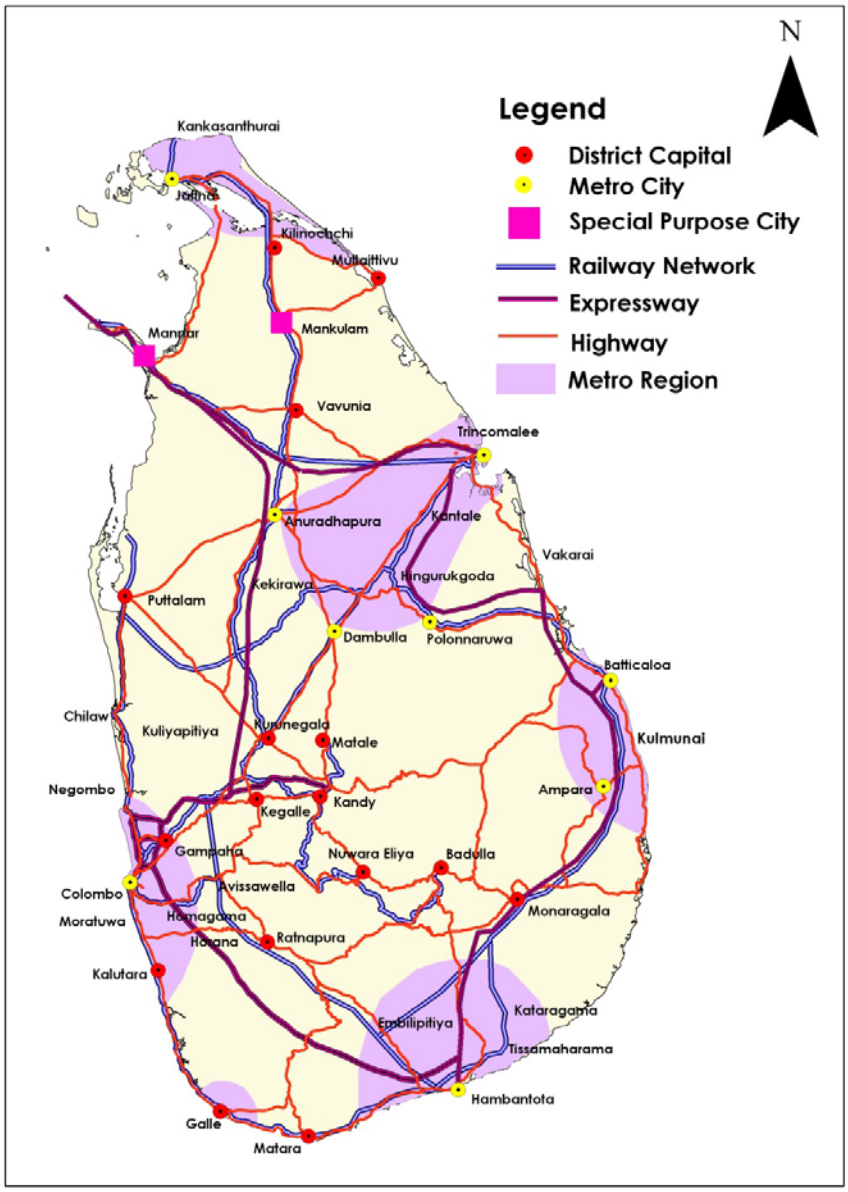
Sri Lanka's Urban Future



Strategic Urban Assessment

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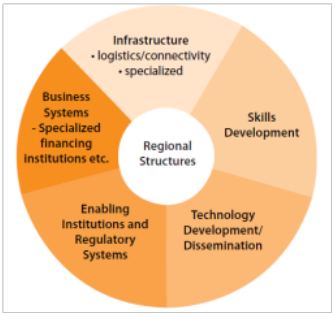
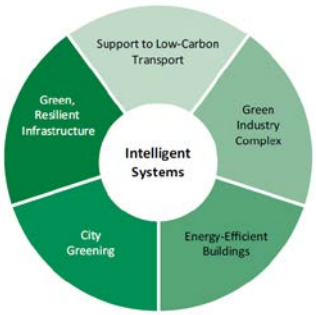
1 INTRODUCTION

Sri Lanka is one of the least urbanised countries in Asia. The official level of urbanization is 15 per cent of the population, but it is generally thought to be closer to 30 per cent based on the country's level of economic development. Urbanization rates have remained low for more than a decade, but since cessation of the civil war in May 2009, Sri Lanka has experienced a period of rapid economic growth and development, and urbanization rates have been increasing significantly. With the recent release of the National Physical Planning Policy and Plan (GOSL, 2011), Sri Lanka has embarked upon a new phase of planning for the development of the country. The policy provides for significant planned growth of metropolitan urban regions and towns.

In 2000, the Asian Development Bank (ADB) conducted an assessment of the development of the urban sector in Sri Lanka (ADB, 2000). The report highlighted significant infrastructure, unemployment and income distribution inequities, urban poverty, housing delivery and affordability, and macroeconomic problems. Many of these problems remain, but since 2009 Sri Lankan cities have experienced significant improvements to basic services and community infrastructure.



Economy



Environment

Equity

In November 2011, the ADB launched its Urban Operations Plan (UOP). The plan focuses on sustainable and integrated ways for the ADB to improve the approaches to support economic and infrastructure development, management and capacity building in Asian cities. The intent is that urban projects funded by the Bank should support the three strategic goals of: economic, environmental and equitable (3E's) development. The Bank is conducting a series of country integrated urban sustainability assessment studies to develop strategic options for its county program strategies. These strategies will involve investment in urban local economic infrastructure, capacity building, urban governance, and management reforms in developing member countries.

The three key phases of this report are analysis, strategy, and action. Within these, there are five steps following a process as outlined. In Chapter 2, urban realities and patterns of urbanization are identified. These realities are assessed against goals set out in key policies and strategic documents in Chapter 3. Based on the analysis, Chapter 4 lays out an urban vision based on the potential opportunities for ADB to assist in urban development. Uran priorities are identified in Chapter 5. The existing growth hub of Colombo, three potential focal urban-growth regions, (Galle in the south, Jaffna in the north and Trincomalee in the north east) and one special growth centre (Mannar) in the north west are identified in the report as targets for ADB's urban sector program of activities under the Country Partnership Strategy (CPS). Strategic sectoral priorities for key urban regions (see below for further definition) are identified. Finally, policy and programming action is recommended around the three ADB partnership pillars (Chapter 6) and a targeted investment program is recommended based on the 3E investment framework (Chapter 7).

2 URBAN SECTOR PROFILE

In the 1970s, Sri Lanka was well on its way to becoming a modern industrialized country with a per capita GDP and urbanization level commensurate with that of Thailand. The development of civil unrest in 1983 substantially reversed urbanization and slowed the level of development in the country for more than 26 years. In addition to this, the 2004 tsunami was to have a devastating effect on many parts of the country.

Despite these events, Sri Lanka today enjoys one of the highest standards of living and GDP per capita in South Asia. However, there are still significant disparities in income and economic opportunity between the country's nine geographic regions, and urban and rural areas. These disparities present significant regional economic, environmental and equity challenges to the development of the country and its growing urban sector. The cessation of civil hostilities in 2009 has led to a significant pickup in economic activities in the country, leading to a new-found optimism that Sri Lanka is on a pathway to a period of strong economic development. Much of this development will be driven by the economic activities that take place in the country's urban settlements.

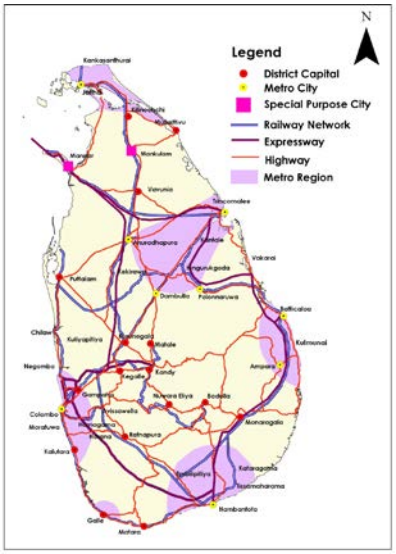
2.1 Key Development Framework

The Mahinda Chintana is the key development agenda of Sri Lanka. The vision of the Mahinda Chintana Development Plan Framework (GoSL, 2010a) is based on the economic philosophy that growth in Gross Domestic Product (GDP) alone would not bring economic prosperity to the country. The goal of the plan is to increase the GDP to provide benefits to every segment of society.

Sri Lanka is also committed to the achievement of the Millennium Development Goals. These goals are to be accomplished through rapid economic growth and change in the structure of the economy. The government's plan for achievement is through the following:

- To maintain an average economic growth of over 8 per cent per annum to increase per capital income by 2016 to above US $4000.
- To increase investment to 33- 35 per cent of GDP with commitment of public investment.
- To grow at twice the rate of GDP.
- To grow high spending tourism in order to generate fourfold expansion in tourist earning.
- The decline the share of rural employment from about two - third to half.
- The increase the share of urban population from one-quarter to one-third.

The National Physical Planning Policy and Plan (NPPD, 2010, 2011) has identified areas in which urbanization is expected to concentrate between 2011 and 2031. These areas are predominantly along the coast and major inland towns and cities. Urban areas have been defined as areas where population is likely to exceed 600 per km^2. In general, major urban centres can expect to have populations densities around 2000 per km^2, but the given definition provides for peri-urban and urban corridor settlements. The plan highlights six metro regions and two special purposes cities (Mannar and Mankulalam in the north) as growth centers. The six metro regions are: Western, Galle, North-Central, Eastern, Hanbantota, Jaffna. The intent is that the metro regions should be developed as a network of linked expanded cities and towns.



Source: NPPD, 2011

2.2 Requirements for an Enabling Environment

Pro-market policy reforms introduced into Sri Lanka since 1977 have resulted in major positive structural changes in the national economy. With respect to competitiveness however, analysis by Chandrasiri (2004) suggests that the overall performance of the Sri Lankan economy has been rather disappointing as against competitive nations in the Asian Region. Having followed a low-skilled and low-labour cost strategy for more than two decades, there is a strong need for Sri Lanka to make a gradual shift from labour intensive to capital-intensive and skill-intensive product lines along with an increase in real wages and labour productivity.

2.2.1 Business Environment

In spite of the analysis above, the Doing Business Report 2012 ranks the economy of Sri Lanka (89) as the best in South Asia (World Bank, 2012). The rankings reflect a host of variables capturing the ease of doing business including the ease of gaining credit, registering property, protection to investors, paying taxes and trading across borders.

