

1 1 petajoule = 10<sup>15</sup> joules

2 Secondary energy refers to more convenient forms of energy that are derived from other energy sources through energy conversion processes.

3 As per the Sri Lanka Energy Balance -2017 report, the carbon dioxide emission factor is calculated by dividing the total emissions of the power sector by the total number of units of electricity produced in the country in that particular year.

Lanka's electricity grid has increased from 315.8 g CO<sub>2</sub>/kWh in 2010 to 584.5 g CO<sub>2</sub>/kWh by 2017, resulting in an 85 per cent increase in carbon dioxide emissions from the electricity sector within seven years. The carbon dioxide emission factor in 2017 translates into 8.575 million metric tonnes of CO<sub>2</sub> emissions by the electricity sector during that year. These trends highlight the necessity of a shift towards clean and renewable energy sources for transportation and electricity generation, while reducing the growth of energy demand through energy efficiency improvements and energy saving practices, to ensure sustainability of the overall energy sector.

### Renewable Energy as Sustainable Energy Sources in Electricity and Transport Sectors

Renewable energy sources such as solar, wind, geothermal, waves and tides, are generally considered as sustainable energy sources. Since renewable energy sources are derived from natural processes, they are replenished constantly ensuring future availability of the resource. Renewable energy sources generate minimal or zero greenhouse gas emissions. Therefore, a shift towards renewable energy helps combat climate change. Generally, prices of non-renewable energy sources such as fossil fuel are highly volatile due to demand and supply conditions, and are more prone to geopolitical tensions. Therefore, diversification into renewable energy sources lowers the demand for fossil fuel, and thereby reduces the cost of purchasing non-renewable energy sources. Since Sri Lanka relies heavily on imported fossil fuel for electricity generation, the energy sector has a major bearing on the trade balance and the exchange rate. A shift towards sustainable renewable energy sources will ease the external sector burden of the country to a greater extent.

With the current drive towards sustainable development, the role of renewable energy in global climate change mitigation and energy supply security has been widely recognised around the world. According to the Renewable Capacity Statistics -2019 report of the International Renewable Energy Agency, renewables accounted for almost two-thirds of global new power generation capacity additions in 2018. Accordingly, the global wind electricity generation capacity increased by 49 GW, led by China and the USA during 2018. Meanwhile, the solar electricity generation capacity in the world grew by 24 per cent with the addition of 94 GW. Asia alone accounted for 61 per cent of the total new renewable energy installations in 2018, registering a growth of 11.4 per cent (International Renewable Energy Agency, 2019a). But, Oceania recorded the fastest growth of 17.7 per cent, mainly driven by a large increase in the Australian solar power generation capacity. Further, growth in renewables usage averted 215 metric tonnes of CO<sub>2</sub> emissions in 2018, of which a major portion was achieved through the transition to renewables in the power sector (International Energy Agency, 2019b). Brazil, which had been heavily reliant on hydropower (over 80 per cent of national electricity

demand), turned to other renewable technologies to meet rising electricity demand while reducing the country's vulnerability to energy shortages in drought years. Meanwhile, Chile set a national target of 20 per cent renewable electricity (excluding hydropower) by 2025. Although coal continues to be the largest primary energy source, India is increasingly tapping into its vast renewable energy potential and increasing investment in solar power with the aim of becoming a world leader in renewable energy.

Further, transport systems around the world are also gradually shifting towards low emission options. Accordingly, electric mobility is rapidly expanding across countries. The electric car fleet in the world surpassed 5.1 million in 2018, registering a 2 million increase from the previous year. The world's largest electric car market is China, followed by Europe and the United States, but a shift towards electric vehicle usage is emerging in other countries as well (International Energy Agency, 2019c). Chile, for instance, has one of the largest electric bus fleets in the world after China. Chile targets to electrify 100 per cent of its public transportation system by 2040 and 40 per cent of its private transportation system by 2050. Many European countries, including the United Kingdom, Netherland and Belgium, have committed to increase their electric bus fleet. In addition, Denmark, Finland, Iceland, Norway and Sweden account for approximately 8 per cent of the total number of electric cars around the world. Further, Norway, Iceland and Sweden record the highest per capita usages in the world. Among many other advanced economies, New Zealand also adopted policies to make a transition to a net-zero emissions economy by 2050 (International Energy Agency, 2019c). However, sustainability of electric vehicle usage depends on the carbon intensity of the electricity used to charge vehicles. If the country's electricity is highly reliant on fossil fuel based power generation, even electrical vehicles could leave a massive carbon footprint.

Sri Lanka is enriched with several renewable resources such as hydropower, solar and wind power. More than one third of the electricity generation in the country is achieved using renewable resources, primarily hydropower. However, hydropower has increasingly become a less reliable energy source due to regular and intense drought periods experienced by the country, resulting in unprecedented surges in fossil fuel-based generation. Meanwhile, large projects designed to exploit hydropower have become complicated due to social and environmental implications on surrounding areas. On the other hand, Sri Lanka is yet to extensively exploit other non-conventional renewable energy sources (NCRE) such as solar and wind power. Being an island, Sri Lanka has a potential to generate electricity through sea waves and tides, but this remains an untapped potential thus far. However, several measures have been taken to promote renewable energy in Sri Lanka to reduce the country's dependence on oil and rainfall in the long run. In line with the Least Cost Long

Term Generation Expansion Plan of the CEB, the SLSEA aims to increase the share of renewable energy, apart from major hydropower, in power generation from the current level of 10.7 per cent to 15 per cent by end-2030. The government launched a community based solar power generation project in 2016, Soorya Bala Sangramaya, in collaboration with the SLSEA, the CEB and the Lanka Electricity Company (Private) Limited (LECO). This programme expects to add 200 MW of solar electricity to the national grid by 2020 and 1,000 MW by 2025. Meanwhile, the construction of several wind power plants in Mannar and Pooneryn is in progress. Although waste management has become a serious issue in the country, only one waste-to-energy project has been commissioned up to now. Growth in non-conventional renewable energy generation is still slow paced in Sri Lanka, hence the government and private sector entities need to make a concerted effort to fast-track the NCRE capacity expansion in the country.

### Limitations of NCRE as Sustainable Energy Sources

As any other energy source, NCRE has its limitations in terms of sustainability. The primary barrier for the usage of NCRE such as solar and wind, is the high capital related to installation of the power plants. Although these sources typically require large upfront capital investments, financial returns over the long term are uncertain, and partly dependent on national policies on issues such as feed-in tariffs. Hence, financial institutions are more likely to perceive renewable projects as risky, charging high interest rates on project borrowings. Generally, NCRE sources offer a decentralised generation model, in which, smaller generating stations are spread across a large area. Hence, cost of transmission is relatively high in such models where financing can be a significant barrier for both developers and end users. The average cost of generation is still perceived to be high for most NCREs in comparison to that of coal. However, many countries have been able to drastically reduce the cost of NCRE in recent years, through competitive bidding for energy procurement, government grants and subsidies for NCRE producers, especially for household level production, and duty waivers for the importation of solar PV panels. For instance, India has been able to reduce the cost of wind power to be on par or lower than the cost of energy generation from imported coal (Shrimali et. al., 2015). Moreover, the cost of setting up solar power plants in India has declined by 80 per cent between 2010 to 2018 and the country recorded the world's lowest installation cost of new solar power plants in 2018 (International Renewable Energy Agency, 2019b). Meanwhile, CEB's estimates of the cost of coal power generation does not include the cost of financing the coal power plant, whereas the estimate of the cost of NCRE comprises repayment of project costs to the NCRE producers by the CEB. Hence, the CEB's costs cannot be directly used to compare the costs of different energy sources. Accordingly, the World Bank and International Finance Corporation have estimated the

cost of coal and NCRE sources in Sri Lanka to be USD cents 9/kWh and USD cents 11.33/kWh, respectively, in 2017. Since the cost of coal power generation does not include the cost to the environment, coal cannot be considered as a clear winner over NCRE in terms of cost even in Sri Lanka.

Though renewable energy resources are available around the world, many of these resources are intermittent energy sources and are not available year-round. Solar, wind, wave and tidal energy sources are intermittently available depending on the weather and the time of day. Most electricity grids are constructed to comply with nonintermittent energy sources such as fuel oil based or coal fired power plants. However, overall intermittency of the renewable energy sources can be reduced by using a combination of these sources. With more and more NCRE sources integrated into the system, grid modifications become necessary to ensure the supply of electricity is matched to daily variation in demand. Further, geographic limitations such as climate, topographies and vegetation also affect the installation of renewable energy plants. The extra challenge against solar power is recycling or disposing of solar panels without causing health and environmental hazards since they contain base metals such as lead, chromium, and cadmium. This can be a fairly costly process.

### Way Forward

Sustainable energy usage is crucial for both economic and human development. Since the electricity and transportation sectors are energy-intensive activities, sustainable energy usage should be promoted in these sectors. In this regard, Sri Lanka needs to formulate an appropriate sustainable energy mix for electricity generation in consideration of long run economic costs as well as externalities of energy sources on the environment and society. Competitive bidding by electricity producers that use various energy sources should be encouraged to reduce overall cost of energy generation. As Sri Lanka is highly dependent on fossil fuels, the country faces a wide spectrum of challenges in the transition towards sustainable energy such as cost reflective energy pricing, grid modifications and energy conservation. Non-renewable energy sources are likely to be financially attractive than NCRE sources since financial costs of fuel oil and coal do not encompass the cost of environmental effects of those sources. Prior to the sharp decline in oil prices due the COVID-19 pandemic, most petroleum products in Sri Lanka were at subsidised prices without reflecting their true economic costs. Therefore, financial incentives are needed to make NCRE sources more financially attractive than non-renewable sources. Attractive feed-in tariffs, net metering systems, investment tax credits, subsidised interest rates for project loans, green bonds and soft loans are possible financial interventions to promote NCRE projects in the country.

Higher dependence on intermittent energy sources requires grid modifications to balance demand and supply conditions. When the share of NCRE in total electricity generation increases, Sri Lanka will need grid energy storage methods, such as pumped-storage hydroelectricity and batteries, to store and release excess energy when required. However, pumped-storage hydroelectricity is feasible only at locations near hills, and battery technologies are still expensive. Nevertheless, complementary energy sources such as hydroelectricity or natural gas can be used to produce backup power. In addition, reducing demand for electricity at certain times of the day through smart grid usage and energy demand management can also ease intermittency issues.

With the high reliance on non-renewable sources for electricity generation in Sri Lanka, electric vehicle usage may not reduce greenhouse gas emissions as expected. Given the electricity capacity constraints in the country, electric vehicle usage needs to be promoted with caution. However, sustainable energy usage in the transport sector can be supported through energy demand-side management policies. For instance, improving the efficiency, reliability and comfort of public transport systems, increasing fuel efficient vehicle fleet, minimising travel by better urban designs, improving on-road fuel efficiency through better traffic management, promotion of low carbon fuels and encouraging people to shift to nonmotorised modes, including biking and walking, are some measures that can promote sustainable energy usage in the transport sector.

Sustainable energy use for economic growth and development will require significant transformations in physical systems, policies, regulatory frameworks and people's perceptions with regard to production and consumption of energy. To this end, the government, private sector and the general public must make a collaborative effort to ensure energy sustainability, and thereby sustainable growth and development. Meanwhile, commitment towards energy sustainability is essential to provide policy certainty, clear direction for green energy investment and encourage required structural changes such as the implementation of cost reflective pricing strategy for CEB and CPC.

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## Road Development

**The government continued its activities related to the construction of new roads and the rehabilitation of existing roads during 2019 with the aim of enhancing regional connectivity in the country.** The total length of National Highways (A and B class roads) maintained by the Road Development Authority (RDA) was approximately 12,220 km while the total length of expressways was 217.8 km, as at end 2019. The expenditure incurred by the RDA for the development and the maintenance of the national highway network and the construction of expressways in 2019 stood at Rs. 155.2 billion. Accordingly, the RDA spent Rs. 55.5 billion on expressway development and Rs. 71.8 billion on highway development while spending Rs. 9.4 billion on the construction of bridges and flyovers during 2019.

**During the year under review, several road construction, rehabilitation and maintenance projects were continued with financial support from foreign and local sources.** The rehabilitation of the Medawachchiya to Horowpathana road was commenced in end March 2019 under the Northern Road Connectivity Project (NRCP), with the financial assistance of the Asian Development Bank (ADB). Further, procurement work with respect to the Integrated Road Investment Programme-II (i-Road II) for the Eastern and Northern Provinces was completed and the construction work commenced during 2019. Procurement work for the same project in the Western Province neared completion during the year. Rehabilitation of six road sections under the Priority Road Project 3 - Phases (I) and (II), was completed during the period under review. More than 50 per cent of the construction work of

steel bridge section and extradosed bridge section under the Kelani River New Bridge Construction Project at Peliyagoda was also completed during the period. Meanwhile, the development work of the Badulla - Chenkaladi Road Improvement Project and the Awakening Polonnaruwa District Development Programme were also continued in 2019. Further, under the Rural Road Re-awakening programme and the *Ran Mawath* rural road maintenance and construction programme, a road length of 765.5 km was completed in 2019.

**3 The construction work related to the national expressway network also continued during 2019.** Phase - (III) of the Outer Circular Highway (OCH), which connects the Kadawatha and Kerawalapitiya interchanges with a link to the Colombo-Katunayake Expressway, was completed and opened to the public on 09 November 2019. This project consisted of a road length of 9.6 km. Further, the extension of the Southern Expressway from Matara to Hambantota, including the expressway link to Mattala was completed and was opened to the public in February 2020. This extension connects the country's two main ports and airports, enabling easy transfer of goods and passengers. In addition, construction work of the 169 km long Central Expressway project and 74 km long Ruwanpura expressway project also continued in 2019. Meanwhile, expressways which are currently in operation generated revenue of Rs. 8.6 billion during 2019, compared to Rs. 8.4 billion in 2018. The total vehicle traffic in the Southern Expressway grew by 5.6 per cent to 14.0 million vehicles in 2019. However, the volume of vehicle traffic in the Colombo Katunayake Expressway and OCH recorded a decrease of 1.2 per cent and 11.1 per cent, respectively, mainly due to the slowdown in transport activities owing to the Easter Sunday attacks. The lack of a proper methodology for land acquisition for road construction projects has resulted in a large number of court cases

and has adversely affected the progress of road infrastructure development projects. Hence, the government needs to adopt timely, efficient and proactive policy measures for land acquisition, payment of compensation and resettlement in order to minimise delays in road construction projects.

**Several measures were taken by the government to mitigate landslide disasters on national roads and to reduce traffic congestion.**

Currently, a project with financial assistance from Japan International Cooperation Agency (JICA) is being carried out to mitigate landslide disasters on national roads through the implementation of appropriate countermeasures in highland areas. The total estimated cost of the project is Rs. 16.2 billion and ten high priority locations have been selected to implement the project. Meanwhile, 156 junctions have been earmarked for improvement, while 79 locations have been identified in the Colombo metropolitan region for the installation of pelican crossings under the Advanced Traffic Management System (ATMS) project. Basic design for the project has been completed covering 211.4 km of road length. Further, 133 junctions will be improved under Phase (I) of the project on a priority basis and the detailed design has been completed. Accordingly, the government is in the process of seeking funding for the project, which aims to support economic activities in the Colombo metropolitan region by relieving traffic congestion, strengthening traffic safety, and improving public transport.

## Road Passenger Transportation

**Road passenger transportation witnessed a subdued performance in both public and private sector transport operations, primarily due to low passenger movements subsequent to the Easter Sunday attacks.** The total operated kilometrage of buses of the Sri Lanka Transport

Board (SLTB) decreased by 3.4 per cent to 431.3 million km, while total passenger kilometrage recorded a significant reduction of 22.7 per cent to 12 billion km compared to the preceding year. In the meantime, operated kilometrage and passenger kilometrage of private buses also declined by 2.3 per cent to 1.1 billion km and 2.2 per cent to 54.2 billion km, respectively, in comparison to 2018. As against the previous year, the total number of buses owned by the SLTB increased by 4.3 per cent to 7,251, while the average number of buses operated by the SLTB declined by 2.8 per cent to 5,079 in 2019. Further, the total number of buses owned by the private sector declined marginally by 0.3 per cent to 19,979 from 20,030 of 2018. During 2019, the number of inter-provincial and intra-provincial permits issued by the National Transport Commission (NTC) for private bus operations stood at 3,110 and 16,852, respectively.

**The NTC continued to focus on transport expansion activities in 2019.** The NTC extends its special bus services, namely *Sisu Seriya*, *Gemi Seriya* and *Nisi Seriya* in collaboration with the SLTB, to provide special public transport services. The expenditure incurred on the *Sisu Seriya* bus service, which provides reliable and safe services to school children, amounted to Rs. 546.8 million in 2019. In total, 1,419 buses were deployed to provide *Sisu Seriya* services. Under the *Gemi Seriya* service, which improves accessibility of people who live in rural areas, 11 new services were initiated. Expenditure on the *Gemi Seriya* service amounted to Rs. 2.7 million during 2019. The *Nisi Seriya* bus service continued to facilitate public transport service during the night time. The expenditure on this service was around Rs. 14.4 million in 2019, and six new bus services were deployed under the *Nisi Seriya* programme during the year. Moreover,

the online seat booking facility for inter-provincial bus services was continued during the period under review. During 2019, the NTC took initial steps to implement the Google Transit facility with the aim of assisting the public by providing details of bus routes, rail routes, train stations, and other public transport related information. The facility will be made available in the Western Province initially and subsequently expanded across all other provinces. At the initial stages, users will be able to obtain schedules of public transport modes before the service is upgraded to provide real-time data. In the meantime, special amendments to inter-provincial highway bus fares were enacted by the NTC in November 2019. However, there was no annual bus fare revision in 2019 after the revision in December 2018.

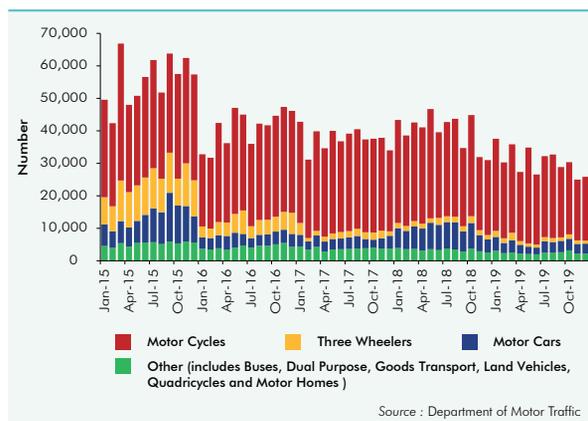
**Several programmes initiated by the SLTB to cater to public transport needs continued in 2019.** The SLTB engaged in upgrading the fleet through the addition of 334 new buses in 2019. The SLTB purchased nine luxury buses worth Rs. 17.1 million each, with the intention of providing high quality transportation services and assigned those buses to six bus depots. Steps were taken to purchase 600 buses under an Indian credit facility and 80 luxury buses under the 2019 budget.

**The financial performance of the SLTB showed a slowdown in 2019 as a result of subdued transport activities in the economy.** As per the provisional unaudited financial statements, total revenue of the SLTB declined by 1.4 per cent to Rs. 43.5 billion mainly due to the 6.1 per cent reduction in revenue earned from passenger fares in 2019. Meanwhile, operating expenditure also decreased marginally to Rs. 41.9 billion, resulting in an operating profit of Rs. 1.6 billion in 2019, when compared to the profit of Rs. 2.2 billion recorded in 2018. The reduction in revenue in 2019 could be

attributed to reduced passenger movements through public and private bus operations after the Easter Sunday attacks. Meanwhile, subsidies granted by the government for the operation of uneconomical routes and subsidised season tickets were around Rs. 5.5 billion each in 2019.

**The registration of new motor vehicles declined by 23.6 per cent to 367,303 in 2019 from 480,799 vehicles registered in the previous year.** Notable reductions in registrations were recorded for almost all vehicle categories. Accordingly, registration of motor cars, buses and goods transport vehicles declined by 52.7 per cent, 45.5 per cent, and 44.3 per cent, respectively. Policy measures taken by the Central bank and the government in 2018 to curtail vehicle imports resulted in a significant reduction in motor vehicle registrations in the first half of 2019. However, some of these restrictions, such as the margin deposit requirements and restrictions on opening of Letters of Credit (LCs) for the importation of motor vehicles under concessionary permits, were removed by mid 2019, leading to a gradual increase in vehicle registrations in the second half of the year. With the increasing income levels in the country, demand for quality and comfortable transportation systems is rising. However, public transport systems have not been upgraded to meet the changing demands in the economy, resulting in a greater number of people using privately owned vehicles. Although macroprudential and fiscal policy measures can be used to curtail vehicle imports to the country temporarily, the quality and efficiency of the public transport systems should be enhanced in the long run if this issue is to be addressed and to reduce external imbalances caused by excessive vehicle imports. Good quality and cost effective public transport systems will not only improve the trade balance, but will also reduce congestion, pollution and fuel wastage. Moreover, these efficiency improvements will be time saving, enabling individuals to spend more time on productive as well as leisure activities.

Figure 3.5  
New Registration of Motor Vehicles



## Rail Transportation

**In 2019, the Sri Lanka Railway (SLR) recorded a decrease in both passenger and freight transportation compared to the previous year, mainly due to limited passenger movements in the aftermath of the Easter Sunday attacks and two strikes carried out by railway workers.** The rail passenger kilometrage decreased by 5.2 per cent to 7.3 billion km in 2019 in comparison to 7.7 billion km in 2018. Meanwhile, the goods kilometrage also recorded a decline of 3.5 per cent to 115.6 million MT km in 2019 from 119.8 million MT km in 2018.

**The SLR continued to improve railway infrastructure in 2019, through the construction of new railway tracks, rehabilitation of existing rail tracks and enhancement of railway services and rolling stock.** During the year, the SLR completed the construction of a 27 km railway line from Matara to Beliatta, with a view to expanding railway services in Southern Sri Lanka. Meanwhile, double tracking of the Katunayake - Kurana railway line with a signal system was completed during the period under review. In 2019, the SLR commenced double tracking of the railway line from Polgahawela to Kurunegala, the railway line that connects Kandy, Peradeniya and Kadugannawa, and the railway line

from Payagala to Aluthgama. Further, rehabilitation of the railway line from Maho to Omanthai using an Indian line of credit and maintenance work of the Kelani Valley railway line were continued during 2019. In addition, the SLR commenced initial work on a new bridge at Maggona. In 2019, consultancy work on the Colombo Suburban Railway Project (CSR) was also in progress. With the expectation of enhancing railway operations, the SLR initiated the Rail Efficiency Improvement Project (REIP), in parallel to the CSR, with financial assistance from the Asian Development Bank.

**Meanwhile, the SLR took several measures to strengthen the rolling stock by the importation of new units and rehabilitation of existing units.** In 2019, the SLR purchased five power sets for upcountry services, seven locomotives, five power sets for other regions, 30 oil tank wagons, and 20 container flat wagons. During the year, five new train services; two services from Colombo Fort to Polonnaruwa, two services from Maradana to Beliatta and one from Colombo Fort to Kankesanthurai were introduced. Meanwhile, steps have also been taken to improve passenger facilities, such as seat reservation and cafeterias. The signalling and telecommunication system of the railway around the country was strengthened during the year. Accordingly, the SLR completed 170 new protected level crossing systems under a project that aims to install 200 level crossings. Further, initial activities to establish a new signal system from Maho to Omanthai were carried out during the year.

**The financial performance of the SLR remained weak in 2019 as well.** As per the provisional financial statements, the SLR recorded an operating loss of Rs. 7.6 billion during the year, compared to a loss of Rs. 7 billion in 2018. The total revenue of the SLR at Rs. 7.9 billion, registered an increase of 6.6 per cent in 2019 in comparison to the previous year, mainly due to the upward revision

of passenger fares in October 2018. Accordingly, passenger fares, which account for about 80.9 per cent of the total revenue, registered an increase of 7.8 per cent in 2019 in comparison to 2018. During the year, current and capital expenditures also increased by 7.5 per cent and 33.8 per cent, respectively, to Rs. 15.5 billion and Rs. 20.4 billion, respectively. The increase in current expenditure was primarily driven by the 8.8 per cent growth in personnel emoluments, while the increase in capital expenditure was mainly due to the purchase of rolling stock.

**The SLR has the potential to improve its services as a low cost mass transportation mode for passengers and goods, and thereby reduce urban and suburban traffic congestion to a great extent.** However, improvement of the railway service is essential to provide a comfortable and efficient transport mode for the public. As at end 2019, 65 per cent of the train fleet owned by the SLR were older than 30 years. Therefore, modernisation of the existing rolling stock as well as railway tracks is required to overcome losses in terms of productive man hours and energy utilisation. Further, the reliability of the service is the most important factor for railway transportation to become a popular and efficient mode of transportation. According to the overall train operations statistics of the SLR, 48.4 per cent of trains were not operated punctually and 7.5 per cent trains had been delayed by more than one hour in 2018. Meanwhile, 4.9 per cent of the scheduled trains were cancelled during the same period. Hence, it is necessary for the SLR to identify possible reasons for delays and cancellations, and formulate solutions to improve the efficiency of service delivery. Further, establishing parking facilities near railway stations to encourage the *park and ride* concept must be explored as a solution for congestion in urban areas.