2.2.2 Global Competitiveness

In the Global Urban Competitiveness Index Report for 2012, Sri Lanka ranks is 52/140 countries. The report includes over 150 indicators of competitiveness developed around 12 pillars listed under three basic sub-index measures: institutions, efficiency enhances and innovation and sophistication factors (see opposite). Sri Lanka ranks well against countries at a similar level of transition in the areas of innovation, business sophistication, market efficiency, financial and market development, and primary health care and education. Sri Lanka ranks significantly below its competitors in labour market efficiency and macroeconomic performance, but marginally above in technological readiness, and the provision of basic infrastructure. There are still many areas that Sri Lanka will need to improve upon its competitiveness and to build a strong enabling environment to attract business and investment to achieve the development goals set out in the Mahinda Chintana.

Global Competitive Index 2011-2012 (WEF, 2011)

Global Competitiveness Index 2011-12	Rank	Score
Overall Competitiveness Ranking	**52**	**4.33**
A Basic requirements Sub-Index	**65**	**4.61**
1st pillar: Institutions	50	4.23
2nd pillar: Infrastructure	60	4.13
3rd pillar: Macroeconomic environment	116	4.08
4th pillar: Health & primary education	45	6.00
B Efficiency enhancers Sub-Index	**69**	**4.03**
5th pillar: Higher education training	66	4.18
6th pillar: Goods market efficiency	41	4.48
7th pillar: Labour market efficiency	117	3.89
8th pillar: Financial market development	45	4.44
9th pillar: Technological readiness	85	3.46
10th pillar: Market size	67	3.73
C Innovation, sophistication Sub-Index	**34**	**4.03**
11th pillar: Business sophistication	32	4.54
12th pillar: Innovation	42	3.52

2.2.3 Competitiveness of Sri Lankan Cities

In 2008 a survey was conducted of Sri Lankan cities to evaluate their individual competitiveness (Choe and Roberts, 2011). The assessment of city competitiveness (see below) collected data on six primary drivers of competitiveness: cost of doing business, dynamics of local economy, human resources and training, infrastructure, responsiveness of government to business needs and quality of life. The three of Colombo, Gampaha and Kalutara located within the Colombo Metropolitan Region (CMR) are the top performing cities. The study suggests that the competitiveness of different urban locations within the country varies greatly and economic activity tends to concentrate where integration into global economy is easiest, such as in Colombo and Gampaha cities.

Competitive Index Scores

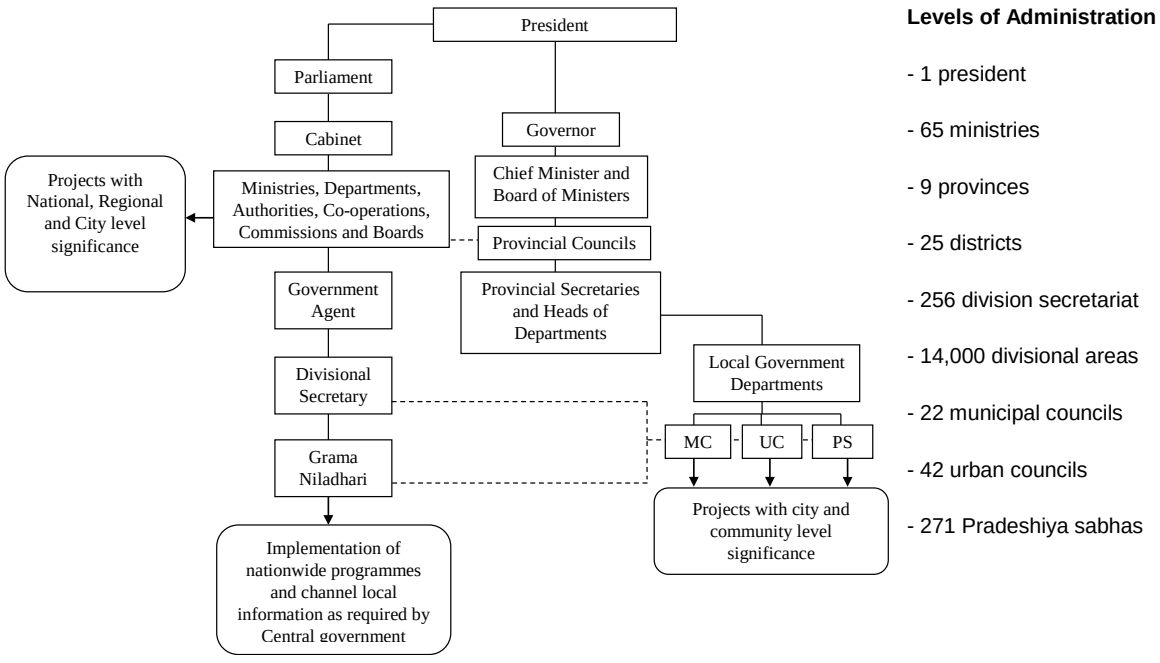
Key Drivers	City													
	Colombo	Gampaha	Kalutara	Galle	Dambulla	Nuwara Eliya	Ratnapura	Ampara	Kurunegala	Matara	Anuradhapura	Hambantota	Trincomalee	Kandy
Cost of Doing Business	0.92	0.99	0.95	0.83	1.03	0.88	0.84	0.87	0.66	0.88	0.81	0.93	0.92	0.65
Dynamism of Local Economy	2.30	2.10	2.02	1.75	1.42	1.02	1.23	1.70	1.80	1.15	1.20	1.55	0.90	1.38
Human Resources and Training	1.10	1.20	0.98	1.02	0.90	0.90	1.04	0.72	0.78	0.86	1.02	0.94	0.70	0.84
Infrastructure	1.06	1.07	0.91	0.75	0.85	0.94	0.91	0.65	0.87	0.86	0.84	0.74	0.74	0.88
Responsiveness of LGUs to Business Needs	0.98	0.57	0.62	0.41	0.52	1.00	0.61	0.70	0.45	0.67	0.39	0.40	0.24	0.32
Quality of Life	1.15	0.86	0.94	0.85	0.88	0.84	0.92	0.80	0.76	0.87	0.98	0.65	0.58	0.89
Index Score	7.51	6.79	6.42	5.61	5.60	5.58	5.55	5.44	5.32	5.29	5.24	5.21	4.08	4.96

Source: Choe & Roberts, 2011

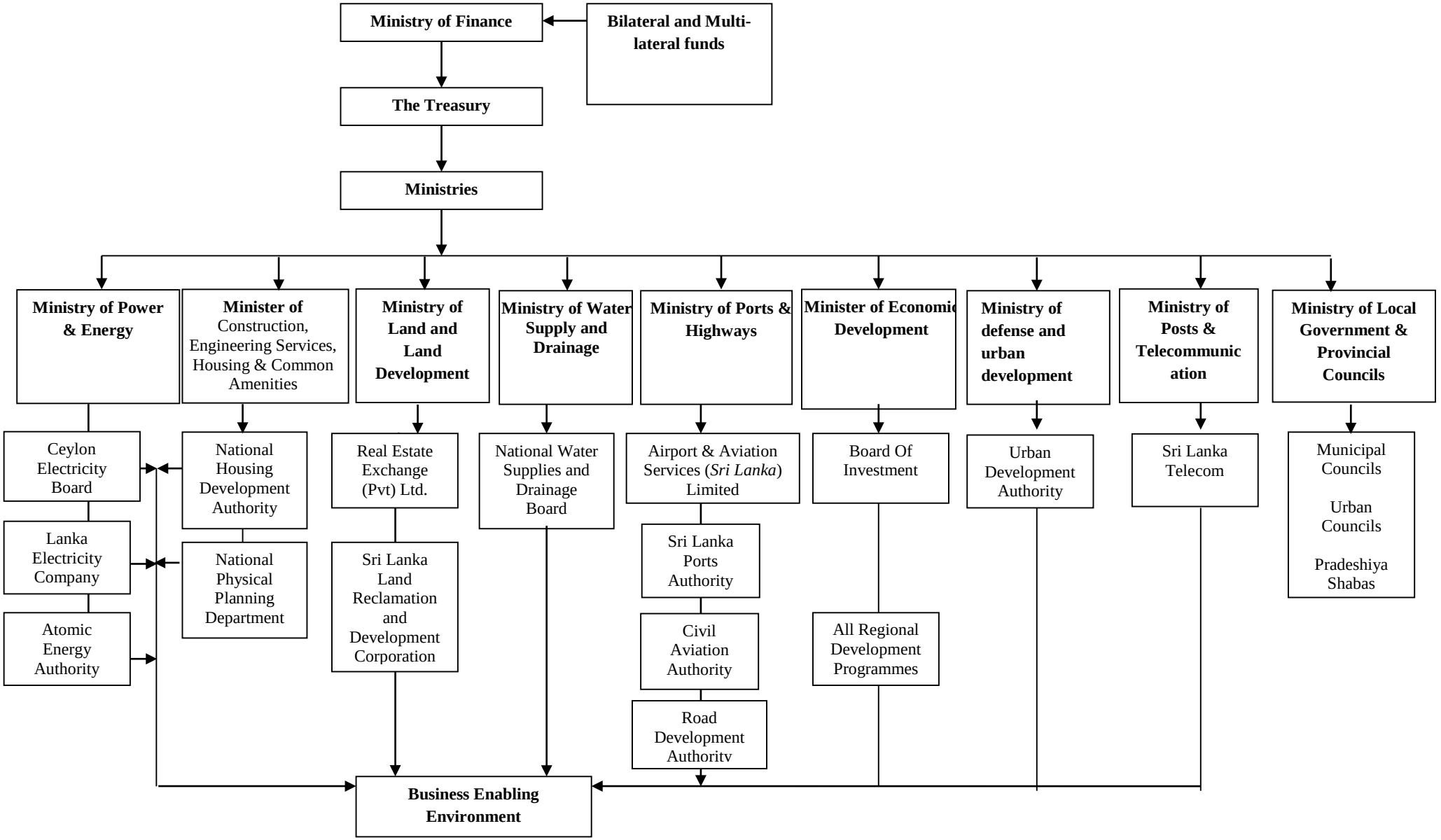
2.3 Governance & Urban Management Profile

Sri Lanka began a path toward decentralization in the 1960s, but it was not until the 13th Amendment to the Constitution in 1987 that Provincial Councils were established. Since then, government has progressively moved towards greater decentralization and elections are now held for district and local councils. Sri Lanka is undergoing major reforms in urban governance, policy, finance, infrastructure and environmental management sectors (GoSL, 1999, 2009). Below is the structure of national and urban government and the major infrastructure delivery institutions at central government level and local government level.