Table 3.4  
Salient Features of the Transport Sector

Item	2018 (a)	2019 (b)	Growth Rate (%)	
			2018 (a)	2019 (b)
<b>1. New Registration of Motor Vehicles (No.)</b>				
Buses	480,799	367,303	6.5	-23.6
Motor Cars	2,957	1,613	-11.2	-45.5
Three Wheelers	80,776	38,232	106.2	-52.7
Dual Purpose Vehicles	20,063	15,490	-14.8	-22.8
Motor Cycles	16,931	13,459	1.1	-20.5
Goods Transport Vehicles	339,763	284,301	-1.3	-16.3
Land Vehicles	9,371	5,223	-18.0	-44.3
Quadracycles and Motor Homes	10,282	7,666	-21.2	-25.4
	656	1,319	-	101.1
<b>2. Sri Lanka Transport Board</b>				
Operated Kilometres (million)	446	431	-0.4	-3.4
Passenger Kilometres (million)	15,541	12,012	-1.7	-22.7
Total Revenue (Rs. million)	44,103	43,490	4.6	-1.4
Operating Expenditure (Rs. million)	41,935	41,934	4.6	-
Operating Profit (+) / Loss (-) (Rs. million)	2,168	1,556	4.2	-28.2
<b>3. Sri Lanka Railways</b>				
Operated Kilometres ('000)	11,640	11,700	-0.3	0.5
Passenger Kilometres (million)	7,710	7,310	2.9	-5.2
Freight Ton Kilometres (million)	120	116	-17.3	-3.5
Total Revenue (Rs. million)	7,413	7,901	14.4	6.6
Operating Expenditure (Rs. million)	14,381	15,464	2.1	7.5
Operating Profit (+) / Loss (-) (Rs. million)	(6,968)	(7,562)	-8.4	8.5
<b>4. SriLankan Airlines</b>				
Hours Flown	110,058	106,950	13.2	-2.8
Passenger Kilometres Flown (million)	16,180	15,509	14.2	-4.1
Passenger Load Factor (%) (b)	83	83	1.0	-0.4
Weight Load Factor (%)	75	74	1.9	-1.2
Freight (mt '000)	136	123	9.0	-9.5
Employment (No.)	6,846	6,709	-2.8	-2.0
(a) Revised	Sources: Department of Motor Traffic			
(b) Provisional	Sri Lanka Railways			
	Sri Lanka Transport Board			
	Civil Aviation Authority of Sri Lanka			

## Civil Aviation

The civil aviation sector recorded a negative performance in 2019, primarily due to the decline in tourist arrivals in the aftermath of the Easter Sunday attacks. Due to the lower demand for travelling to Sri Lanka owing to security concerns after the Easter Sunday attacks, 11 airlines reduced flight frequencies to the country, cancelling 32 flights per week during the Northern hemisphere summer season in 2019. Accordingly, total air passenger movements through the Bandaranaike International Airport (BIA) declined by 8.3 per cent to 9.9 million in comparison to 10.8 million in 2018. In the meantime, cargo movements also declined by 8.2 per cent to 246,406 MT from 268,496 MT recorded in the previous year. The

BIA handled 71,973 aircraft movements in 2019, registering a decline of 3.4 per cent. Subsequent to the Easter Sunday attacks, the government offered several incentives to airlines to encourage their operations to Sri Lanka without disruption. Incentives were offered on fuel and ground handling, while reducing the disembarkation levy for passengers. However, airlines reinstated their original flight schedules sooner than expected, towards the latter part of 2019. Meanwhile, the Mattala Rajapaksa International Airport (MRIA) and Jaffna International Airport (JIA) recorded 786 and 64 aircraft movements, respectively, in 2019. In response to reduced tourist arrivals, domestic passenger movements also registered a decline of 33 per cent to 20,584 in 2019 as against to 30,725 recorded in the previous year.

As per the provisional unaudited financial statements, SriLankan Airlines (SLA) recorded an operating loss of Rs. 33.1 billion for the 2018/2019 financial year. In the 2019/2020 financial year, SLA incurred an operating loss of Rs. 15.0 billion for the nine months ending December 2019 according to the provisional financial statements. The Easter Sunday attacks imposed significant challenges on the execution of SLA's short and medium term strategies of its business plan. A series of flight cancellations and aircraft downgrades were accommodated in the schedule for the four months following the attacks due to a reduction in the passenger volume. Despite the decline in income, SLA was able to reduce operating expenditure due to low fuel prices and fuel optimisation initiatives. The airline's online direct sales channel increased its contribution to the overall revenue up to 16 per cent, making substantial savings in distribution costs. Meanwhile, in May 2019, SLA was named the world's most punctual airline for the second time. By end 2019, SLA had a fleet of 26 airbus aircraft with 13 each from wide-bodied and narrow-bodied categories.

Figure 3.6  
Air Passenger and Air Cargo Handling



**Construction work related to several aviation development projects continued in 2019.** The Palaly Airport was upgraded and was renamed as the Jaffna International Airport (JIA) in October 2019. Meanwhile, feasibility studies and environmental impact assessments were in progress for the construction of the Bandarawela Airport. Development activities were in progress to upgrade the Batticaloa Airport and Ratmalana Airport as international airports. With the recent developments of regional airports and their transformation into international airports, Sri Lanka will have five international airports, located in Katunayake, Ratmalana, Mattala, Batticaloa and Jaffna.

**The Cabinet of Ministers approved the National Civil Aviation Policy (NCAP) in 2019.** This new policy framework proposes to open up Sri Lanka's sky for international commercial traffic on the basis of reciprocity with the objective of enhancing accessibility and connectivity. Accordingly, the NCAP aims to grant permission for new local airlines to conduct international air services as scheduled airlines while allowing local airlines to conduct charter operations to international destinations. The NCAP encourages foreign airlines to conduct similar charter operations to Sri Lanka.

The NCAP is also expected to introduce multiple ground handling service providers at airports and to construct new domestic aerodromes to encourage domestic air operations.

## Port Services

**Port related activities witnessed an expansion during 2019, primarily due to the growth of commercial operations at the Colombo International Container Terminal (CICT) in the Port of Colombo.** The Port of Colombo handled 7.2 million Twenty-foot Equivalent Container Units (TEUs) during 2019 in comparison to 7 million TEUs handled in the corresponding period in 2018, despite a 3.1 per cent drop in ship arrivals to 4,198 vessels in 2019. The volume of transshipment container handling, including restowing, accounted for 82.4 per cent of total container volume in the Port of Colombo, recording a growth of 4.4 per cent during 2019 over the previous year. The expansion in transshipment operations in 2019 could be largely attributed to the expansion of activities at the CICT. However, container handling for domestic purposes registered a decline of 5.2 per cent during the period under review. The overall performance of the Port of Colombo in terms of container, transshipment and cargo handling, witnessed a growth of 2.6 per cent, 3.6 per cent and 1.8 per cent, respectively, in 2019 compared to 2018. The CICT, which is equipped with robust infrastructure facilities to handle large vessels, handled a total of 2.9 million TEUs during 2019 recording a 8.1 per cent growth in its throughput compared to the previous year. The increased performance of the CICT was achieved mainly by capitalising on its higher capacity, especially its deep draught facilities, which are not available in other terminals at the Port of Colombo, and the availability of modern equipment to handle mega container vessels. Meanwhile, total container handling at South Asia Gateway

Table 3.5  
Performance of Port Services

Item	2018	2019 (a)	Growth Rate (%)	
			2018	2019 (a)
1. Vessels Arrived (No.)	4,874	4,697	-0.1	-3.6
Colombo	4,331	4,198	-	-3.1
Galle	84	43	-3.4	-48.8
Trincomalee	189	142	-18.9	-24.9
Hambantota	270	314	17.4	16.3
2. Total Cargo Handled (mt '000)	104,934	106,979	11.8	1.9
Colombo	100,151	101,926	12.5	1.8
Galle	729	510	2.5	-30.1
Trincomalee	3,560	3,304	-8.7	-7.2
Hambantota	494	1,239	131.7	150.8
3. Total Container Traffic (TEUs '000) (b)	7,047	7,228	13.5	2.6
4. Transshipment Container Handling (TEUs '000) (b)	5,704	5,955	18.2	4.4

(a) Provisional  
(b) TEUs = Twenty-foot Equivalent Container Units

Source: Sri Lanka Ports Authority

Terminal (SAGT) recorded a marginal drop of 0.7 per cent in 2019 compared to the previous year. Accordingly, total container handling at SAGT was 2.1 million TEUs. Meanwhile, terminals operated by the Sri Lanka Port Authority (SLPA), including the Jaya Container Terminal (JCT), registered a marginal decline in container handling of one per cent to 2.3 million TEUs during 2019. Accordingly, the CICT, the SLPA and the SAGT accounted for 40 per cent, 31.6 per cent and 28.4 per cent of the total volume of containers handled by the Port of Colombo, respectively, in 2019. Meanwhile, transshipment container handling at the CICT and the SLPA witnessed an increase of 12.5 per cent and 1.6 per cent, respectively, during the year. However, transshipment container handling at the SAGT registered a negative growth of 2.1 per cent in 2019. Cargo handling at the Port of Colombo registered a growth of 1.8 per cent in 2019. While cargo handling at the SLPA and the SAGT witnessed contractions of 2.3 per cent and 1.9 per cent, respectively, the CICT recorded a growth of 9.4 per cent during the year. At the Asian Freight, Logistics and Supply Chain (AFLAS) Awards, the CICT was voted as the Best Container Terminal in Asia in the 'under 4 million TEUs category' for the third consecutive year in 2019.

The CICT remains the first and the only deep water port in South Asia that is capable of handling Ultra Large Container Carriers (ULCC), which contributed 72 per cent of CICT's container handling volumes. Further, the SLPA won the *Ports Authority of the Year 2019* Award by the Global Ports Forum (GPF) for the second consecutive year.

**The Port of Hambantota recorded a notable growth in terms of cargo and vehicle handling in 2019.** In 2019, total cargo handling at the Port of Hambantota registered a notable growth of 150.8 per cent to 1.2 million metric tons as against 0.5 million metric tons recorded in 2018. Meanwhile, the number of vehicles handled by the Port of Hambantota recorded a growth of 77.4 per cent to 411,027, largely supported by increased transshipment vehicle handling, which registered an expansion of 155.4 per cent to 373,925 during 2019. However, vehicle handling carried out at the Port of Hambantota for domestic purposes witnessed a contraction of 56.5 per cent to 37,102 vehicles in 2019 from 85,225 vehicles recorded in the same period in the previous year. Various policy measures taken by the government and the Central Bank to curtail motor vehicles imports in the latter part of 2018 largely contributed to the slowdown in vehicle handling for domestic purposes at the Port of Hambantota.

**The government and port related institutions continued to take measures to improve the country's connectivity with the world through sea transportation while developing the required infrastructure in major ports in the country.** The Port of Colombo surpassed seven million TEUs throughput for the second consecutive year in 2019 and all three container terminals in the Port of Colombo have been operating at maximum design capacities in recent years. Since global shipping lines are increasingly using large ships

Figure 3.7  
Container Handling, Transshipment  
Volume and Ship Arrivals



for goods transportation, the limited capacity of the SLPA-owned terminals and SAGT in handling large vessels constrained the future growth potential of the Colombo Port. Therefore, it is important to expedite the development and operations of the East Container Terminal (ECT) to expand the productive capacity of the Port of Colombo and to maintain its competitiveness within the region while exploiting emerging market opportunities. As per the Master Plan of the Colombo Port Expansion Project, the ECT will have 1,200 metres long quay wall with 18 metres water depth and a yard capacity of 2.4 million TEUs. In this regard, a Memorandum of Cooperation between the governments of Sri Lanka, Japan and India was signed in May 2019. The operations at the ECT under a public-private partnership are scheduled to commence in 2020. It is expected that the ECT will be opened for novel megacarriers, enhancing the annual container throughput of the Port of Colombo to become a top 20 container port in the world. The SLPA has already developed a 440 metres long quay wall, adjacent yard area and connected facilities of the ECT. Meanwhile, the night navigation improvement project of the SLPA continued throughout the year, in collaboration with the Japan International Cooperation System (JICS), with the aim of improving navigation

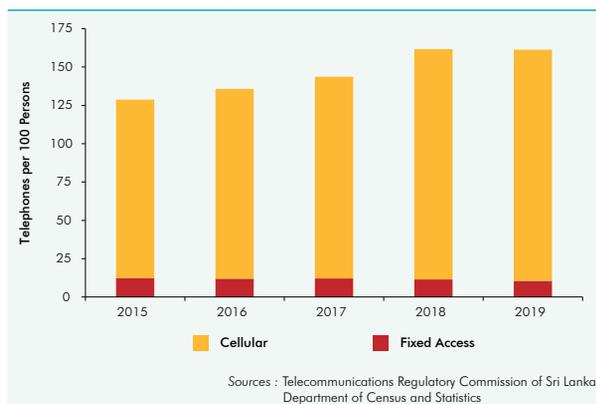
facilities at the Port of Trincomalee. Moreover, the government, through the SLPA, is in the process of expanding the Port of Galle as a regional port for tourism and commercial activities.

**The financial performance of the SLPA improved in 2019.** Accordingly, the SLPA recorded a profit of Rs. 16.2 billion before tax in 2019 compared to a profit of Rs. 8.7 billion recorded in 2018. Total revenue of the SLPA grew by 5.8 per cent to Rs. 40.8 billion, whereas operating expenditure also increased by 6 per cent to Rs. 22.4 billion.

## Communication Services

**The telecommunication sector activities continued to improve in 2019 with a further expansion of telephone and internet connections as well as value added services.** As at end 2019, total mobile telephone connections increased to 32.9 million from 32.5 million at end 2018, while fixed wireline telephone connections increased by 2.4 per cent to 1.2 million connections from the previous year. The decreasing trend in fixed wireless connections observed in the preceding years continued in 2019 as well, recording a 16.8 per cent reduction to 1.1 million connections. As a result, total fixed line connections declined by 7.4 per cent compared to the previous year. With these developments, the fixed telephone penetration, as measured by connections per 100 persons, and the mobile telephone penetration stood at 10.5 and 150.8, respectively, by end 2019. Internet connections grew by 26.9 per cent, and accordingly, internet penetration stood at 61.5 by the end of 2019. Moreover, as a result of the popularity of mobile phones among people, fixed telephone penetration remains stagnant in Sri Lanka, which limits the growth of fixed broadband

Figure 3.8  
Telephone Penetration



services as well. Meanwhile, the tax reductions with effect from 01 December 2019 in telecommunication services are expected to contribute to the expansion in the telecommunication sector further.

**During the year under review, the government took numerous initiatives to improve access to telecommunication and digital infrastructure with the aim of boosting economic development.**

The government continued activities related to the Sri Lanka Digital Economy Strategy to accelerate digital adoption across key sectors of the economy to improve their productivity. Further, along with the Information and Communication Technology Agency (ICTA), a National Digital Policy (Sri Lanka's Digital Agenda for 2020 – 2025) framework was developed to support sustainable economic development and growth. In addition, the Sri Lanka Computer Emergency Readiness Team (SL-CERT) Coordination Centre, which is the focal organisation for cyber security system of the country, initiated the establishment of a National Cyber Security Operations Centre to monitor threats to digital government applications and infrastructure, and conducted national surveys to assess the cyber security landscape of Sri Lanka.