Structure of National and Urban Government (Source: Author's analysis)



Major infrastructure delivery institutions at central government level and local government level (Source: author's analysis)



The many levels of government administration in Sri Lanka create a very complex governance system for the country. The 13th Amendment to the Constitution breaks down responsibilities reserved for the central government (list ii) and responsibilities given to Provincial Councils (list i). Urban local governments are taking greater responsibility for the delivery and management of a wider range of services. The organizational arrangements for governance of the urban settlements are described later.

List (ii) -Reserved list The central government can set national policies on all subjects and functions and has the power to approve legislation on the concurrent list of subject areas that have been listed as provincial subjects in the scheduled list. Its functions include: • National policy formulation; • Designing inter-governmental transfers; • Establishing and managing centre-province relations; • Cadre and staffing; and • The administration of "home affairs".	**List (i) -Provincial Council list** is responsibilities given to Provincial Councils; • Public Order, Admin & Provincial Affairs; • Provincial Planning; • Provincial Finance; • Economic and Social Services; • Human Resources Development and Community Services; • Infrastructure, Urban Development and Environment; • Trade, Commerce and Food Distribution; • Culture and Sports; • Regulation of Provincial Activities; and • Miscellaneous Services.

2.3.1 Key Urban Development Legislation

The following legislation is listed as critical for development of the urban sector in Sri Lanka.

- **Housing and Town Improvement Ordinance 1915-** to deal with the problem of sanitary conditions of urban overcrowding as well as to prevent such situation
- **Town and Country Planning Ordinance No.13 of 1946-** to promote and regulate integrated planning and implementation of land development.
- **Urban Development Authority Act 2007-** the UDA was established by the ACT to prepare Development Plans and to carryout physical development.
- **Land Reclamation Act-** to reclaim and develop every reclamation and development area and to render such areas suitable for building, industrial, commercial or agricultural purpose.
- **National Housing Development Authority Act No. 17 of 1979-** to establish the National Housing Development Authority.
- **Board of Investment Law No. 04 of 1978-** to establish the Board of Investment of Sri Lanka
- **National Environmental Act No. 47 of 1980**- to establish the Central Environmental Authority as the state agency responsible for the formulation and implementation of policies for the protection and management of environment.
- **Municipal Council Ordinance No. 29 of 1947, Urban Councils Ordinance No. 61 of 1939, and the Pradeshiya Sabha Act No. 15 of 1987**- the three different types of local authorities have slightly different powers. Revision of these ordinances and acts is currently being considered.

2.3.2 Framework for Urban Development

The "Randora", the national infrastructure programme (DNP, 2008) launched by the government, envisages providing modern infrastructure facilities to promote nation-wide economic development, and create income opportunities and promote new avenues for investment. Initial work on these facilities has already commenced through projects such as the Norochcholai and Trincomalee Coal Fired Power Plant, expansion of the Colombo and Galle Ports, new port in Hambantota and Oluvil, new international airport at Weerawila. Other infrastructure projects, such as development of the Southern expressway and National

Highway, including proposed rail networks, will generate more economic activities in other provinces. The government anticipates that these projects will contribute towards the reduction of disparities in regional development and make cities outside the South Western Region more conducive to investment.

Local Government Infrastructure Improvement Project
Between 2006 and 2012 the ADB invested US$50 million in the Local Government Infrastructure Improvement Project. The Project involved improving, upgrading and expanding urban infrastructure facilities and basic services (water supply, urban roads, urban drainage and sewage, solid waste management, and small scale community infrastructure) in at least 68 local authorities. Through technical assistance from provincial councils, local authorities applied for finance from the Local Loans and Development Fund (described later). The project also involved institutional strengthening and capacity building of state, provincial, and local agencies in urban management and urban services provision, as well as poverty reduction initiatives developed through stakeholder participation.

2.3.3 Functional Areas and Responsibilities for Urban Services

The institutional framework for the administration of urban services is complex. The varying styles of devolution used by different government administrations have resulted in additional layers of administration and different allocation of responsibilities between them. This is often achieved without the necessary adjustments to previous arrangements to avoid overlap and duplication of roles and responsibilities. The current situation for each sector is described below.

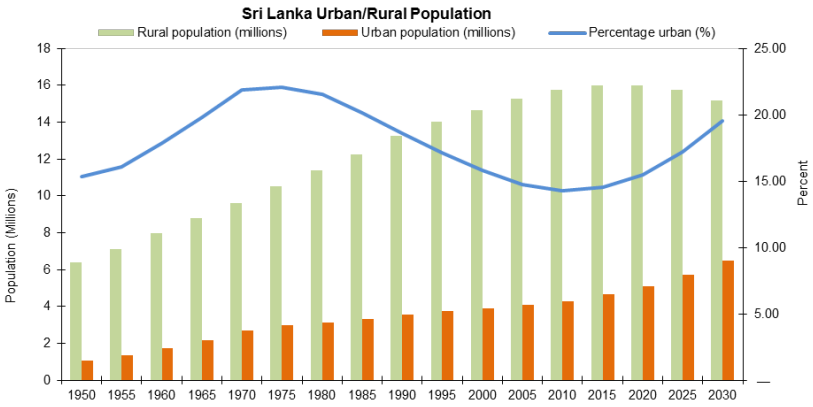
Sector	Description of Governing Institution
Urban Development Planning	• The Ministry of Provincial Councils and Local Government (MPCLG), maintains line responsibility for provincial and local councils. • The Ministry of Urban Development, Housing and Construction (MUDHC), with responsibility for providing technical support to local governments in planning, appraisal, procurement, and management. • The UDA has substantial powers relating to the designation of urban areas, their planning and development, and assistance to local governments in development control. UDA is responsible for preparing development plans in all major urban areas except those regulated by the Greater Colombo Economic Commission.
Transportation	• The Ministry of Transport is responsible for national policy formulation and enactment, including transport of passengers and goods by rail, land, sea or air, or by national waterways in mechanically propelled vehicles. • The Ministry of Ports and Highways is responsible for the construction and maintenance of national highways, and the development and maintenance of the ports. • The MPCLG are responsible for the provision and regulation of road passenger and goods transport services by motor vehicles in a province.
Housing	• The National Housing Development Authority is responsible for the development of housing projects throughout the country, and helps ULAs upgrade slums and shanties and implement low-cost sanitation programs.
Solid Waste Management	• Urban local authorities (ULAs) are responsible for solid waste management. Many local authorities are not of adequate size to support efficient solid waste processing facilities and water and sanitation services.
Water Supply	• The National Water Supply and Drainage Board (NWSDB) maintain responsibility for the construction of water supply and sewerage projects, and is the principal agency responsible for water supply and sanitation. • ULAs operate and maintain the remaining water supply schemes, most of which receive bulk treated water from NWSDB.

Liquid Waste	• The Central Environmental Authority (CEA) is the top environmental statuary body which is in-charge of environmental protection and management in Sri Lanka. CEA was set up in 1981 subsequent to the enactment of the National Environmental Act No.47 in 1980.
Energy	• Ceylon Electricity Board is responsible for the generation, transmission and 90 per cent distribution of electricity in country. • The Sri Lanka Sustainable Energy Authority is in charge of renewable energy. The Authority is responsible for policy, promotion, and regulatory functions of (i) renewable energy, (ii) energy efficiency, (iii) energy planning, and (iv) energy fund management.
Industrial Estates	• The Ministry of Industrial Development and the Board of Investment are the principal government agencies responsible for industrial activities. These two organizations provide oversight on foreign investment tracking and promotion, export promotion, private sector facilitation, growth, and the provision of infrastructure to finance investment and strengthen regional industrial development. These activities are coordinated through a range of development boards.

2.4 Social Equity Profile

2.4.1 Population Characteristics

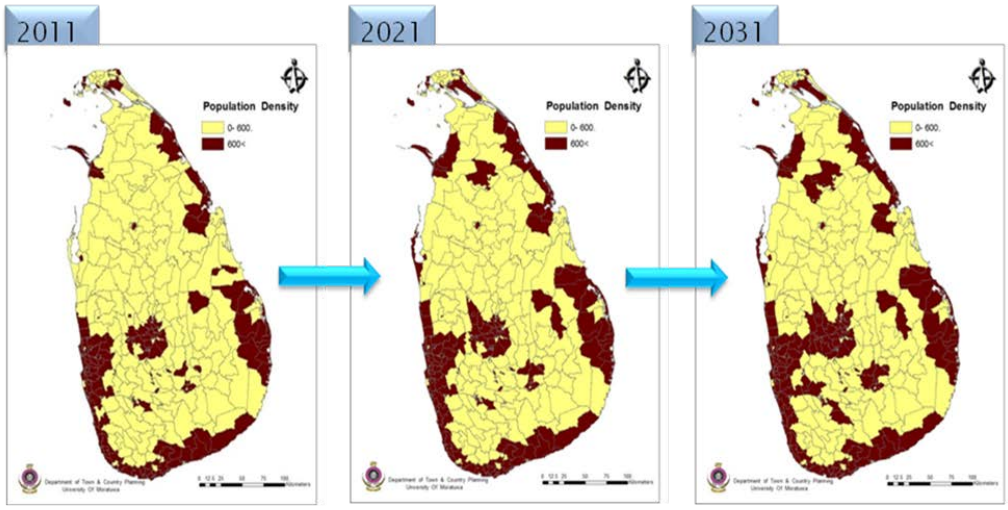
The population of Sri Lanka in 2010 was approximately 20.8 million, and estimated to be growing at 1.1 per cent. Of this, the country's urban population is estimated at 3.1 million (UNDESA, 2010). There are, however, significant definitional problems over what constitutes urban in Sri Lanka. The Sri Lanka Urban Development Authority and the World Bank Indicators suggest that the urban population is around 50 per cent, or just over 10.6 million people (World Bank, 2011b). Other estimates range from 21 per cent to 35 per cent.



Since the 1980s there has been a long period of slow and declining urbanization in Sri Lanka (see above). However, urbanization rates are expected to rise again to 2.7 per cent by 2030 (UNDESA, 2010). The areas with the highest density or concentration of urban settlement are in the coastal areas of the southwest, south, east and northeast. The dominance of the Western Province as the main hub for industrial and commercial activity is the primary pull factor for internal migration in the country. The 2001 population census shows 45 per cent of the total migrant population shift in the country is to CMR. In total, the Region is home to more than 1.5 million migrants.

2.4.2 Future Population Trends

The current net population growth rate in Sri Lanka is about 1 per cent. Projections show that the Sri Lankan labour force will continue to grow for another two decades, and it will shrink thereafter into the foreseeable future. Policies that successfully promote productive employment are essential to maintain economic growth. Population densities are expected to increase most noticeably in the north and along the CMR growth corridor.