**The Telecommunication Regulatory Commission of Sri Lanka (TRCSL) and ICTA continued to support the growth of the telecommunication sector in 2019. Accordingly,**

ICTA continued to implement the Lanka Government Network 2.0 project, which aims to connect 860 government locations in a cost effective and secure manner. The expenditure on this project was around Rs. 674.9 million in 2019. ICTA engaged in the creation of a government big data cluster through the Lanka Government Cloud 2.0 project and 96 per cent of physical progress was achieved by end 2019 with an expenditure of Rs. 102.3 million in 2019. Further, ICTA was engaged in the Employee Trust Fund Management System project in 2019 with the view to provide online access to Employee Trust Fund information to both employees and employers. Moreover, numerous other projects, including the Integrated Welfare Management System, ICT Human Resource Capacity Building for Government Digital Transformation, National Spatial Data Infrastructure-Phase (II), Smart Society and Citizen Capacity Building Project and Cross Government Digital Document Management System, were carried out by ICTA in 2019. ICTA also conducted several training and awareness programmes for public officials on digitalisation of the country in 2019. In addition, under the Industry Development Programme of ICTA, a National Information Technology - Business

Table 3.6  
Telecommunication Sector Performance

Item	2018	2019 (a)	Growth Rate (%)	
			2018	2019 (a)
1. Fixed Access Services (No.) ('000)	2,485	2,300	-4.6	-7.4
Wireline Telephones in Service	1,216	1,245	1.5	2.4
Wireless Local Loop Telephones	1,269	1,055	-9.7	-16.8
2. Cellular Phones (No.) ('000)	32,528	32,884	15.4	1.1
3. Other Services				
Public Pay Phones (No.)	2,135	476	-58.4	-77.7
Internet Connections (No.) ('000) (b)	10,563	13,408	78.9	26.9
4. Telephone Penetration (c)				
Fixed Telephones	161.6	161.4	12.5	-0.1
Cellular Phones	11.5	10.5	-5.5	-8.0
Cellular Phones	150.1	150.8	14.1	0.5
5. Internet Penetration (c)	48.7	61.5	77.0	26.2

(a) Provisional  
(b) Including mobile internet services  
(c) Defined as connections per 100 persons

Sources: Telecommunications Regulatory Commission of Sri Lanka  
Department of Census and Statistics

Process Management IT-BPM Workforce Survey was carried out to analyse the demand and supply of the ICT workforce in Sri Lanka. The TRCSL also implemented several development projects to support the growth of the telecommunication sector. The Colombo Lotus Tower, which acts as a hub station for telecommunication networks, was declared open in September 2019. The TRCSL also assessed the possibility of developing a Telecommunication Media Centre at the Hambantota IT Park, on a public-private partnership basis.

**The performance of the Department of Posts (DOP) remained stagnant, emphasising the need for productivity improvement, diversification of services and technological advancement to provide better services.** As at end 2019, Sri Lanka's postal system consists of 653 main post offices, 3,409 sub post offices, 307 agency post offices, 101 rural agency post offices and 4 estate agency post offices. The financial performance of the DOP continued to be weak as in the recent past years. As per the provisional financial statements, the total revenue of the DOP increased by 8.9 per cent to Rs. 8.4 billion in 2019, while operating expenditure also increased by 6.4 per cent to Rs. 13.7 billion, resulting in an operating loss of Rs. 5.3 billion in 2019 in comparison to the loss of Rs. 5.2 billion in 2018. In the meantime, initial steps were taken by the DOP to implement a Business Development Plan for 2019 – 2023 with the aim of providing efficient and high quality public service in a cost effective way. However, postal services were disrupted during 2019 due to trade union actions conducted by postal employees. The DOP needs to pursue new initiatives that include policy reforms for cost reductions, well structured pricing mechanisms to enhance its revenue, and expansion and diversification of the services in line with international postal services using advanced technologies such as bar codes to sort, track and trace mails and parcels.

## Water Supply and Irrigation

**The water supply sector continued to expand its services to meet the rising demand for pipe borne water in the country.** The National Water Supply and Drainage Board (NWS&DB) provided 108,850 new water supply connections during the year, reaching 2.4 million total connections by end 2019. Access to safe drinking water and pipe borne water have thus increased to 91.9 per cent and 51.8 per cent, respectively, by end 2019 from 90.6 per cent and 50.5 per cent, respectively, by end 2018. With these developments, the total number of water connections increased by 4.7 per cent in 2019 compared to the previous year. Meanwhile, the percentage of island wide nonrevenue water usage increased marginally to 25 per cent in 2019, from 24.9 per cent in 2018. Further, the percentage of nonrevenue water in the Colombo city declined to 40.6 per cent in 2019, from 41.7 per cent in 2018. The NWS&DB initiated Giridara water supply project in the Western Province and Kirama - Katuwana water supply project in the Southern Province with the objective of providing safe drinking water and sanitation services. The Giridara water supply project is a Rs. 513 million locally funded project aimed at providing

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**Table 3.7**  
**Water Supply by National Water Supply & Drainage Board**

Item	2018	2019 (a)	Growth Rate (%)	
			2018	2019 (a)
Total Water Supply Schemes (No.) (b)	348	348	1.5	-
Total New Connections provided during the period (No.)	109,482	108,850	-13.6	-0.6
Total Connections (No.) (b)	2,328,654	2,437,504	4.9	4.7
Total Water Production (MCM) (c)	707	746	4.1	5.5
Non Revenue Water (%)				
Colombo City	41.7	40.6	-3.5	-2.6
Islandwide	24.9	25.0	-1.2	0.1
Access to Safe Drinking Water (per cent) (d)	90.6	91.9	1.5	1.4
Access to Pipe Borne Water (per cent) (e)	50.5	51.8	2.6	2.6

(a) Provisional  
 (b) As at year end  
 (c) MCM=Million Cubic Metres  
 (d) Comparative figure based on the HIES-2016 of the DCS is 88.8 per cent  
 (e) Includes systems managed by other authorities

Source: National Water Supply and Drainage Board

potable water to Giridara and surrounding areas that are suffering due to water scarcity. The Kirama - Katuwana water supply project is a euro 10.45 million project that is implemented with foreign financial assistance, and upon completion, it is expected to increase the service coverage in the Divisional Secretary areas of Walasmulla and Katuwana.

**The NWS&DB incurred an operating loss of Rs. 2.1 billion in 2019 in comparison to a loss of Rs. 1.8 billion in the previous year.** Total revenue grew by 5.1 per cent to Rs. 26.1 billion mainly due to the increased number of connections provided during the year, while operational and maintenance costs increased by 6.3 per cent to Rs. 29.4 billion. Further, the NWS&DB incurred capital expenditure of Rs. 73.2 billion, which is an increase of 18.7 per cent in comparison to the previous year. Water tariffs have not been revised since October 2012.

**Amidst some flagship initiatives, the Department of Irrigation (DI) made concerted efforts towards maintaining and upgrading irrigation projects for agriculture and domestic purposes in 2019.** The Heda Oya reservoir project was commenced with the aim of irrigating 5,303 hectares providing facilities to 50,000 families. Further, rehabilitation of feeder tanks under the Giant's tank project was also commenced to irrigate 9,894 hectares benefiting 10,625 families. During the year, 24 existing major irrigation projects were in progress incurring a cost of Rs. 6,564.4 million, of which Rs. 4,263.3 million and Rs. 514.5 million were spent on the Yan Oya and Kalugaloya reservoirs, respectively. The Climate Resilience Improvement Project (CRIP), which was inaugurated in 2014 to implement adverse climate shock resilience improvements

in hydraulic infrastructure, progressed across 21 major irrigation schemes in nine regions up to end 2019. The approved estimated cost of the CRIP is Rs. 5,374.4 million, of which Rs. 3,736.7 million was spent by end 2019. Meanwhile, Rs. 2,153.4 million was spent under CRIP - Additional Financing covering 22 major irrigation schemes in 11 regions by the end of 2019. The Uma Oya downstream development project achieved physical progress of 85 per cent at end 2019 and four reservoirs under the Uma Oya project, namely Alikota Ara, Diaraba, Puhulpola and Handapanagala, were vested in the public in October 2019. Under the Productivity Enhancement and Irrigation System Efficiency Improvement project (PEISEIP), which was initiated in 2017 to improve the irrigation infrastructure for 72,882 hectares of irrigable lands benefiting 97,832 farmer families, activities related to 40 major and 40 medium irrigation schemes were commenced in 14 districts by end 2019. The numerous social, economic, ecological and geological flaws that were observed in relation to recent irrigation projects highlight the importance of conducting required comprehensive environmental assessments prior to the implementation of such activities.

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

#### Health

**The government continued to invest in human and physical resources in the state health sector during the year.** Numerous physical infrastructure development projects including construction of the drug rehabilitation centre in Divisional Hospital in Minuwangoda, the alcohol rehabilitation centres in Rambukkana and Athurugiriya, and child psychiatry unit in

Base Hospital in Diyathalawa were completed in 2019. Further, construction of nephrology units in major hospitals, such as the teaching hospitals in Peradeniya and Karapitiya, was in progress. Meanwhile, the project to remodel the existing building and construct a new three-storey building at the new District General Hospital in Kamburugamuwa continued during 2019 with the aim of expanding and relocating maternal and newborn care facilities in Matara. As per the provisional health sector data, there were 603 government hospitals with 3.6 beds for every 1,000 persons in the country by end 2019. Meanwhile, there was one qualified doctor for every 1,203 persons and one nurse for every 570 persons in state hospitals at the end of the year. Further, there were 105 government Ayurvedic hospitals consisting of 4,485 beds by end 2019, and 1,759 qualified doctors working in government Ayurvedic hospitals.

**In 2019, Sri Lanka made significant achievements in terms of managing several communicable diseases, though the country remains vulnerable to several regularly occurring endogenous epidemics and potential cross-border transmission of global health hazards.** During the year, the World Health Organisation (WHO) declared that Sri Lanka is free of mother to child transmission of the Human Immunodeficiency Virus (HIV) and Syphilis. Sri Lanka has not reported any case of mother-to-child transmission of HIV since 2017, while the country's congenital Syphilis cases have consistently been two per 100,000 live births, which is substantially lower than the 50 per 100,000 live births level that is required to be eligible for elimination certification. Sri Lanka is the third country in the region to achieve this status after Thailand and Maldives. Meanwhile, the WHO affirmed that Sri Lanka has eliminated endogenous Measles and has controlled Rubella. Within the region, Sri Lanka was the fourth country

to eliminate Measles and control Rubella. However, the Dengue epidemic intensified towards the end of 2019 recording 105,049 cases for the year, which corresponds to an annual incidence rate of 482 per 100,000 population compared to 238 per 100,000 population in the previous year. Meanwhile, 50 per cent of the case load was reported in the fourth quarter of the year. The government implemented numerous activities to minimise and control the burden of Dengue through early diagnosis and proactive case management during the past years. As a result, the case fatality rate remained at a lower level of 0.15 per cent. The number of Leptospirosis cases also increased in 2019, recording 6,021 cases for the year, in comparison to 5,257 cases in the preceding year. The fatality rate associated with Leptospirosis was 1.68 per cent. The highest caseload was reported from the Ratnapura, Kalutara, Galle and Matara Districts. As in 2018, two peaks of seasonal influenza were observed during 2019. The first peak was observed from May to July, and the second was noticed from October to December. The highest number of cases of Influenza Like Illnesses (ILI) was reported in the month of November. Meanwhile, ILI represented two per cent of the total Out Patient Department (OPD) visits to the sentinel surveillance sites. There were 50 deaths reported due to influenza during 2019. Meanwhile, the COVID-19 outbreak that emerged in China at end December 2019 turned into a pandemic by March 2020. With mounting worries over the cross-border transmission of the disease to Sri Lanka, disease surveillance at entry points to the country such as BIA, and quarantine programmes were strengthened. Thirty three students who were studying in Wuhan city in China, the epicentre of the illness, were evacuated and quarantined at the Diyathalawa army base though none of them reported contracting the virus. Quarantine centres were established in several locations including Kandakadu, Punani, Diyatalawa,

Table 3.8  
Salient Features of Health Services

Item	2018 (a)	2019 (b)
<b>1. Government (No.)</b>		
Hospitals (Practicing Western Medicine)	612	603
Beds	76,824	77,964
Primary Medical Care Units	506	499
Doctors	19,692	18,130
Assistant Medical Practitioners	895	756
Nurses	34,714	38,276
Attendants	8,614	8,531
<b>2. Ayurvedic (No.)</b>		
Hospitals	104	105
Beds	4,311	4,485
Qualified Ayurvedic Doctors	1,787	1,759
Registered Ayurvedic Doctors (c)	25,431	25,783
<b>3. Total Govt. Expenditure on Health (Rs. billion)</b>	218.5	244.3
Recurrent Expenditure	180.6	211.6
Capital Expenditure	37.9	32.8
(a) Revised	Sources: Ministry of Health & Indigenous Medical Services	
(b) Provisional	Department of Ayurveda	
(c) Registered with the Ayurvedic Medical Council	Ministry of Finance, Economic and Policy Development	

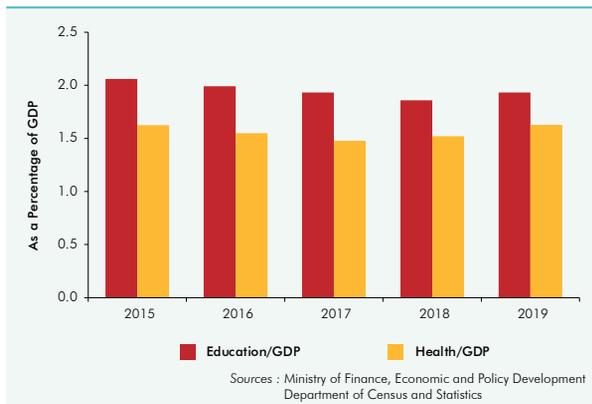
Pompemadu, Panichchankerni, Meeyankulam, Borawewa, Galkanda, Kahagolla, Damminna and Rantembe. Since 10 March 2020, all air passengers arriving from high risk countries such as Italy, Iran and South Korea, were quarantined at these designated quarantine centres. Further, travel bans were imposed on people arriving from high risk countries, including South Korea, Iran and European countries. All the international airports were closed for operations of inbound international commercial passenger flights from 19 March 2020. Further, the on-arrival visa system was also suspended in March 2020 in view of the escalating number of COVID-19 patients globally. Meanwhile, the Sri Lanka Bureau of Foreign Employment imposed a restriction on Sri Lankans leaving for foreign employment as a measure of extending cooperation towards certain countries which had already imposed entry restrictions due to the outbreak of Coronavirus. Schools, private tuition classes, Sunday schools and universities were closed temporarily to prevent the spread of the disease within the country. Self-quarantining and social distancing measures were strictly implemented to curb the spread of COVID-19. A

total of 24 government hospitals across the island were equipped to meet the emergency condition treatments while 12 hospitals were on standby to accommodate suspected patients of COVID-19. Meanwhile, 53 imported Malaria cases were reported in 2019 although Sri Lanka has been declared as a country free of indigenous Malaria. These recent developments highlight the danger of transmission of global epidemics to Sri Lanka and a possible resurgence of already contained communicable diseases in the country such as Malaria and Measles.

**The government continued its efforts to prevent and control acute and chronic non-communicable diseases (NCDs) that are burdening the economy.** According to the WHO, NCDs are estimated to account for 83 per cent of all deaths in the country and the risk of premature deaths due to NCDs is 17 per cent. NCDs cause a significant socio-economic burden on individuals, families and the overall economy due to the resultant morbidity and mortality issues. Cardio vascular disease, cancer, chronic respiratory disease and diabetes, account for 34 per cent, 14 per cent, eight per cent and nine per cent of the deaths in the country, respectively. Hence, these four NCDs collectively contribute to almost two thirds of deaths in Sri Lanka. According to a report published in 2020 by the World Bank and UNICEF in collaboration with several other organisations, the share of NCDs in aggregate Disability Adjusted Life Years<sup>1</sup> (DALYs) in Sri Lanka has risen from 53 per cent in 1990 to 77 per cent in 2017. Meanwhile, the total DALYs due to NCDs have increased by 36 per cent. Therefore, the government carried out various risk reduction programmes to address modifiable risk factors (tobacco, alcohol, unhealthy diet and physical inactivity) and

<sup>1</sup> DALY is a measurement of the number of lost years of healthy life. The sum of the DALYs across the population indicate the overall disease burden in the economy and is a measurement of the gap between current health status of the population and an ideal health situation in which the entire population lives to an advanced age, free of disabilities and diseases.

Figure 3.9  
Government Expenditure on Health and Education



metabolic risk factors (high blood pressure, high blood sugar, high blood cholesterol) associated with major NCDs. In this regard, health education and health promotion programmes were conducted at schools, work and community settings on NCD risk factors and importance of early detection of NCDs. Further, guidelines on physical activity and dietary guidelines for selected chronic NCDs, such as heart disease, stroke, hypertension, diabetes, chronic kidney disease (CKD), rheumatologic diseases, chronic respiratory diseases, and obesity, as well as guidelines for primary healthcare providers on diabetes, overweight, obesity and salt reduction strategy were prepared and disseminated during 2019. Meanwhile, CKD prevalence in the country was recorded at 0.94 per cent in 2019, with the highest number of CKD patients being reported from the Anuradhapura and Polonnaruwa Districts. CKD patients are required to register at one of the 77 state institutions that provide dialysis facilities. Accordingly, 454 dialysis machines were functioning in state hospitals by end 2019. The base hospital in Homagama and the District General Hospital in Negombo started functioning as new dialysis units in 2019. According to the International Agency for Research on Cancer of the WHO, the risk of developing cancer and risk of dying due to cancer before turning 75 years are 9.1 per cent and 5.5 per cent, respectively, in Sri

Lanka. The government conducted awareness programmes on cancer prevention and early detection in 17 districts and carried out capacity building and training programmes for healthcare personnel on prevention and screening of high risk individuals. Further, machines and equipment for cancer treatment were provided to cancer treatment centres, including the *Apeksha* hospital in Maharagama.

### The private sector in healthcare service delivery continued to be significant during 2019.

The number of registered Western medicine private hospitals at end 2019 was 207 with a total bed capacity of 5,147. There were 194 full time private general practices/ dispensaries/ medical clinics, 181 private medical centres/ screening centres/ day care medical centres/ channel consultations, 413 private medical laboratories, 394 part time private general practices/ dispensaries/ medical clinics, 20 part time private dental surgeries and 10 private medical ambulance services registered as at end 2019. Although the government's efforts to provide universal access to free healthcare services have continued, fiscal constraints and the increasing aging population limit the availability of resources in the state sector healthcare institutions, while preference for the private sector health care solutions is rising given the rise in income levels of the population. Hence, creating a conducive environment for private sector investment in the health sector, strong regulation and monitoring mechanism for quality assurance, and promotion of health insurance schemes are essential to meet the country's healthcare demand. With the growing elderly population, rising incidence of NCDs and increasing household income levels, investment in geriatric and palliative care by the private sector should be promoted further, since state hospitals are not sufficiently equipped to handle the mounting healthcare requirements of all elderly people.

## Education

**During 2019, the government continued its efforts to enhance infrastructure and human resources in the general education system with the view of providing equitable access to education for all children.** Accordingly, infrastructure development activities, such as building new classrooms, laboratories, libraries etc. were carried out during the year under review, incurring a total expenditure of Rs. 12.9 billion through the budget for the *Nearest School is the Best School* programme and the Ministry of Education (MOE)'s annual budget. Since the introduction of the *Nearest School is the Best School* policy, 13,995 infrastructure development activities in provincial schools and 2,312 such activities in national schools were commenced. By end 2019, the shares of completed activities in provincial schools and national schools were 86 per cent and 68 per cent, respectively. Meanwhile, 6,389 teachers were recruited in 2019, of which 3,411 were deployed in provincial schools. Further, teacher evaluations were carried out in 8,500 schools by the MOE, provincial Departments of Education, zonal and divisional education offices to ensure the quality of teaching.

**Various steps were taken by the government in 2019 to improve Science, Technology, Engineering and Mathematics (STEM) and vocational education offered by schools.** In this regard, curriculum development activities and preparation of additional teaching resources were in progress during the period under review. Meanwhile, the government, in collaboration with the National Institute of Education (NIE), conducted an advanced course for teaching mathematics for 100 non mathematics teachers, while offering continuous professional development programmes for 900 secondary education teachers and 91 combined mathematics teachers. Further, 100 newly

recruited ICT teachers were trained at the NIE, and another 30 teachers were trained by the ICT Branch of the MOE on computer programming languages and databases during 2019. In addition, 114 master trainers were trained during 2019 on internet safety readiness. These master trainers are expected to train other teachers in their respective zones to handle cyber related incidents. Further, teacher training programmes on robotics were conducted for teachers of Engineering Technology, and Design and Technology. Meanwhile, the number of students enrolled in the Technology stream at the General Certificate of Education Advanced Level (G.C.E. A/L) examination has gradually increased since the introduction of this stream in 2013. Accordingly, the technology stream was offered in 447 schools and 19,750 students were newly enrolled in this study stream in 2019. During the year under review, the government, in partnership with Korea International Cooperation Agency (KOICA), commenced construction of a new National College of Education for the technology stream in the Kurunegala District. Further, 1,000 scholarships have been offered to students of low income families who follow the technology stream for G.C.E. A/L based on the General Certificate of Education Ordinary Level (G.C.E. O/L) examination results. Meanwhile, stage three of the *13 years of guaranteed education programme* was in progress in 2019. During the year under review, 120 ICT teachers were trained in National Vocational Qualification (NVQ) 3 and 4 levels of Computer Hardware and Network curriculum under this programme.

**Although private sector participation in general education provision is rising, regulatory and monitoring mechanisms related to private and international schools, thus far, remain weak.** There were 118 government approved private schools (excluding international schools) and 796 pirivenas by end 2019. The number of students enrolled in private schools (excluding international

Table 3.9  
Salient Features of General Education

Item	2018 (a)	2019 (b)
1. Schools (No.)	11,044	11,083
Government Schools	10,175	10,169
Primary	3,890	3,883
Secondary	6,285	6,286
o/w National Schools	353	373
Other Schools	869	914
Pirivenas	763	796
Private & Special Schools (c)	106	118
2. Students (No.)	4,538,148	4,493,756
Government Schools	4,214,772	4,149,661
Other Schools	202,907	203,872
Pirivenas	60,875	64,802
Private & Special Schools (c)	142,032	139,070
International Schools	120,469	140,223
3. Teachers (No.)	272,998	272,063
Government Schools	247,334	243,365
Other Schools	14,151	15,130
Pirivenas	6,832	7,082
Private & Special Schools (c)	7,319	8,048
International Schools	11,513	13,568
4. New Admissions (No.) (d)	328,632	328,776
5. Student/Teacher Ratio		
Government Schools	17	17
Other Schools	14	13
International Schools	10	10
6. Primary Net Enrolment Ratio (Grade 1-5)	91.86	n.a.
7. Secondary Net Enrolment Ratio (Grade 6-11)	95.27	n.a.
8. Age Specific Enrolment Ratio (Grade 1-9)	95.38	n.a.
9. Teacher Training Colleges (No.)	8	8
10. Teachers Trained during the Year (No.)	2,027	2,954
11. National Colleges of Education (No.)	19	19
Teacher Trainees (No.)	12,900	16,411
Number Passed Out during the Year	1,650	4,247

(a) Revised Source: Ministry of Education

(b) Provisional

(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

schools) and pirivenas in 2019 amounted to 139,070 and 64,802, respectively. These government approved private schools are under the purview of the MOE and hence, are bound to follow the general education policies of the government. In 2019, there were 389 international schools providing general education to 140,223 students. As per the MOE, only seven of these schools are registered under the BOI and the rest were registered as companies under the Companies Act. Meanwhile, there were numerous religious institutions that provide general schooling to students.<sup>2</sup> For example, there were 1,495 madrasa schools<sup>3</sup> and 317 Arabic colleges

<sup>2</sup> Excluding religious schools conducted by temples, churches and mosques during weekends to provide only religious education.

<sup>3</sup> This number excludes the madrasas conducted only during weekends.

registered under the Department of Muslim Religious and Cultural Affairs by end February 2020. However, due to the weaknesses in the current legal framework, these international schools and religious schools do not come under the purview of the MOE. Hence, the MOE does not have any mechanism to monitor the number of students enrolled, curricula taught in these schools, quality standards and whether the students of these schools are evaluated through acceptable competitive examinations. Considering the increasing number of students seeking education through the private sector, the legal framework and the monitoring mechanism related to private general education institutions need to be strengthened to ensure that the students from these schools are equipped with knowledge and skills necessary for a productive adulthood and to ensure value for money of the education services offered by these schools.