Source: NPPD, 2011

2.4.3 Urban Poverty

Poverty levels in Sri Lanka are reducing (see table below). In 2011, Sri Lanka ranked 98/183 countries on the Human Development Index (HDI, 2011). Sri Lanka's HDI ranking is substantially below that of its competitiveness ranking because the majority of the population live in rural areas with high levels of poverty and income disparity. In fact, according to income and consumption measures, poverty levels are relatively low in urban areas as many live above the poverty line (CEPA, 2002).

Millennium Development Goals	**2002**	**2010**
Population living on less than $1.25 a day (%)	14.0	7.0 (2007)
Population living below the national poverty line (%)	22.7	8.9

Despite relatively higher income and consumption levels, a large number of people in urban areas still live in poor quality, crowded housing and have little access to basic services such as electricity and water. The 2002 Poverty Profile estimated that there were 1,614 Underserved Settlements in Colombo (CEPA, 2002), revealing large numbers of people who experience non-income forms of poverty such as unstable livelihoods, lack of access to private sanitation, poor access roads, lighting and draining, and high levels of drug and alcohol addiction.

2.5 Economic Profile

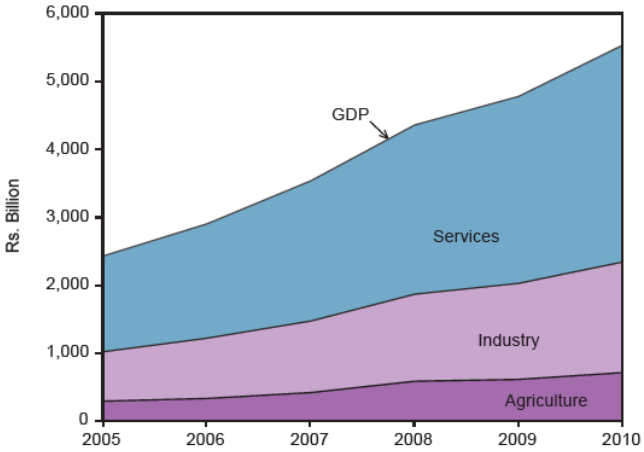
2.5.1 Economic Policy

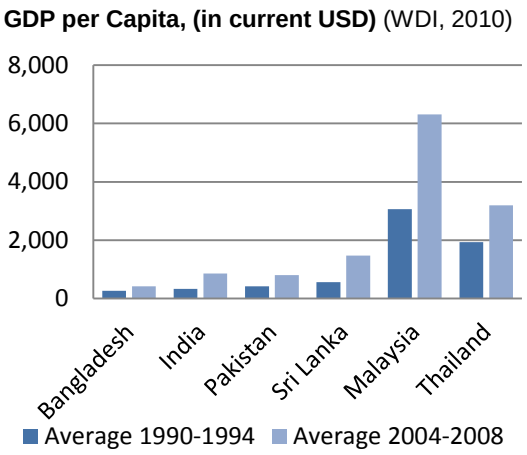
The present economic policy under the Mahinda Chintana 2010 (GoSL, 2010a) is to achieve a Gross Domestic Product (GDP) growth rate of 8 per cent per annum. This policy tries to ensure a balanced approach to national development, where the development of domestic enterprise and foreign investment is supported. This growth rate might be an ambitious target, as the International Monetary Fund (IMF) has forecast Sri Lanka's economic growth in the next few years to be in the region of 7 per cent (DFAT, 2011).

2.5.2 Economic Performance

The Sri Lankan economy grew by 8.0 per cent in 2010. GDP in that year was estimated at US$49.55 billion (current prices) with a GDP per capita estimated at $2,375 (World Bank, 2011b). Sri Lanka has now graduated to a Middle Income Country. In per capita terms, Sri Lanka is ahead of other countries in the South Asian region (see below).

Since 2002 there has been progressive structural change in the economy. Agriculture share of GDP has fallen to 11 per cent, services have risen to 68 per cent of GDP, and manufacturing has remained relatively constant at 18 per cent (see below).





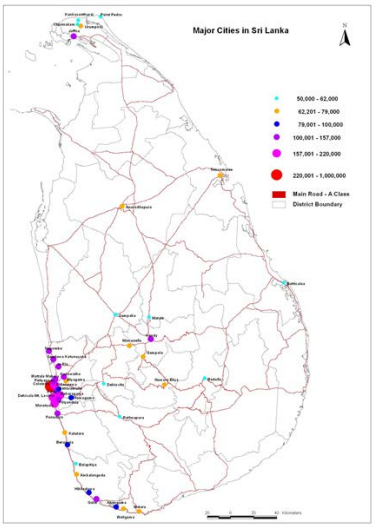
2.6 Urban Hierarchy

Sri Lanka has more than 300 urban centres of different size (see map below). Within this, there are 20 cities in Sri Lanka that have populations over 100,000 people. The population, land extent, population density and economic base of these cities is given in the Table below.

Table: Population, Density and Functions of 20 Sri Lankan Cities

City	Population 2004	Density (p/ha)	Economic Base of City
Colombo	642,163	160	Commercial/Services/Tourism
Kadawatha	271,490	28	Services
Kandy	219,230	77	Administrative/Tourism
Dehiwala-	209,787	97	Industrial/Tourism
Ja-Ela	185,562	23	Industrial/Tourism
Maharagam	180,112	81	Services
Moratuwa	177,190	89	Industrial/Tourism
Piliyandala	174,264	28	Industrial/Services
Battaramulla	166,157	78	Administrative
Panadura	162,979	30	Services/Tourism
Wattala-	161,644	35	Industrial
Kolonnawa	160,417	50	Industrial/Services
Seeduwa-	146,040	58	Industrial
Negombo	144,551	30	Tourism/Fisheries/Services
Peliyagoda	134,588	61	Industrial
Homagama	133,887	74	Industrial/ Agricultural
Kotte	115,826	69	Administrative
Beruwela	114,251	16	Fisheries/ Tourism
Kalutara	105,873	20	Administrative/Educational
Galle	104,015	16	Administrative/Heritage/Tourism

Source: Urban Development Authority

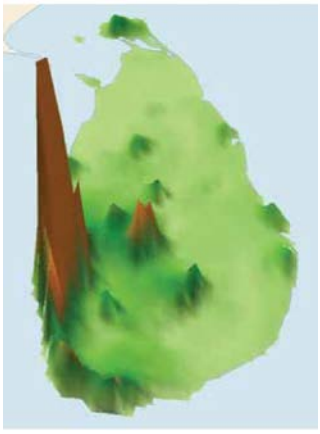


Source: NPPD, 2011

2.6.1 Cities are Drivers of Economic Growth and Development

Urban areas contribute about 80 per cent of the GDP in Asia but represent only 40 per cent of the total population (ADB, 2008c). In Sri Lanka, approximately 65 per cent of GDP is produced in urban areas. Of this, the CMR alone generates more than 45 per cent of the nation's GDP (see economic mountains, right). By 2030, if international trends are a guide, more than 80 per cent of national GDP in Sri Lanka will be produced in urban areas.

Economic Mountains: Sri Lanka *(WB, 2004)*



The spatial agglomeration of business activities in the form of industry clusters is also a response to the pattern associated with the globalisation of production and assembly systems. Industry clustering is already occurring in the CMR (Choe & Roberts, 2011). The next step is to learn from this process of cluster development in Colombo and apply it to the development industry clustering in other cities and regions of Sri Lanka.

2.6.2 Infrastructure Constraints to Growth

A major bottleneck to economic growth continues to be the severe infrastructure deficit. Poor roads reduce business productivity by as much as 44 per cent, while access to the main power grid increases productivity by 25 per cent (ADB, 2008). Where electricity is available, the cost is high and the supply unreliable, raising companies' production costs and exposing them to frequent outages. The 2004 tsunami added this this problem by devastating large parts of the country's coastal infrastructure. The overall loss of assets has been estimated at 4.4 per cent of GDP, with reconstruction costs rising to $1.5 billion, or 7 per cent of GDP (ADB, 2004).

2.6.3 Provision of Land Rights

Sri Lanka has the most stringent land market restrictions among South Asian countries. High levels of public land ownership, complex property rights and titling, and transfer systems make urban development particularly difficult. Analysis shows that employment in locations with severe land regulations is less diversified toward non-farming activities in manufacturing and services. This issue is most pressing in the North-Central Province where Land Development Ordinance land is common and less common in urbanised areas. Only about 90 per cent of land parcels in urban areas and 65 per cent of parcels in rural areas are properly registered and surveyed in Sri Lanka (Thavalingam, 2003).

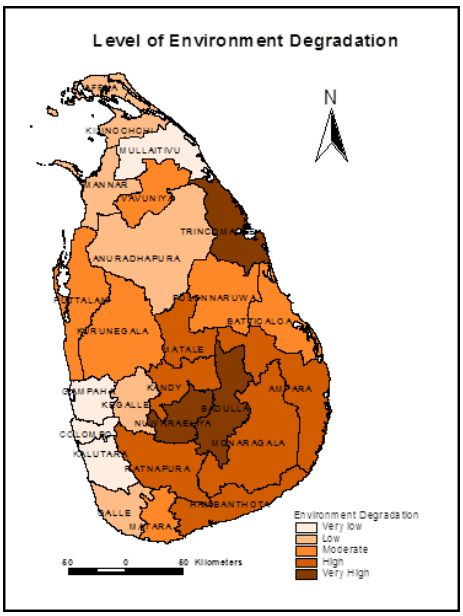
The most recent land administration initiative in Sri Lanka is Bim Saviya. Launched under Mahinda Chintana by the Ministry of Land and Land Development, Bim Saviya is designed to strengthen the ownership of land. Under the Bim Saviya Project lands are to be surveyed and demarcated to ensure ownership and subsequently issued a Title Certificate. This process will be conducted free of charge to landowners so as to make land registration more attractive to participation. Bim Saviya is being implemented under the provisions of Registration of Title Act No. 21 of 1998 as a national program. Other measures are being taken with the support of the ADB to improve property valuation measures, which should enable local governments to capture increased revenue from property taxes. The need to improve local property tax collection is a high priority if local governments are to raise the funds needed to support the development of basic infrastructure and provide municipal services to support the economic development of urban areas.

2.7 Environmental Profile

2.7.1 Urban Environmental Problems

The increased demand for urban shelter has led to the improper disposal of solid waste. The treatment of sewage and increased urban and industrial waste in urban areas is a serious environmental problem (see diagram opposite). Municipal solid waste collection is not keeping up with urbanization, and the unsanitary disposal of municipal waste is a serious hazard. In some cities, waste collection is outsourced to the private sector yet efficiency improvements are needed.