**The government, in collaboration with the private sector, continued its efforts to increase access to tertiary education through state and non state higher education institutions.** The selection of students for degree programmes and release of cut-off marks were finalised in July 2019, based on the results of the G.C.E. A/L examination held in August 2018. Accordingly, 30,830 students were selected for government universities, excluding the additional and special intakes. During the 2018/19 academic year, two new courses of study were introduced. Meanwhile, five faculties, 47 new departments, two undergraduate degree programmes, one external degree programme, five undergraduate specialised degrees and 34 postgraduate programmes were newly approved by the University Grants Commission (UGC). Further, the UGC provided financial assistance to permanent members of academic staff of Higher Educational Institutions (HEIs) that are under its purview, enabling them to read for Master's and Doctoral degree (PhD) programmes. Accordingly, Rs.75 million was approved by the UGC

Table 3.10  
Salient Features of University Education (a)

Item	2018 (b)	2019 (c)
1. Universities (No.)	15	15
2. Other Higher Educational Institutions (No.)	19	19
3. Students (Undergraduates) (No.)(d)		
Universities (e)	93,787	95,920
Institutes	3,680	3,706
Open University	24,453	25,165
4. Total Staff (All Universities) (No.)		
Academic	6,003	6,116
Non-Academic	12,650	12,727
5. Student/Teacher Ratio	17.8	17.7
6. Age Specific Undergraduate Enrolment Ratio (19-23 yrs) (d)	7.5	7.5
7. Progression to University from GCE (A/L)		
Eligible for University Admission (%)	64.40	62.87
Admission as a Percentage of Eligible (%)	19.25	n.a.
8. Students Graduated (No.) (f)	36,983	n.a.
Basic Degree	26,024	n.a.
Postgraduate Degree	10,959	n.a.
9. New Admissions for Basic Degrees (No.) (g)	31,451	n.a.
10. Students Eligible to be Admitted to Universities (No.)	163,160	167,992

(a) Universities and higher education institutions that come under the purview of University Grants Commission Source: University Grants Commission

(b) Revised

(c) Provisional

(d) Excluding external degree courses

(e) Excluding Open University

(f) Including external degrees and Open University

(g) Excluding external degrees and Open University

for 14 applicants to read for their PhDs. Meanwhile, the Quality Assurance Council (QAC) of the UGC was engaged with the universities for internal and external quality assurance activities. Accordingly, the QAC continued to work closely with the internal quality assurance units (IQAUs) in all 15 universities under the UGC. By the third quarter of 2019, 11 IQAUs had met the target of the Accelerating Higher Education Expansion and Development (AHEAD) programme. With regard to external quality assurance activities, the QAC received self-evaluation reports from four universities for institutional reviews in 2019. The QAC completed one site visit in December 2019. A new website for the QAC was developed and launched in mid-2019 with regular updates of resource materials from training workshops, reports on external reviews, UGC circulars and publications pertaining to QA, and other relevant news and events. The UGC took steps to create a centralised grievance handling

mechanism primarily to address issues related to ragging and sexual and gender based violence (SGBV). Accordingly, complaints can be lodged via hotline, online, emails, in person and in written form. Further, the UGC introduced the Emergency Safety Mobile Application, with the support of ICTA, to be used by students and university staff in an emergency situation to alert the Vice-Chancellor, senior management and others concerned for immediate action and to seek help from them. Ragging and SGBV incidents have a notable implication on the smooth functioning of the university system causing delays in student intakes and graduations, and disruptions to academic programmes. Further, such incidents discourage potential new entrants to the university system and thereby affect tertiary enrolment rates. Repercussions of such incidents are mainly felt by students of low-income households since they cannot afford alternative tertiary education options through Non-State Higher Education Institutions (NSHEIs). Hence, all stakeholders, including students, academic and non-academic staff and student unions, should make a collective effort to prevent such incidents within the state university system, in order to retain the competitiveness of the state universities amidst the rising demand for private NSHEIs. In this regard, the recent efforts by the government to decisively address the incidence of ragging are commendable and must be continued.

**Given the limited opportunities available in the state university system, the private sector higher education institutions also play a critical role in meeting the dynamic labour market demands in the economy.** Accordingly, there were 18 NSHEIs offering 146 degree programmes by end 2019. The degree programmes cover a range of education fields, including human resource management, ICT, business administration, engineering, and nano and advanced technologies. In June 2019, the Higher Education (Quality Assurance and Accreditation

Commission) Bill was gazetted and was forwarded to relevant stakeholders for their comments and observations. Meanwhile, the Cabinet of Ministers granted approval to obtain new proposals from NSHEIs for STEM+A subjects, where A refers to Arts subjects. The aim of this new proposal is to increase STEM graduates while allowing students to enhance their STEM learning through the integration of Arts in a non-traditional manner. This will also allow the Arts students to enhance their employability by incorporating STEM subjects into their curricula. Meanwhile, a considerable number of student emigrations occur every year through private education agents though the activities of these agents are not been monitored by the government. Recent deaths of some students in Azerbaijan and students stranded in foreign countries due to the COVID-19 pandemic underscore the importance of monitoring the student movements to other countries by the government.

**In 2019, the Technical and Vocational Education and Training (TVET) sector continued to support the youth in developing their skills thereby facilitating upskilling of the existing labour force.** There were 1,290 registered institutions in the TVET sector by end 2019 comprising 582 public institutions and 708 private and non-government sector institutions. These institutions

offered 2,691 accredited TVET courses covering a wide array of technical and vocational subject areas. The public TVET institutions introduced 15 new courses under seven fields, including ICT, electronic and telecommunication, mechatronic technology, building construction, metal and light engineering technology and tourism. The state sector TVET institutions newly enrolled 35,599 students to TVET courses during 2019. Under the *13 years of Guaranteed Education Programme*, 798 students were recruited for graphic designing, construction, web designing, automobile and electrical courses offered by the state sector Colleges of Technology and Technical Colleges. During the year under review, 78,007 NVQ certificates were issued in the TVET sector, of which 33,483 were received by females. The number of NVQ certificates issued by the private sector during the year amounted to 27,792. Meanwhile, the government, in collaboration with the Department of Technical Education and Training, conducted numerous awareness programmes, career guidance and open-day programmes to educate students, school leavers, parents and teachers on the opportunities available through TVET. Several programmes were conducted targeting disadvantaged persons and women to encourage their enrolment in the TVET sector while introducing an incentive scheme for enrolment and job placement for female TVET graduates in non-traditional and emerging sectors. Further, several awareness programmes were conducted on the Self-Employment Promotion Initiative (SEPI) loan scheme for vocational trainees and students to support and encourage entrepreneurship. Nevertheless, more concerted efforts are needed to popularise the TVET sector among school leavers since they have the potential to be the most productive segment in the labour force. Hence, offering more job-oriented courses with internships within the industry can attract more school leavers to the TVET sector.

**Table 3.11**  
**Salient Features of Tertiary and Vocational Education and Training (TVET)**

Item	2018	2019 (a)
1. Registered TVET Institutions (No.) (b)	1,147	1,290
Public	525	582
Private and Non-Governmental Organisations	622	708
2. Total Accredited Courses (No.)	2,089	2,691
Public	1,593	2,099
Private and Non-Governmental Organisations	496	592
3. Issued NVQ Certificates (No.)	61,150	78,007
DTET	8,818	11,199
NAITA	13,755	11,387
VTA	20,810	25,696
NYSC	1,780	1,933
Private	15,987	27,792

(a) Provisional

Source: Tertiary and Vocational Education Commission

(b) As at year end

## BOX 7

## Education Reforms to Break Free from the Middle Income Trap

## Introduction

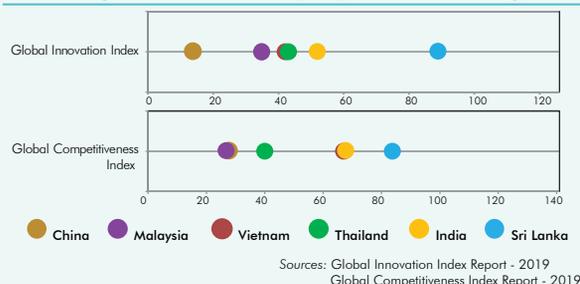
Many countries which grew out of 'poor country' status fairly easily experience a slowdown in economic growth once they reach the middle income stage. On the one hand, these countries are unable to compete with low wage, poor economies who have labour intensive, imitation driven merchandise export sectors. Conversely, they also fail to compete with advanced economies that export innovation driven manufactured goods produced using highly productive skilled labour. As a result, these middle income countries do not make a timely transition from resource led growth to productivity driven growth, and this phenomenon is termed the 'middle income trap'. Escaping the middle income trap is challenging for Sri Lanka as well, but is crucial for the country to achieve a sustainable, high growth path.

As per the World Bank classification, Sri Lanka surpassed the lower middle income threshold in 1997, but 21 years lapsed until the country was elevated to the upper middle income status. If the country grows at a 5 per cent annual growth rate,<sup>1</sup> Sri Lanka may require another 22-23 years to transcend to a high income nation. Therefore, Sri Lanka could be caught in a 'middle income trap' for over 40 years, unless growth focused structural reforms and strategies are urgently implemented alongside policies for macroeconomic stability that are essential for sustainable high economic growth.

Although there are numerous factors that are vital to ensure high economic growth at the middle income stage, a sound education system is always of paramount importance to accumulate human capital and thereby raise a country's competitiveness. A good education system equips the labour force with marketable skills while spurring innovations and productivity growth. Often, public investment in a country is aimed at improving the general level of education. For example, Sri Lanka adopted an education policy to offer free education at primary, secondary and tertiary levels in 1945, and today the country enjoys an impressively high literacy rate among both males (93.4 per cent in 2018) and females (91.6 per cent in 2018). Although increasing literacy levels are important for the country to move ahead of the regional peers in terms of human development; as Figure B 9.1 depicts, the country still lags behind in terms of innovation and competitiveness, factors which are core to accelerate economic growth during the middle income stage.

1 The annual GDP growth rate of Sri Lanka has been at or below 5 per cent since 2013.

Figure B 7.1  
Global Innovation Index (GII) and Global Competitiveness Index (GCI) – 2019 Rankings<sup>2</sup>



With economic development, skills requirements in an economy also evolve over time. Therefore, education policies and investments need to be dynamically adjusted to align with the evolving skills requirements of the economy, in order to achieve simultaneous progress in human and economic development. If the education system is not aligned with the economic growth needs, the country will face persistent skills gaps and mismatches hindering further economic growth. Persistent skills gaps and mismatches can hamper economic growth in three ways: first, firms will not be able to expand their operations and compete in global markets without the required skilled labour; second, firms will be restricted to lower rungs of global value chains as they fail to upgrade their technologies; third, lack of skilled labour will discourage foreign direct investment inflows. Countries such as Singapore and South Korea, which successfully evaded the middle income trap, have implemented major education sector reforms from time to time and phased in public education investments to align their education system with the needs of the evolving economy. For example, from 1965 to 1978, Singapore's education policies were striving to provide universal access to primary and secondary education and enhance technical skills that are essential for labour intensive production. But with the intensifying competition for labour intensive exports from their regional peers, during the 1980s, Singapore focused on equipping the labour force with skills that are needed for capital intensive production. Since the 1990s, Singapore has gradually transformed into a knowledge based economy. In parallel, the country's education policies refocused on strengthening tertiary education by establishing new universities, building partnerships with foreign universities and improving labour productivity through innovation. However, replication of the education system reforms of these successful countries within the Sri Lankan economy may not be feasible without suitable adjustments, since many socio-economic factors in Sri Lanka, such as the level of human development, structure

2. Lower the rank in GI and GCI, higher the country's innovativeness and competitiveness.

of the economy, culture and fiscal space for education spending, vastly differ from those of such countries. Hence, Sri Lanka today is at a critical juncture where the education sector needs to be reassessed in consideration of the economic structure, persistent skills gaps and mismatches as well as future growth potential, and education policies and reforms should be aligned with the country's economic development goals in order to escape the middle income trap.

## Issues in the Sri Lankan Education System

### Higher Education

Although successive governments have striven to provide free university education to students, limited resources available in the university system obstruct higher education opportunities for a majority of the youth. In 2018, the gross tertiary enrolment rate in Sri Lanka was merely 19.6 per cent. The average gross tertiary enrolment rate in upper middle income countries and lower middle income countries stood at 53.0 per cent and 24.8 per cent, respectively, in 2018, suggesting that Sri Lanka lags far behind than an average lower middle income country in terms of tertiary education enrolment.

With economic development, a country needs to adopt advanced technologies to remain competitive within global markets. To this end, the country should have a highly skilled labour force, particularly a bank of Science, Technology, Engineering and Mathematics (STEM) literate employees. Although overall literacy rates that capture only the reading and writing ability are high in Sri Lanka, the level of STEM literacy in the country is not adequate to achieve an innovation led growth. The graduate output of the public university system in Sri Lanka is more biased towards Arts and Humanities subjects and less towards STEM fields. In 2018, the percentage of university students enrolled in STEM fields for undergraduate studies was 14.8 per cent. As indicated in Table B 9.1, the share of student enrolment in STEM fields in Sri Lanka is lower than in industrialised countries and other middle income countries.

**Table B 7.1**  
**Share of Student Enrolments in STEM Fields at Tertiary Education Level**

Country(a)	Share (%)
Hong Kong (2017)	38
Germany (2017)	46
India (2018)	39
Indonesia (2018)	34
Israel (2017)	40
Malaysia (2018)	43
Myanmar (2017)	48
Philippines (2017)	39
South Korea (2017)	48
Thailand (2016)	31

Note: (a) Reference year is in parentheses

Source: UNESCO – UIS database

The disconnect between tertiary student enrolment and the labour demand is evident from the employment rates among the graduates. According to the Tracer Study of Graduates conducted by the University Grant Commission in 2016/2017, unemployment rates among graduates of state universities in the fields of Performing Arts, Arts and Management are 57.1 per cent, 50.4 per cent and 27.7 per cent, respectively, even after 2-3 years of graduation, indicating a mismatch of skills with the labour market demand. On the other hand, graduates from STEM fields such as Allied Health Science, Engineering, Science and Agriculture have reported higher employment rates of 95.7 per cent, 92.2 per cent, 83.0 per cent and 82.6 per cent, respectively. While there is an excess supply of non-STEM graduates from universities, skill gaps are persistent in certain fields in the job market. For example, according to the ICT/BPM workforce survey -2019 conducted by the Information and Communication Technology Agency (ICTA), the demand for IT graduates have increased from 6,246 in 2014 to 21,216 by 2019, although the supply of total IT graduates has increased only to 12,307 in 2018, indicating a widening skill gap in the IT field.

Universities are expected not only to disseminate knowledge, but also to be forerunners in creating new knowledge through research activities. Knowledge created through research can be transformed into real world applications for technological enhancements and productivity improvements. However, the applicability and intensity of research work done by tertiary education institutions are substantially low since both state and non-state degree providing institutions mainly focus on teaching rather than on research. Due to the low research intensity in the country, Sri Lanka was ranked at the 75th position in the Citable Documents H index<sup>3</sup> in 2019, compared to China, India, Malaysia, Pakistan, Indonesia, Vietnam and Bangladesh which were ranked at 13th, 21st, 43rd, 50th, 55th, 57th and 63rd positions, respectively. Meanwhile, in 2018, the number of patent applications by residents in Sri Lanka was 15 applications per one million population. However, countries such as China, Singapore and Malaysia are far ahead of Sri Lanka, recording 1,000 patent applications, 276 patent applications and 35 patent applications per one million population, respectively.