Another environmental problem is that of worsening traffic congestion in the major urban centers and its effect on urban air quality. Traffic congestion has increased burning of fossil oil and people are exposed to high levels of local air pollution resulting in them experiencing a range of associated health problems.



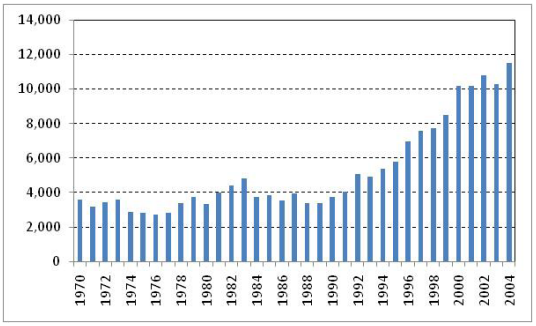
Source: NPPD, 2011

2.7.2 GHG Emissions

Whilst Sri Lanka currently produces less than 0.1 per cent of the world's CO^2, emissions have grown considerably over time (see opposite). Emissions in 2004 were more than three times that in 1970.

Sri Lanka ratified the United Nations Framework Convention on Climate Change in 1994 and acceded the Kyoto Protocol in 2002. Despite this, Sri Lanka belongs to the Non-Annex 1 list of countries which do not have legally binding targets to where they have to reduce their GHG emissions, unlike most developed countries.

Sri Lanka's CO^2 emissions (kt), 1970-2004



Source: WDI, 2008

2.7.3 Areas and Infrastructure Prone to Flooding

Floods in Sri Lanka are mainly due to excessive rainfall received during monsoons and received as a result of development of low-pressure in the Bay of Bengal. The National Climate Change Adaptation Strategy notes that over 1 million people live in areas deemed to be highly vulnerable to floods, of which around 25 per cent live in temporary dwellings (ADB, 2007c). The total number of buildings affected by different flood periods is shown opposite.

Total No. of buildings affected indifferent flood return periods in key District

Return Period (years)	District			Total
	Colombo	Gampaha	Kegalle	
10	5421	3589	0	9010
20	8487	5574	3	14064
30	10378	6620	7	17005

Source: Gunesekara, 2008

Drainage systems in many major municipalities, particularly in Colombo, are poorly maintained, resulting in flooding, particularly to buildings during heavy rain. The lack of a system to drain rainwater causes major flood-management problems. Floods in the Kelani river are important due to its outfall being near Colombo. Flood was identified as the most common and hazardous natural event in Sri Lanka. Flood area mapping in the lower reach of the Kelani river basin has become a top priority with frequent floods in the Kelani River.

Poorer urban settlers are often more vulnerable and live in areas with low quality drainage and flood protection infrastructure, whilst during floods critical services such as clean water supplies are severely disrupted. The urban neighbourhoods that are most vulnerable to heavy rainfall include informal residential areas along rivers and converted wetland areas. These settlements are often unplanned, have a low quality built environment, lack sufficient drainage infrastructure whilst due their proximity to rivers and lakes they may be the first to experience floods, often of polluted water. However, these neighbourhoods supply cheap labour and services and are critically important for urban development and economic growth. Investment in infrastructure in the poorer regions can also help social mobility.

2.7.4 Sectoral Climate Change

Sri Lanka is a negligible contributor to global warming; however the country is particularly vulnerable to the impacts of climate change. It was once said that the effect of climate change effect in Sri Lanka is more dangerous than the civil war[2]. Some 70 per cent of Sri Lanka's urban population and 80 per cent of its economic infrastructure networks are concentrated in coastal cities which are highly vulnerable to the impacts of climate change. The effects of climate change include increases in the frequency and intensity of disasters such as droughts, floods and landslides, variability and unpredictability of rainfall pattern, increase in temperature, and sea level rise.

Many coastal cities in Sri Lanka have experienced devastating climate related impacts during the recent years. As an example of such change, Batticaloa experienced the largest flood recorded in 100 years during December 2009 - January 2010 causing loss of life and property while significantly damaging the emerging tourism industry (GoSL, 2010). There is also concern about the future impact of climate change. Sri Lanka expects that over the next two decades the sea-level will rise by half a metre with dry areas becoming drier and wet areas becoming wetter, leading to floods in some areas and drought in others. Between 15 per cent and 20 per cent of the total population of the Negombo and Batticaloa Municipal Councils are vulnerable to sea level rise in 2040 (GoSL, 2010). These impacts are felt across the country but they particularly affect the urban poor communities who have no option but to live in vulnerable areas.

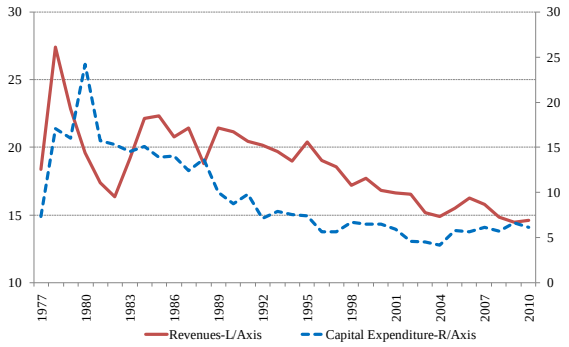
2.8 Financial Performance

Sri Lanka has made significant progress in bringing down its fiscal deficit and its public debt ratio in recent years. The fiscal deficit is likely to be at or above 7 per cent for 2011 and the public debt to GDP ratio will be close to 85 per cent. Other measure taken to improve Sri Lanka's fiscal position include improved revenue mobilization through new tax instruments and improved tax policy. The 2012 budget has laid out a medium-term fiscal consolidation path that allows the fiscal deficit to come down to 6 per cent of GDP in 2013 and the public debt to GDP ratio to 65 per cent. The graphs below show the financial history of government revenues, capital expenditure, military expenditure and Overseas Development Assistance.

[2] Comments made during the 16th summit of South Asian Association of Regional Cooperation (SAARC) 2011

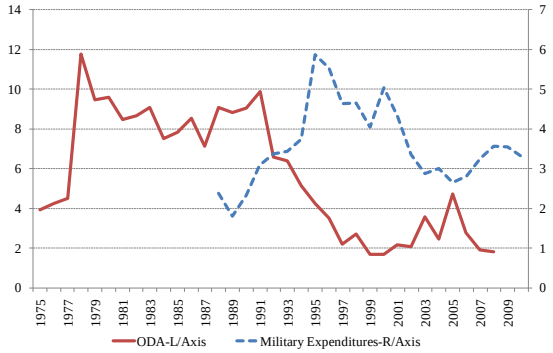
(a). Government Revenues and Capital Expenditure (1977-2010)

(As a percent of GDP)



Source: CBSL

(b). Sri Lanka: Overseas Development Assistance (ODA) and Military Expenditures *(% of GDP)*



An urban finance matrix has been developed (see below) to understand urban financing systems and resource mobilization in Sri Lanka. The matrix provides a snapshot of intergovernmental fiscal transfer systems, revenue structure and resource mobilization, local government budgeting, revenue mobilization issues, and financial institutions during 2010. The matrix is a useful tool from which to consider financial instruments suitable for structuring project finance in the urban sector.

National Government	**Institutions**
Revenue Total Revenue: Rs 818 billion • Tax Revenue: Rs 725 billion ***Expenditure*** Total Expenditure: Rs 1,280 billion • Transfer Payments: Rs 196 billion • Capital Expenditure: Rs 302 billion • Market Borrowings: Rs 192 billion	***Finance Institutions*** • Savings Institution • Insurance Funds • Provident and Pension Funds • Official Funds ***Commercial Banks (State and Private)*** • Bank of Ceylon • People's Bank • Commercial Bank of Ceylon • Hatton National Bank PLC • DFCC Bank • DFCC Vardhana Bank • Sampath Bank PLC • Seylan Bank PLC • Union Commercial Bank • Nations Trust Bank • Pan Asia Banking Corporation PLC • Amana Bank • NDB Bank
Provincial Government	**Capital Markets**
Revenue • Grants-Central Govt.: Rs 101 billion • Revenue Collected: Rs 33 billion ***Expenditure*** • Recurrent: Rs 107 billion • Capital Expenditure: Rs 8 billion	***Capital Bonds*** • Treasury Bonds Rs 1,644 billion ***Other Instruments*** • Rupee Loans: Rs 87 billion • Treasury Bills: Rs 514 billion • SLDBs: Rs 173 billion • Central Bank Advances: Rs 78 billion

Source: Central Bank of Sri Lanka, Ministry of Finance and Planning (2010)

2.8.1 Credit Ratings

In 2005 Sri Lanka applied for credit ratings from international agencies in its efforts to apply for loans from international markets. Standard and Poor's rated Sri Lanka a "B+" speculative rating, four grades below investment grade. Fitch has rated Sri Lanka with "BB-" which is three grades below investment grade. Standard and Poor's maintains Sri Lanka is constrained by providing widespread subsidies, a bloated public sector, transfers to loss-making state enterprises, and high interest local and international burdens (Rogers and Sedghi, 2011).

2.8.2 Local Government Revenue

Local governments receive financial resources for their activities mainly from two sources: own revenue, which is limited especially in less industrial provinces; and central government money transfers, which continue to provide the bulk of financial resources needed for development projects and social services (see below). High fiscal deficits over the past several years have forced the central Government to restrict fiscal transfers to local government. Fiscal transfers to provincial councils were only 1.8 per cent of GDP in 2010, although differences existed between provinces (GoSL, 2011).

2010 Revenue and Expenditure of Provincial Councils (Rs. Millions)

Item	Western	Central	Southern	Northern	Eastern	N-Western	N-Central	Uva	Sabara-gamuwa	Total
Total Receipts	29,119	17,675	14,788	10,241	12,062	16,530	10,261	10,976	11,927	133,578
Grants-Central Govt	8,507	15,000	12,160	10,186	11,330	13,906	9,231	10,120	10,559	100,998
Revenue	20,612	2,675	2,628	55	732	2,624	1,030	856	1,368	32,580
Total Expenditure	25,115	15,198	12,998	8,663	10,506	14,584	8,214	10,006	9,980	115,253
Recurrent	24,487	14,218	12,171	7,781	9,776	13,546	7,087	8,797	9,243	107,106
Capital Expendiuture	628	980	817	882	730	1,039	1,127	1,209	737	8,147

Source: Central Bank of Sri Lanka, 2011

Local government has faced difficulties in the delivery of services demanded by local communities both due to fiscal constraints of the central government and the limitations on the self-generation of funding. As a result, local authorities have occasionally resort to short-term borrowing from commercial banks (overdraft facilities) to meet cash-flow requirements. The local share of capital expenditure in total municipal expenditure has been declining over time. The resource gap has become even wider with political decentralization and the accompanying responsibilities to deliver services and achieve regional development.