### General Education

Lower levels of student enrolment in STEM fields at the tertiary level are a reflection of the student enrolment patterns at the upper secondary (Advanced Level) stage and poor student performance in mathematics and science at both upper secondary and lower secondary (Ordinary Level) stage (Figures B 9.2 and B 9.3). In 2018, 32 per cent of the school applicants at the G.C.E O/L examination either failed or conditionally passed

3. Citable documents H-index measures the impact of the research work in a country in terms of the number of citable publications and citation frequency. Lower the rank, higher the productivity and impact of the research work of the country.

3

the examination as a result of failing mathematics. A majority of such students will drop out from school and will be curtailed from receiving further education since mathematics is a prerequisite for most higher education programmes. Where science education is concerned, according to the School Census – 2017 conducted by the Census and Statistics Department, out of 10,194 schools in the country, 2,847 schools offer A/L classes of which only 1,029 schools have the science stream (i.e. 36 per cent of the schools with A/L classes). There are significant regional disparities in terms of availability of science A/L classes. For example, of the schools with A/L classes, the percentage of schools with the A/L science stream in Central, North Western, Uva and North Central provinces was as low as 26 per cent, 29 per cent, 29 per cent and 33 per cent, respectively. This legacy issue in general education is translated into non-STEM biased programme choices at the university level.

Figure B 7.2  
Performance of School Candidates by Subject at the G.C.E. (A/L) Examination - 2018

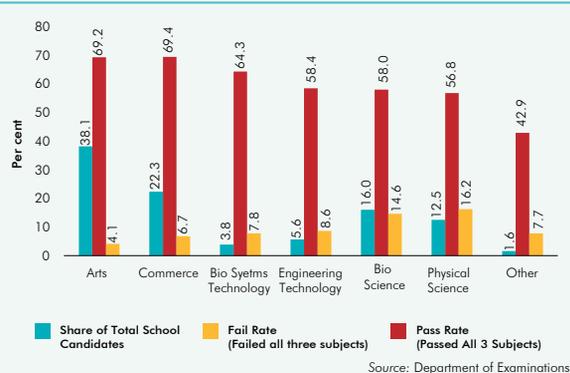
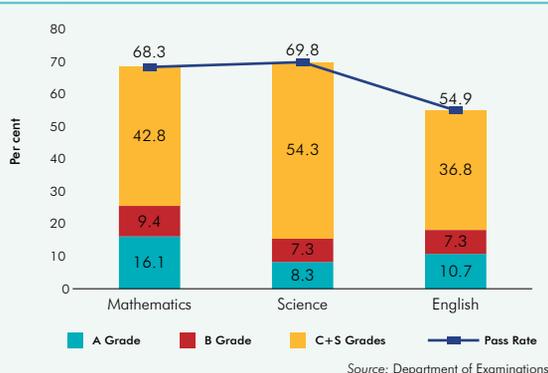


Figure B 7.3  
Performance of School Candidates (1st Attempt) by Subject at the G.C.E. (O/L) Examination - 2018



Meanwhile, with the increasing globalisation, technological advancements and service oriented nature of the country, English literacy has become a key determinant of the employability of a person. According to the World Bank Skills Towards Employment and

Productivity (STEP) survey-2012, 80 per cent of the employers expect the high-skilled workers to possess English language skills while 40 per cent of the employers expect the same from low-skilled workers. However, low pass rates for English language at G.C.E (O/L) indicate the lack of English proficiency among those who enter the labour market.

Poor student performance at the G.C.E. (O/L) examination in science, mathematics and English subjects can be attributed to shortages in skilled teachers<sup>4</sup> and teacher deployment issues. Although the availability of science, mathematics and English teachers at the national level exceeds numbers recommended by the Ministry of Education (MOE), skilled teachers in these fields are below the recommended levels for science and mathematics. There are considerable disparities in skilled teacher availability across national and provincial schools as well as across regions indicating the issues in teacher deployment. For example, national schools have more than the required number of science teachers while provincial schools have a shortage. Both national and provincial schools in Western, Central, Southern and North-Western provinces have more than the required number of skilled English teachers, though schools in other provinces experience a dearth of skilled teachers for the subject (Arunatilake and Abayasekara, 2017, pp.16-17).

Technical and Vocational Education and Training (TVET) Sector

Since a majority of the students who qualify for university entrance fail to enter universities primarily due to the lack of resources in the university system, the TVET sector is expected to train potential new entrants to the labour market and upskill the existing labour force. However, Sri Lanka’s TVET sector is plagued by a myriad of shortcomings resulting in lower efficiency of the sector in terms of meeting the country’s skill demand. Currently, the TVET sector is highly fragmented and poorly coordinated with a large number of state and non-state education providers (1,290 registered TVET institutions by end 2019), and numerous governing agencies with their own regulatory panels and procedures. Since there is no central planning mechanism for the TVET sector, the designing of training programmes, student enrolment, and quality standards and accreditations are not aligned with the country’s growth policies and labour market needs. Although the National Vocational Qualification (NVQ) system has been introduced with the aim of defining training standards on the basis of occupational requirements, the quality assurance process in the TVET system is still not fully effective since many private TVET institutions are neither accredited nor registered. Meanwhile, the TVET sector

4. Teachers who have a degree in the particular subject or have been specially trained to teach the subject

also suffers from the scarcity of qualified training staff, particularly those with industrial experience. In addition, employers' involvement in designing the courses and delivering training programmes is minimal in most TVET courses, resulting in low relevance of TVET training for employment. Meanwhile, the student demand for TVET is at a subdued level as a result of the social stigma associated with technical jobs as well as lack of knowledge on the employment opportunities for the people with vocational training. Recently there have been attempts to route the youth who fail at the G.C.E O/L examination hurdle to receive NVQ level education through the '13 Years of Guaranteed Education' policy. However, this programme is still at an incipient stage with shortages of qualified staff particularly in rural areas, where the TVET system is most needed.

### Way Forward

Sri Lanka's economic growth has been tepid in recent years, not only due to global and domestic headwinds which are of a transitory nature, but also due to persistent structural obstacles in the economy, such as issues in the labour market. Although past education policies of successive governments have focused on providing universal education opportunities to students, Sri Lanka now must refocus the country's education policies to align with the economic development goals to become globally competitive and thereby escape the middle income trap. In this regard, emphasis of the education system should be on STEM fields as well as improving English literacy, which are crucial in building linkages with the global markets. Hence, Sri Lanka needs integrated policy reforms at all levels of education in order to build a STEM literate workforce.

At the general education level, education policies should focus on improving the relevance of curricula for economic development goals and quality of education delivery. Meanwhile, the range of education streams at the A/L stage should be widened in all schools while allocating resources and trained staff equitably across schools for STEM subjects and English. Equitable access to STEM and English education is vital to achieve inclusive economic growth. Resource allocation to national schools and provincial schools are primarily made through the Central Government and Provincial Councils, respectively, which inevitably results in large disparities in physical resource allocation and teacher deployment across schools. Hence, resource and teacher cadre requirements and shortages at school level should be monitored through a central database system. Further, the allocation of resources and teacher deployment should be made on a needs basis through a central mechanism. An incentive scheme needs to be introduced for teachers in STEM fields to work in underprivileged schools. Building partnerships with the private sector to enhance digital technology resources in underprivileged schools will not only reduce the digital

divide within the economy, but will also provide a better learning experience for children. This approach has been successfully utilised in other countries to increase access to digital learning.

One of the reasons for lower participation in tertiary education is the limited fiscal space for increasing government expenditure on education. Since the state sector alone cannot meet the skill demand in the economy, private sector engagement in tertiary education, supported by strong quality assurance and accreditation mechanisms, is vital to raise higher education and TVET enrolment rates. Further, concessionary education loans<sup>5</sup> should be promoted to encourage students who are unable to enrol in state universities to pursue higher education opportunities through non-state higher education institutions. The education/ training cost per student in STEM fields is generally high, since resources such as laboratories and equipment are costly though the resources may not be fully utilised due to the limited number of students/trainees in one institution. Hence, resource sharing among several training institutions, particularly through public private partnerships, would be more effective in reducing per student training costs.

Addressing the bottlenecks in the education system that extend the time to graduate from universities will encourage more students, who at present choose not to pursue higher education considering the delay in entering the job market, to enrol in tertiary education programmes. A swift transition from school to employment ensures that fresh entrants to the labour market are young at the inception of employment. Generally, educated youth are more innovative, open for change and more risk-taking, which are essential qualities of a labour force for innovation led growth. Reduction in administrative inefficiencies in releasing examination results and student enrolments, prevention of disruptions to the university system caused by students and staff union action and a possible reduction in the number of years of schooling can significantly reduce the average age of Sri Lankan graduates. In addition, fallback options, such as diploma programmes within the normal undergraduate degree programme, also should be popularised to cater to students who are not willing to spend a long time in education. Tertiary education enrolments can be further increased by offering different trajectories to achieve the same level of education, creating flexibility within the education system to accommodate transitions between work and study as well as between educational programmes, and promoting lifelong learning.

5. Numerous countries use education loans to support tertiary education. For example, university education in Australia has not been free since 1989, but student loan schemes have been in place to financially support students. Currently, the Higher Education Loan Programme (HELP) allows the students to defer their education loan repayments until they are employed. The loan has to be repaid compulsorily over time through the taxation system.

Higher education institutes, both in state and non-state sectors, need to strengthen partnerships with reputable foreign higher education and research institutions, for exchange of student and teaching staff, and collaborative research work. Further, building linkages with domestic and foreign companies is essential to engage in market demanded research activities, and dissemination and commercialisation of research findings. Research grants need to be allocated by the University Grant Commission and research grant committees of the universities considering the impact of research work, which is measured not only in terms of research publications but also based on the commercial value and policy implications of research work.

Higher education institutions also need to offer more interdisciplinary degree programmes with the aim of fostering critical thinking, cognitive and transferable skills of graduates. In this regard, offering STEM courses such as mathematics, statistics and ICT modules in non-STEM degree programmes will enhance the employability of graduates. Currently, the government has made a policy decision to promote STEAM education, where A stands for Arts subjects, at the general and higher education level with the objective of allowing students to learn STEM in a creative manner by integrating with the Arts. This policy also aims to enhance employability of Arts graduates.

Effective coordination among various stakeholders for periodic review of knowledge and skill development strategies, strengthening the quality assurance and accreditation system and applying the same across both state and non-state higher education and TVET

institutions, active involvement of the employers in designing demand driven education and training programmes, and building labour market information system are essential to strengthen the higher education and TVET system.. Encouraging students to work in short-term intensive projects of the private sector under the guidance of industry experts can be an effective method for students to acquire working experience. Meanwhile, employer surveys as well as tracer studies on university and TVET graduates will enable regular assessment of labour market dynamics and ensure relevance of the education and training programmes to labour market needs.

The government envisions achieving robust economic growth through technological revolution across sectors and productivity enhancement of human resources. In order to achieve the government's ambitious growth targets and enhance the country's competitiveness within global markets, education policy reforms are key to building a supportive workforce who are well versed in STEM related skills and knowledge, adept at critical and creative thinking, and linguistically competent in global languages.

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## Housing and Urban Development

**The government continued to implement several projects with the aim of enhancing housing and urban infrastructure facilities.**

Accordingly, the Urban Development Authority (UDA) carried out the Small Township Development Programme (*Sukitha Purawara*) in order to improve the infrastructure and living standards of city dwellers. As at end December 2019, 1,439 projects were completed under this programme. Activities related to the Urban Regeneration Project continued in 2019 to construct new housing units with the aim of relocating people who live in shanties, slums and other dilapidated houses in the city of Colombo and its immediate suburbs. With an allocation of

Rs. 9.1 billion for the year, 85 per cent physical progress of the project was achieved by end 2019. Under the Middle Income Housing Project, 500,000 housing units are to be provided to middle class families to settle within close proximities to urban centres. Meanwhile, the Metro Colombo Urban Development Project, which aims to reduce the physical and socioeconomic impact of floods and improve local infrastructure and services in the Metro Colombo Region, continued during 2019, and this project is expected to be completed by mid-2020. Activities related to the Strategic Cities Development Projects in Anuradhapura, Kandy, Jaffna and Galle were continued during 2019. The demand for housing in urban areas and their immediate surroundings has been on

the rise. Accordingly, the UDA is in the process of introducing a general policy guideline towards regulated high density housing development for all urban areas, with an emphasis on the city of Colombo, Colombo Metro region, Kandy, Galle, Jaffna and other major urban areas. Meanwhile, approval of the Cabinet of Ministers was granted for the *Gamata Geyak - Ratata Hetak* housing programme in January 2020 which aims to construct 14,022 houses by providing a house for one poor family in each Grama Niladhari Division. The National Housing Development Authority (NHDA) implemented 1,321 *Uda Gammama* projects consisting of 31,171 housing units during 2019. Model village programme under the *Uda Gammama* project, has provided housing facilities for 14,594 families. Moreover, 12,625 new houses were allotted to resettle families in the Northern and Eastern Provinces. The *Grama Shakthi Uda Gammama* programme and Bogaswewa housing programme also were in progress under the *Uda Gammama* projects. Meanwhile, construction and renovation of 680 houses were carried out in 2019 under the *Viru Sumithuru* Housing Programme, which aims to provide housing facilities to the families of officers of armed forces who lost their lives or became disabled. During 2019, the NHDA continued several other housing programmes, such as the Reawakened Village programme, housing for patients affected by kidney disease, *Sampath Sevana* programme and Indian funded housing programme. The NHDA issued 1,160 title deeds and 64 deeds of lease to dwellers residing in government housing schemes without property rights. Meanwhile, 30,515 land plots were allocated for housing construction during 2019. In addition, the government revised and published a National Housing Policy with the aim of mitigating the impact of natural disasters and implementing the concept of sustainable human settlement development.