2.8.3 Funding Mechanisms

There are currently a number of finance sources for various investment proposals.

- **Central Government-** the central Government is financing routine sector investments and non-targeted subsidies, which are being converted into targeted subsidies over time.
- **Local Government-** for housing purposes, municipal councils may issue bonds. The Municipal Councils Ordinance and Amendment Act 1987 restricts the issue of bonds by municipal councils for other purposes[3].
- **Urban Local Authorities-** ULAs are able to borrow money from the market for works.
- **Internal Cash Generation-** routine investments such as for infrastructure maintenance and improvements may be funded through internal cash generation by utility providers.
- **Private sector investments-** the investment plan identifies investments expected to be made entirely by the private sector particularly in the transport, water and energy sectors
- **Public-private partnerships-** certain investments are earmarked to be open for the private sector to be in partnership with the government, particularly in energy generation.
- **Clean Development Mechanisms-** some of the investment gaps are expected to be bridged by consolidated funds, particularly for renewable energy and energy efficiency.
- **Concessionary long-term finance-** Some major investments are expected to be funded with concessionary financing through bilateral and multilateral lending agencies.
- **Capital market finance**- private utility providers can borrow funds through private banks. Projects implemented by utility agencies may also be financed with commercial credit.
- **Direct investment by users-** users are increasingly being expected to contribute to investments to infrastructure. There are a number of user payment options which are being developed in different sectors.

[3] Despite this, no local government has issued debentures or bonds (a proposal for Colombo Municipal Council to issue municipal bonds was not taken up largely for legal reasons).

Local Loans and Development Fund
The Local Loans and Development Fund is a statutory body created under the Ministry of Local Government and Provincial Councils with responsible to grant and administer concessionary rate loans for investment in infrastructure development and revenue-generating projects of local authorities. These loans can be obtained from a consolidated fund, any commercial bank, any Government-sponsored lending institution, or any local authority.

2.8.4 Private Sector Capacity for Infrastructure Financing

In the 1990s, only 5 per cent of global investments in water and sanitation were financed privately (Budds and McGranahan, 2003). High risk and a low financial rate of return on invested capital make infrastructure projects unattractive to international private investors. Many countries have initiated reforms to support decentralisation processes and increase private sector participation and public-private partnership. This arrangement still means risk-sharing for governments, and it is crucial to ensure that service standards remain high. In the long term, the costs for services will be paid by consumers. Recognising this, the Development Plan Framework recommends that where investments yield adequate returns over time, private finance will be raised through public-private partnerships. Private infrastructure investments in the urban sector are expected to rise from 17 per cent of GDP in 2010 to 26 per cent by 2016.

South Asia Gateway Terminals (Private) Limited
Created by the Sri Lanka Port Authority, several private companies were invited to improve, expand, operate, and manage the Colombo port terminal (Queen Elizabeth Quay) through a 30-year Build- Operate-Transfer (BOT) concession. The total cost of the project for the expansion and operation of the QEQ was US$227.4 million, financed based on a debt/equity ratio of 60:40. The 40 per cent equity to finance the project was provided through the eight partners in the SAGT partnership. In 2006, one of the partners in the SAGT partnership increased its holdings from 26.25 to 33.75 per cent of the SAGT partnership's shares, demonstrating its confidence in the SAGT partnership. **Source:** UNDP

2.9 Capacity Development

2.9.1 Needs in Urban Management

The effective development of urban areas and the delivery of urban services are dependent on the ability of sufficiently competent staff to plan, implement, and manage the investments as intended. The pool of skilled human resources in Sri Lanka, particularly as it relates to municipal management needs, is critically low, especially in secondary cities. Because relatively attractive salaries, pensions, and job security have made the public sector an attractive employer, almost all local government and other organizations that provide urban services have become overstaffed, mostly with unqualified personnel.

At the same time, most local governments outside Colombo have not been able to fill some of the critical technical positions, such as those of city engineer, senior technical officer, chief accountant, and revenue officer. These local positions are not able to compete in terms of salaries and living conditions with the Colombo area and, as a result, the secondary cities are lacking necessary key expertise.

2.9.2 Institutions of Capacity Development

The only planning school in Sri Lanka is the Department of Town and Country Planning, University of Moratuwa. Listed below are other institutions which conduct courses and research related to urban issues.

Institution	Course
University of Moratuwa - Department of Town & Country Planning	B.Sc and M.Sc
University of Sri Jayawardanapura - Faculty of Management Studies and Commerce	BSc. State Management and Valuation
University of Colombo - Faculty of Graduate Studies	M.Sc Regional Development and Planning
University of Peradeniya	M.Sc. GIS

Source: author's summary

The following institutions research urban issues: Institute of Town Planners Sri Lanka; Young Planners Forum; Urban Development Authority; National Building Research Organization; Mahaweli Authority; Board of Investment Sri Lanka.

2.10 ADB and Other Partner Delivery

Since joining the ADB in 1966, Sri Lanka has received $5.14 billion for 155 sovereign and non-sovereign loans. ADB has 38 ongoing sovereign loans to Sri Lanka totalling $1.92 billion, including $60 million in one program loan from the Asian Development Fund (ADF) and a $150 million grant from the Asian Tsunami Fund. Of these 38 loans, 10 were financed from ordinary capital resources and 30 from the ADF. So far, 54% of the total net loan amount has been disbursed and $110.70 million for 245 technical assistance projects.

Since commencing its assistance to the urban sector in 1985, the ADB has supported the Government's efforts to solve urban development, infrastructure, and planning problems. Along with continuing dialogue with the Government on issues and policies in the sector, ADB's operations have been widely distributed within the infrastructure sector. Efficient and targeted interventions in urban development, water supply and sanitation, low income housing, roads and transportation have resulted in major improvements, alleviating the pressures of development.

Sri Lanka and the ADB have agreed on a new Country Partnership Strategy (CPS) for 2012-2016 to reduce regional disparities, catalyze private sector participation in development, and remove human resource constraints. The CPS builds on the priorities of government's Development Policy Framework and ADB's Strategy 2020, and also refines the focus of the CPS 2009–2011.

Under the CPS, environmental sustainability will be improved by strengthening country safeguard systems, and providing support for climate change adaptation. Public financial management and public procurement will be strengthened by introducing stringent anticorruption measures and mainstreaming accountability and transparency in ADB's operations. The ADB also plans to promote multimodal transport systems to ease road congestion and reduce pollution.

2.10.1 ADB Urban Sector Interventions

ADB's assistance to Sri Lanka has gradually shifted from mainly agricultural to infrastructure and post-conflict rehabilitation, with further support to the finance sector and education. A list of ADB ongoing and planned projects specific to the urban sector is provided below.

Ongoing Projects

- Northern Road Connectivity Project
- Lagging Regions Community Infrastructure
- Colombo Water Supply Service Improvement Project
- Fiscal Management Reforms
- Local Government Infrastructure Improvement

- Secondary Towns and Rural Community-Based Water Supply and Sanitation Project
- Dry Zone Urban Water Supply and Sanitation Project
- Jaffna Water Supply and Sanitation
- Improving Community-Based Water Supply and Sanitation in Post Conflict Areas of Jaffna and Kilinochichi
- Greater Colombo Wastewater Management Project
- Implementation of Energy Efficient Policy Initiatives
- Building Climate Change Resilience of Road Infrastructure
- Local Government Enhancement Project
- Power Sector Generation
- Second Sustainable Power Sector Support Project
- Capacity Development for Local Authorities in Urban Service Delivery

Planned Projects

- 2012: Clean Energy and Network Efficiency Enhancement Project
  2012: Secondary Road Project Preparatory Facility
- 2012: Power Sector Strengthening Project
- 2012: Water Supply Service Improvement
- 2012: National Highways Sector Development
- 2012: Capacity Building for Clean Power Development
- 2012: Strengthening the Construction Industry
- 2013: Ekala and Ja-Ela Urban and Industrial Sewerage Project co-financing (PP)
- 2013: Transport Sector Development Facilitiy
- 2013: Second Fiscal Management Efficiency Project
- 2014: Greater Colombo Sewage System
- 2014: Green Power Development and Energy Efficiency Improvement
- 2014: Environmentally Sustainable Urban Development Project (Secondary Towns)
- 2015: Greater Colombo Wastewater II
- 2015: Multimodal Transport Project (formerly Intermodal Transport Study)
- 2016: Urban Transport II

2.10.2 Other Partner Delivery

As well as the ADB, there are many international development agencies and organizations engaged in projects to support the development of the economic infrastructure sector in Sri Lanka. The table below shows the targeted investment areas of existing multi-lateral and bi-lateral donors to the urban and other sectors in Sri Lanka.

Donor-funded projects play a predominant role in development activities in the provinces owing to their financial strength. Various ministries act as counterparts to the donor agencies and other development partners (e.g. GTZ, JICA, etc.). The Provincial Government comes in as executing agent of the projects. Within the Provincial Government, the Planning Secretariat has the role of monitoring the progress of the projects and reporting to the national ministries.

Targeted Areas of ODA Assistance, Sri Lanka 2010

	Primary Resources					Infrastructure										Economic, Social Development and Environment							Governance							Private Sector Operations				
Sector	Fisheries	Forestry	Agriculture	Mining and Petroleum	Natural Resource Management	Rail	WSAH	Roads	Ports & Airports	Irrigation	Electricity	Energy	Telecom	Industry Enterprise Zones	Housing & Urban Development	Economic Development	Health	Education and Training	Community Development	Humanitarian	Gender & Development	Environment	LGU & Decentralization	Legislative & Regulation Reforms	Institutional Capacity Building	Economic Policy Reform	Land Planning & Administration	Trade and Investment	Security Emergency Services	SME & Micro Enterprise	Manufacturing	Tourism	Business & Finance Services	2010 (ODA & Loans) millions $US est
Multilateral																																	
ADB		•	••		••	•	••	••	••	••	••	••			•	•		••	••	••	••	•	••	••	••	••				••			••	372
WB	•	•	•		•		••	••		••	••	•			••	••	••	••	••	••	••	••	••	•	••	••	•	••	•	••	••	••	••	327
IFC							•					••					••											•			••		••	20
IFAD			••																														25
OPEC				••								••																					24
EU					••		••	••								•	••	•		••	••	•			••							•	20
UNDP		•					••	••		••						••		••	••	••	••			•	••				•				13
FAO	••		••															••							••	•		•					14
ILO																•		••			••	•	•		••					••	••		•	
UNICEF							••	••								•		••	•						••								
UN-Habitat							••	••												••					••								
UNHCR															•					••	•								••				40
Bilateral																																	
AusAID		••					••											••	••	••	••			•	••								46
China				••		•		••	••		••	••			•		•	•							••								828
CIDA																••		••	•	••	•	•			••					•			•	6
France							••											••		••														16
GTZ			••				••	•							••	•		••		••	•	•	••		••					••				12
India	•					••			••								••	••							••							••	••	483
Iran				••							••	••													••								•	111
Japan			••				••	••	••	••	••	••			•	••	••	••	••	•		•	••		••					•	••	••	••	439
Korea							•	•									••	••	••	••	•		•		••	•			•	••	••			40
Kuwait																••				•														7
Malaysia																	•	•													••		•	
Russia				••																••														300
Saudi								••												•														46
USAID	••	••	••		••		••			•	••			•				••	••	••	••	••	••		••					••	•		•	44

Sources: International Development Agency Websites

3 URBAN NEEDS ASSESSMENT

The government expectation on the achievement of 'balance regional development' has not yet been realized. There are many reasons for this. The south western region of the country has enjoyed the highest level of stability during the time of the civil war. Provincial Councils have not made sufficient efforts to develop their regional development potential, which has also been frustrated by lack of skills, resource and funds to improve the infrastructure etc. There has also been an unrealistic expectation that the public sector should take the role on the implementation of mega projects. The participation of the private sector is essential and has not yet been fully exploited by many provincial and local governments. The section below is an assessment of urban subsector needs based on key government policy targets.

3.1 Sector-Based Needs Assessment

3.1.1 Transportation

Key transportation target

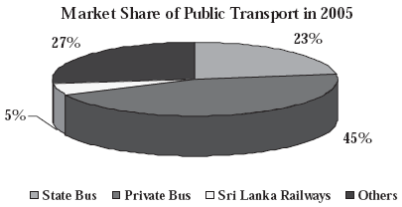
The goal of the Mahinda Chintana is to provide accessibility to all people and to have high quality road networks for the transportation of passengers and goods. The Mahinda Chintana identifies the rehabilitation, improvement, and maintenance of roads, the expansion and upgrade of the railway network, and a higher quality of public transportation services as key priorities for the Government of Sri Lanka.

State of transportation

At present, local transportation needs are mainly met by the road and rail resources. Fast urbanization and higher incomes have led to a sharp increase in the demand for better transportation facilities in all major urban areas, notably in Colombo. Traffic congestion is now becoming severe, exacerbated by poor driver discipline, limited enforcement of traffic laws, lack of traffic management systems, absence of transport demand management policies, encroachment of the road carriageway by parked vehicles and commercial activities, and an eclectic vehicle mix. Most of these factors have a disproportionately greater impact on the urban poor because of their limited access to affordable transport services and ill health from pollution as well as road safety concerns. Poor transportation links also contribute to difficulties in opening more land for housing development and resolving housing shortages.

Although national roads carry over 70 per cent of the traffic in Sri Lanka they have been branded as inadequate to meet rapidly growing freight and passenger traffic (World Bank, 2011a). In addition, more than 50 per cent of national roads have poor or very poor surface condition and many are seriously congested. This has discouraged long distance traffic and hindered the spread of economic activities and development in regions other than the Colombo Metropolitan Area.

Buses are the dominant form of public transport. The bus transport sector is partitioned into state-owned operations by the Sri Lanka Transport Board and private operators. The latter are regulated by a different agency-the National Transport Commission. Interprovincial long distance routes are regulated by the National Transport Commission, while local and provincial services are regulated by the respective provincial and road transport authorities.



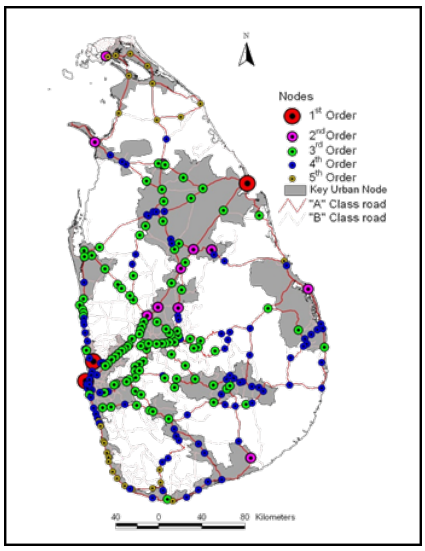
Source: ADB, 2007b

There is no multimodal transport system in Sri Lanka. The integration of aviation and port sectors with other modes of transport is very poor. Furthermore, while the Colombo Port and Bandaranaike International Airport are crucial for international connectivity, they are reaching their capacity. There are only a limited number of local airports to connect Colombo to the main tourist destinations and secondary towns. However, with the development of the Colombo expansion, Hambantota port and a new international airport at Mattala, Sri Lanka is strategically preparing to address some of the country capacity constraints.

As part of the preparation process for the National Physical Planning Policy and Plan, strategic nodes were identified to arrange urban settlements in a hierarchy of clusters in term of their connectivity to key strategic infrastructure and markets. The map opposite shows the orders of clusters and the key strategic nodes for interchange of goods and services.

The criterion used to understand the importance of these key urban nodes, was based on available data and information related to:

1. International connectivity
2. Road connectivity
3. Internal connectivity of harbors, airports
4. Railway connectivity
5. Proposed highway & railway connectivity



Source: NPPD, 2011

ADB Investment in Roads
Between 1980 and 2009, ADB assistance to the road sector totalled $982 million and improved 1,650 km of national roads and 2,001 km of provincial roads. More recently, the $448.6 million flagship ADB activity Southern Transport Development Project was completed. The new expressway connects Colombo to Matara in the Southern Province.

3.1.2 Housing

Key housing target
In the housing sector, the Mahinda Chintana aspires to provide affordable and adequate shelter for every family in the country by 2020. The government also seeks to develop a housing strategy that better meets the growing demand for more diversified and higher quality housing choices.

State of housing
The government needs to build 100,000 houses a year, nationwide, until 2020 to replace housing units of sub-standard quality (23 per cent of the current stock) and achieve the target of ensuring housing for all. At present trends, this target will not be reached. In particular, low-income housing projects are not a financially viable prospect for developers. A high demand for property in the CMR area and subsequent highly inflated land values put the development of low-income housing out of reach. Innovative financing options and better clarity of the land tenure are needed to encourage additional housing development.

A critical constraint to housing finance is that there is 10 per cent of urban land parcels not held within the formal system. Partly to blame for this is long processing times for registering property (83 days) and high costs. As a result, tenure security in urban areas is low and banks are not encouraged to support the provision of mortgage finance. The lack of banking institutions and limited options for finance prevent many people from investing in housing.

The government is yet to develop an appropriate policy setting out the role of the Government in supporting the low-income housing market. In its role as developer, the State builds new housing estates for the relocation of slums. It also offers serviced plots in suburban and rural areas for individuals. At present, only around 5 per cent of the houses are those provided by the government or employer.There is still significant effort required in order to develop a housing strategy and meet the goals of the Mahinda Chintana.

Sustainable Cities Programme
The GoSL launched the Sustainable Cities Programme in December 1999 under the auspices of UN-HABITAT and UNDP. It adopted a four phased implementation strategy and was called the Sustainable Colombo Core-Area Project. The main focus of the programme was on capacity building, institutional strengthening of the three urban local authorities and building public-private-popular partnerships for improved urban governance.

3.1.3 Solid Waste Management

Key solid waste management target
The goal of the Mahinda Chintana in this sector is to increase overall access to solid waste management and pollution management.

State of solid waste management
The most visible implication of rapid urbanization in Sri Lanka is the increasing generation of solid waste. Colombo is the most affected area in Sri Lanka with respect to the disposal of around 1500 tons of solid waste material per day (Perera, 2003). On average, only 30 per cent of the solid waste generated is currently collected. However, collection efficiency ranges from 9 to 64 per cent and varies considerably across rural and urban local authorities and regions with different economic development. In addition, the collected solid waste is usually not disposed of in an environmentally sound manner due to a lack of sanitary landfills causing severe health and environmental risks. In addition, many drains are full and blocked with garbage, causing health problems. Composting, on-site disposal, and illegal dumping on roadsides, vacant land or river/stream banks, account for various other methods of solid waste disposal.

The quantity of solid waste and severity of the disposal problem has increased with economic development. Approximately 80-85 per cent of municipal domestic solid waste produced in Sri Lanka consists of organic waste, including food and garden waste (Perera, 2003). The organic fraction has a strong impact on the environment and can be hazardous.

The urban poor suffer disproportionately from bad environmental sanitation, particularly informal waste collectors and recyclers, resulting in illness caused by water- and vector-borne disease. Although a costly and complex issue, effective delivery of waste management infrastructure and services is essential to improving the health, environment, and overall quality of life for all urban residents.

Civil society engagement in SWM- Badowita
This community based solid waste management project includes sorting of garbage into biodegradable and non-biodegradable waste and running a recycling center for non-biodegradable waste. The main objective of the project was to promote active community participation in managing the solid waste in the community while promoting micro enterprises around recyclable waste which would help to reduce the volume of mixed waste entering into the municipal waste stream.

Pilisaru is a flagship Project of the Central Environment Authority. Under this Project waste management is to be managed by adhering to the reduction of waste generation by reuse, recycling and resource recovery. This is followed by appropriate treatment and the disposal of residual waste in an environmentally sound manner. Starting in 2008, the main aim of the

Pilisaru Project is to solve the solid waste problem. The government allocated Rs 5.675 billion for this project from two sources- the annual budget allocations from the General Treasury and revenues generated by imposing the 'Green Tax' which was newly introduced at the 2008 Budget.

Population growth, urbanization, and rising income levels are likely to significantly increase the amount of solid waste generated in Sri Lanka over the next 10 years. Moreover, the sector is ill-equipped to efficiently collect and suitably dispose of these growing volumes. If Sri Lanka wants to achieve the standards of an upper middle income country by 2020 large investments are needed in the solid waste management sector. The funding gap is estimated at US $25-182 million per year or 0.04-0.27 per cent of GDP (World Bank, 2011b).

3.1.4 Water Supply

Key water supply target

The goal of the Mahinda Chintana is to provide access to improved water supply facilities with sufficient water supply for all people living in urban areas. An interim goal of 95 per cent access has been set for 2013.

State of water supply

Some 99 per cent of the population in urban areas are already served by improved water resources. As such, Sri Lanka is getting close to achieving the goals of the Mahinda Chintana for improved water and sanitation services. Although 35 per cent of the urban population has access to piped water supply, the overall coverage of piped water is 29 per cent. Even in the CMR, only about 60 per cent of the population is connected to piped water and only 50 per cent has a continuous supply of piped water.