**Activities relating to the enhancement of urban transportation continued during the year 2019.** The government took measures to create an inclusive transportation system in the Western region in line with the mobility needs within the area. Accordingly, construction of Kadawatha Multi Modal Centre and Polduwa bypass road–Stage III projects were in progress during 2019. Meanwhile, preliminary work related to the elevated railway track from Malabe to Fort under the Light Rail Transit project continued in 2019. Physical construction work of the project is expected to commence in May 2021 with the assistance of the Japan International Cooperation Agency (JICA).

**Recent disruptions to waste disposal in the Metro Colombo Region highlight the need for sound actions on urban waste management.**

The Metro Colombo Solid Waste Management Project has been initiated to provide a long term sustainable solid waste management system for urban areas by constructing a sanitary landfill in Aruwakkalu in the Puttalam District along with a waste loading station in Kelaniya to transport waste to the landfill site. The sanitary landfill is designed to dispose of 1,200 MT of waste per day. Although the landfill is still under construction and can handle only 600 MT of waste per day, the Aruwakkalu landfill accepted waste from 08 August 2019 since the waste disposals had exceeded the capacity at the Keralalapitiya waste disposal site. However, garbage disposal can be harmful without the construction of the full site being completed, particularly without the leachate treatment plant. Therefore, acceptance of garbage by the Aruwakkalu site was suspended from 18 December 2019 until the site is developed to an acceptable level, including the leachate treatment plant. Meanwhile, construction activities of the transfer stations, and other infrastructure developments were also in progress during 2019.

Moreover, the government implemented various projects including the rehabilitation of the existing dumpsite in Meethotamulla, the composting plant in Kerawalapitiya and waste to energy projects in Kerawalapitiya and Karadiyana, to handle increasing quantities of solid waste in the urban environment. Accordingly, the first waste to energy project in Sri Lanka is expected to commence its operations in the first half of 2020.

**3** **The Colombo Port City Development project continued its activities during 2019 with the aim to build a new world class city inclusive of all modern amenities.** Land reclamation activities were completed by January 2019 and the Port City land was declared a part of the Colombo District and an urban development area under the purview of Urban Development Authority. Infrastructure development activities commenced in 2019, but a significant progress was not achieved in terms of attracting foreign investments for the project during the period under review. Therefore, the government plans to embark on a vigorous promotional campaign to fast track investment. Accordingly, the Port City is planned to be launched to attract investments at the World Cities Summit, which is to be held in Singapore in July 2020.

## Poverty Alleviation and Safety Nets

**The poverty level, as reflected by the Poverty Headcount Ratio (PHCR), has continued to decline throughout the last few decades, consistent with socio-economic developments**

Table 3.12  
Poverty Headcount Ratio (per cent)

Sector	2002	2006/07	2009/10	2012/13	2016
Sri Lanka	22.7	15.2	8.9	6.7	4.1
Urban	7.9	6.7	5.3	2.1	1.9
Rural	24.7	15.7	9.4	7.6	4.3
Estate	30.0	32.0	11.4	10.9	8.8

Source: Department of Census and Statistics

**in Sri Lanka.** According to the Household Income and Expenditure Survey (HIES) of the Department of Census and Statistics (DCS) in 2016, the overall PHCR was 4.1 per cent although poverty pockets still persisted across the country. The highest PHCR recorded at the provincial level was for the Northern Province (7.7 per cent), while Kilinochchi registered the highest PHCR of 18.2 per cent at the district level. The major provincial contribution to the total poverty was from the Central, Sabaragamuwa, Eastern and Western provinces that collectively accounted for 58.6 per cent of the total poor population, representing 494,596 poor persons. The Gini coefficient, which measures the household income inequality, displayed a marginal improvement to 0.45 in 2016 from 0.48 in HIES 2012/13. However, a high level of vulnerability exists with the nonpoor population who live just above the poverty line. An increase in the national poverty line by 10 per cent (from Rs. 4,166 to Rs. 4,582.60) would increase the PHCR up to 6.1 per cent. Accordingly, over 400,000 people fall within 10 per cent above the poverty line. These people are highly vulnerable to become destitute due to shocks such as sickness of a family member or a natural disaster.

**According to the Demography and Health Survey (DHS) - 2016 of the DCS, the Multidimensional Poverty Head Count Ratio (MPHCR) was 2.4 per cent in Sri Lanka.** Multidimensional poverty measures poverty using 10 indicators under three dimensions, namely education, health and living standard, which are equally weighted. The indicators include years of schooling, school attendance, nutrition, child mortality, electricity, drinking water, sanitation, floor of the house, cooking fuel and house owned assets. The MPHCR is significantly low in Sri Lanka, but 11.9 per cent of the population, i.e. 2.5 million persons, are vulnerable to multidimensional poverty, while 0.2 per cent of the population is severely multidimensionally poor in 2016.

Table 3.13  
Main Welfare Programmes - Number of Beneficiary Families and Value of Grants

Year	Divineguma / Samurdhi Subsidy Programme		Nutrition Allowance Programme		Dry Ration Programme
	Families (No.) (a)	Value (Rs. million) (b)	Beneficiaries (No.) (a)	Value (Rs. million)	Value (Rs. million)
2015	1,453,078	39,994	101,200	2,422	118
2016	1,407,235	40,740	337,554	5,746	111
2017	1,388,242	39,707	372,407	5,408	84
2018	1,384,021	39,239	329,047	5,490	58
2019	1,800,182	44,660	300,246	5,279	105

(a) As at year end  
(b) Including the kerosene subsidy

Sources: Department of Samurdhi Development  
Ministry of Women & Child Affairs and Social Security  
Ministry of Finance, Economic and Policy Development

**Various social assistance, safety nets and poverty alleviation programmes were continued by the government in 2019.** The social assistance programmes conducted through the Department of Samurdhi Development (DSD) are distinctive elements of Sri Lanka's social protection system. Under the Budget 2019, it was approved to provide Samurdhi benefits to another 600,000 families but only 433,594 families were newly granted benefits in August 2019. With the addition of these new families, approximately 33 per cent of Sri Lankan households are receiving the Samurdhi benefits although overall poverty levels are relatively low. Further, the government continued to provide vital food and nutritional assistance to expecting and lactating mothers and children. In 2019, Rs. 5,279 million was incurred to provide nutritional food packages for expectant mothers and Rs 327.2 million to provide morning meals for 83,515 preschool children. Further, Rs. 79.9 million was spent on tuition fee support for 22,303 poor early childhood students. Meanwhile, under the Samurdhi Social Security Benefit Scheme, Rs. 1.2 billion was disbursed among 317,722 beneficiaries. In addition, Samurdhi Banking Societies disbursed micro finance loans worth Rs. 53.4 billion among 693,551 beneficiaries with the aim of enhancing access to credit for low income families. A new instant loan scheme named *Dhanasaviya* was implemented for compulsory savings holders, whereas the *Dhanabhimani* self-employment loan scheme was introduced

to empower Samurdhi recipients. With the view of empowering poor families, 6,011 projects in the areas of animal husbandry, fisheries, self-employment, industrial development and model village development were completed with an expenditure of Rs. 504.9 million in 2019. According to the HIES-2016, the government pension scheme has been the most effective social assistance programme in reducing poverty, as the elimination of pension would result in the PHCR increasing to 5.7 per cent, whereas the elimination of Samurdhi would result in PHCR increasing only up to 4.3 per cent. Although the Samurdhi/ Divineguma/ Janasaviya programmes have played a major role in reducing poverty in the past few decades, better targeting is needed to address remaining chronic poverty effectively. In order to reduce the persistent reliance of households on social assistance transfers and ease the burden on government budget, it is important to reassess current Samurdhi recipients and provide Samurdhi benefits only to those who are actually poor and vulnerable to poverty. Further, Samurdhi recipients should be encouraged to build up their own livelihoods and gradually move out of the social assistance programmes. To this end, a strong investment stimulus is required to connect the rural and estate sectors to the booming urban sector while generating growth dynamics in rural and estate sectors with micro level intervention focusing on poor households. In addition, differentiated effective poverty alleviation programmes should be designed

and implemented to raise income and employment opportunities among poor persons, while enabling them to withstand emergencies, such as natural disasters or sudden displacements. Institutional reforms are required to address inherent structural weaknesses in the public institutional apparatus related to social assistance that make coordination, planning, programming and implementation challenging.

## Environment

**3 In recent years, Sri Lanka has been adversely affected by natural disasters frequently, including those driven by climate change, highlighting the importance of policy reforms on disaster preparedness, emergency operations and post disaster activities pertaining to such incidents.**

According to the Global Climate Risk Index - 2020, Sri Lanka was ranked 6th most affected country by weather-related hazards such as floods, heat waves, storms and landslides occurred in 2018. Moreover, as per the Disaster Management Centre, 935,098 people were affected by drought conditions that prevailed mostly during the early parts of 2019. Jaffna and Ampara were the most affected districts due to droughts in 2019. Colombo, Badulla and Ampara were reported as severely affected districts from flooding. Meanwhile 579,428 people were affected, and 13 people died due to floods in 2019. These developments highlight the vulnerability of Sri Lanka to climate related disasters and the need for an effective integrated mechanism based on a holistic policy and well-defined strategies. A major shift in policies is needed to improve resilience to disasters and climate change, and minimise disaster related social costs.

**The government adopted several policy measures to protect the environment and mitigate disasters with the aim of maintaining a balance between the environment and economic**

**growth.** Accordingly, the Disaster Management Centre continued its efforts on emergency operation management, particularly during the droughts and floods in 2019, dissemination of early warnings and preservation of the environment from natural disasters. Landslide hazard mapping and risk assessment programmes continued during 2019 under the National Building Research Organisation (NBRO). Construction activities to stabilise unstable slopes surrounding 18 schools in the Kandy District and 21 unstable slopes along the Central Expressway were completed by December 2019, under the Climate Resilience Improvement Project (CRIP) with financial assistance from the World Bank. The Department of Meteorology (DoM) issued 6,928 forecasts and 759 warnings and advisories to the general public, related authorities and the Department of Fisheries to ensure preparedness for weather related disturbances. The implementation process of Phase-(I) of the Climate Resilience Multi-Phased Programmatic Approach (CResMPA) to upgrade the forecasting capabilities of the DoM commenced in September 2019. Moreover, during the year under review, Numerical Weather Prediction (NWP) techniques were also carried out to issue more localised forecast and warnings. The National Disaster Relief Service Centre (NDRSC) progressed in its post disaster response activities to support people who face inconveniences during disasters. Initial steps were taken to implement a Disaster Relief Services Preparedness and Response Plan with technical support from the World Food Programme. Accordingly, the plan is prepared for 185 Divisional Secretariats in all districts and awareness programmes were conducted during 2019.

**The Central Environmental Authority (CEA) engaged in various activities to protect and manage the environment by adopting new environmental laws and regulations.** The CEA

issues Environmental Impact Assessment (EIA) and Initial Environmental Evaluation (IEE) certificates, after evaluating the possible environmental impact of proposed projects. Accordingly, the CEA issued 17 EIA approvals and 266 IEE approvals in 2019. In order to regulate the environmental pollution, the CEA granted Environmental Protection Licenses (EPL) to the companies of potentially polluting industries. With the support of the NBRO and the Department of Motor Traffic, real time automated monitoring stations in Battaramulla and Kandy were operated from January 2019 under the National Ambient Air Quality Monitoring Programme to assess air pollutant levels. In November 2019, air pollution level in the Colombo City increased notably, which was more likely due to transboundary air pollution emanating from India, and the NBRO warned the public to remain vigilant. However, this significant increase in pollution level was fairly short-lived. The CEA carried out water quality monitoring activities in major water bodies, while taking steps to amend the National Environmental Act with special consideration to ground water protection. Moreover, the CEA was involved in solid and hazardous waste management projects in 2019. Meanwhile, initial steps were taken by the CEA to implement a project called Lak Pivithuru to address the solid waste problem, subsequent to the end of the Pilisaru solid waste management project in May 2019. Moreover, the CEA was also engaged in environmental protection activities, including the enforcement of polythene regulations, establishment of environmental compliance monitoring networks and amendments to environmental laws and regulations.

**The Forest Department continued its activities to conserve and develop national forest resources in the country.** In 2019, a programme on Enhancing Biodiversity Conservation and Sustenance of Ecosystem Services in Environmentally Sensitive Areas was completed in the Anuradhapura District. In addition, the Ecosystem Conservation and Management Project (ESCAMP) continued in 2019 with financial assistance from the World Bank with a focus on improving the management of sensitive ecosystems in selected locations for conservation and community benefits. Sri Lanka is recognised as a biodiversity hotspot in the world, but deforestation has threatened the country's biodiversity in recent years. The extent of land deforested during 2019 decreased to 849 hectares while the extent reforested in 2019 was 890 hectares. There were 120 detected cases of smuggling of indigenous herbs in 2019. The latest survey on forest cover estimation was carried out in 2015 and the survey data will be made available in 2020. Meanwhile, in 2020, the next round of this survey is expected to commence. Sri Lanka also needs to embrace geospatial technological advancements in the world, such as the geographic information system (GIS), global positioning system (GPS) and remote sensing technologies, to collect and manage forest cover data, and digitally demarcate forest boundaries for easy identification of changes of forest cover within and outside the recorded forest area.