Secondary Towns and Rural Community-Based Water Supply and Sanitation Project

ADB is supporting the Secondary Towns and Rural Community-Based Water Supply and Sanitation Project. The project brings together non-government and community based organisations to provide safe drinking water to almost 1 million people and sanitation to 171,500. In 2010, ADB also approved the Jaffna and Kilinochchi Water Supply and Sanitation Project to provide piped water to 300,000 people and a new sewage system for another 80,000 within Jaffna.

3.1.5 Liquid Waste

Key liquid waste target

The goal of the Mahinda Chintana is to increase overall access to safe, adequate and improved liquid sanitation facilitates to 95per cent of the urban population by 2016.

State of liquid waste

Considerable improvements have been achieved during past 10-15 years with respect to sanitation. In 2009, 92 per cent of the urban population had access to improved sanitation. Despite this only 2.5 per cent of the total population is connected to the public sewerage system. The Colombo Municipal Council is the only local authority in the Sri Lanka with a sewage network. The vast majority of urban residents still relies on septic tanks or have no private sanitation facilities. The demands of increasing urbanisation mean that the existing infrastructure is grossly inadequate and malfunctioning.

Water pollutions is an increasingly important problem. Groundwater pollution through industrial and domestic sewage contamination has made much of the capital city's water supply unfit for drinking (IGES, 2005). Industries have conveniently ignored the treatment of industrial effluents due to weak or virtually non-existent regulatory enforcement. Central wastewater treatment plants in many industrial estates are not functioning effectively and surface water bodies have become polluted and continue to create a threat to public health, aquatic life and the sustainability of the environment. Bolgoda Lake and the Kelani River,

the two major water bodies in the Colombo urban area, are under threat from pollution. This is causing concern because the Kelani is the source of Colombo city's water supply. Most of the pollution is caused by sewage from domestic and commercial sources. Industries are found to contribute less than 5 per cent of total population, but being point source, they are more conspicuous. Therefore, the need for an effective and enforceable industrial pollution management system has been identified as a prime requirement in Sri Lanka.

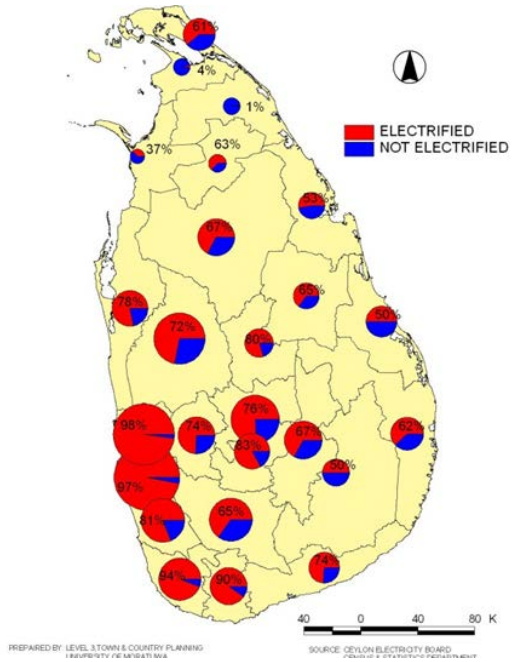
3.1.6 Energy

Key energy target

The key objectives of the energy sector under the Mahinda Chintana are 95 per cent household electrification by 2016. The achievement of this target is to involve the upgrade and extension of the transmission and distribution network, and the diversification of the energy mix.

State of energy

Access to electricity is a fundamental pre-requisite to improving development. Within Sri Lanka 76 per cent of the population have access to electricity. This ratio is higher than that of other South Asian countries. Disparities in access to electrification exist between districts. The table below illustrates the correlation between access to electricity and poverty.



Source: World Bank, 2011b

Table: Poverty Incidence and Electrification Ratio by District in Sri Lanka

District	2006/7 Poverty-Official Poverty Line (%)	2002 Electrified Households (%)
Colombo	5.4	86.9
Gampaha	8.7	83.4
Kalutara	13.0	72.5
Kandy	17.0	71.9
Matale	18.9	49.6
Nuwara Eliya	33.8	53.6
Galle	13.7	74.2
Matara	14.7	71.2
Hambantota	12.7	45.2
Kurunegala	15.4	50.7
Puttalam	13.1	52.7
Anuradhapura	14.9	48.8
Polonnaruwa	12.7	45.7
Badulla	23.7	57.9
Monaragala	33.2	32.2
Ratnapura	26.6	44.6

Hydroelectricity is the main source of energy in Sri Lanka with nearly 45 per cent of the total installed capacity. Hydroelectricity has been constantly developing since the introduction of the national grid itself, but is currently declining due to the exhaustion of its resource. Thermal power sources in Sri Lanka consists of only diesel and other fuel oil sources, with the country planning to produce it first major coal power station. Other power sources consist mainly of biomass, small hydro, the 3 MW government-owned Hambantota Wind Farm, and other NCRE sources such as solar power and mini hydro.

Clean Energy and Access Improvement Project

ADB contribution to the sector between 2002 and 2011 was $442.9 million. Incorporated in this was support for the Clean Energy and Access Improvement Project. This initiative connected 200 megawatts of hydropower to the national grid and fulfilled an urgent need to develop clean energy and renewable energy sources.

Case Examples
In the field of renewable energy promotion, there have been two key projects that have been implemented in Sri Lanka – the Energy Services Delivery (ESD) Project and the Renewable Energy for Rural Economic Development (RERED) project. The RERED project was successful in providing 74,000 solar home systems enabling 3,200 homes and 9 schools to be powered. In addition, there are about 350 villages electrified by village micro hydro schemes and many other houses by pico hydro schemes that tap the waters passing by the side of the homes. Due to extensive private sector involvement, micro credit institutions and support from the provincial Governments, about another 120,000 households are estimated to be electrified by solar home systems.

In order to achieve the energy goals, a total investment of USD3.3-3.4 billion is required for the 2011-2015 period and an additional USD6.1 billion for 2016-2020 (World Bank, 2011b).

3.1.7 Industrial Policy and Estates

Beginning in the late 1970s, free trade zones were promoted in Sri Lanka as essential to economic development. These specially designated manufacturing areas were set up to attract foreign investment to the country with the promise of low or non-existent taxes.

Since the 1989 announcement of the Sri Lanka Industrialization Strategy, the government has been committed to fostering both export and local industries. The government has anticipated that the development of industrial parks would work to promote industrialization, create employment and enable local industries in surrounding regions to prosper. Industrial parks have also been encouraged to use 'green' technology and environmental building standards (see case example below).

Case Example: MAS Fabric Park
MAS Fabric Park operates a three-point philosophy of respect for the site, respect for users, and respect for ecosystems. The factory was intended to be an iconic model for green manufacturing. In doing so, the building is energy efficient. It is powered by carbon-neutral sources, and it uses half the water of comparable factories, even though the grounds are a lush garden. The facility incorporates an anaerobic digestion system for sewage treatment, passive cooling systems. The unit cost of construction is 25 per cent higher than that of conventional factories in Sri Lanka. MAS expect the higher construction cost to be amortized within the first five years, in part because of the energy-efficient operation of the building.

4 DEFINING AN URBAN STRATEGY

Investment in the urban sector has lacked the provision of a guiding vision to coordinate the programming of activities by many donors. In an attempt to remedy this, the Mahinda Chintana has developed an Urban Vision which reflects Sri Lanka's urban development. A specific vision for ADB investment in the urban sector based on existing government and other donor policy is proposed in the section below.

10Year Development Framework 2007-2016- The Government of Sri Lanka have established a 10Year Development Framework which has a three-pronged approach to stimulate economic growth and ensure it trickles down equitably. The Framework focuses on infrastructure development to accelerate growth and narrow regional disparities.

The Governments Urban Vision is to develop a country-wide system of competitive and well-linked cities. Achieving this vision will be facilitated by Sri Lanka's cities' diverse economic assets and by the country's small territorial size. The vision will connect five metro regions- Colombo, North-Central, Southern, Eastern and Northern Metro Regions- and nine metro cities (Colombo, Anuradhapura, Dambulla, Trincomalee, Polonnaruwa, Ampara, Battticaloa, Jaffna and Hambontota). The metro cities are expected to become thriving growth centers endowed with high quality municipal, administrative and social services, and reach target populations ranging from 0.5-2 million people to counterbalance the current migratory trends towards the CMR.

ADB Strategy 2020- The goals and objectives of the government's Development Framework and ADB's Strategy 2020 are very similar. Strategy 2020 will continue to be an Asia and Pacific region free of poverty and its mission to help its developing member countries reduce poverty and improve living conditions and quality of life. ADB can make contributions toward this vision by focusing its support on three distinct but complementary development agendas of the region: inclusive economic growth, environmentally sustainable growth, and regional integration.

Country Partnership Strategy 2012-2016- The CPS 2012–2016 will focus on three pillars: (i) inclusive and sustainable economic growth, (ii) catalyzing private investment and enhancing the effectiveness of public investment, and (iii) human resource and knowledge development. The crosscutting themes of the strategy are also in line with the government's priorities and include the environment and climate change, gender, governance, and regional cooperation.

The National Policy on Local Government- ADB's assistance through in the urban sector is aligned with the National Policy on Local Government 2009, which aims to strengthen local governance and build their capacities. The aspiration for local units of human habitat as outlined in this policy is for these areas to emerge as micro-centres of growth on modern lines. The proposed ADB urban vision builds on this aspiration.

WB Urban Policy- The World Bank have devised a four pillars approach for turning the urban vision of the Mahinda Chintana into a policy for investment. The four pillars are:

1. Better and more strategic planning- necessary at both regional and city level;
2. New tools for performance-based city management and finance;
3. Improved city liveability through land and housing development- promotes private sector investments and can be expanded to include municipal own-source revenue generation;
4. Improved regional and city infrastructure- priority for catalytic infrastructure investments

ADB Urban Vision- ADB's current strategy in the urban sector focuses on (i) strengthening local governance by broadening the scope of local government and building its capacity; (ii) exploring investment opportunities to assist sustainable development of small and medium-sized cities/towns, which should help arrest the urban migration pressure and haphazard urban sprawl; and (iii) improving urban facilities to promote tourism development. The strategy will seek to strengthen the capacity of local urban authorities to ensure adequate implementation and management, and local enforcement capacity.

Reflecting this strategy, the CPS 2012-2016 contains significant emphasis on the urban sector. Proposed urban sector outcomes will directly support Pillar I that aims to achieve inclusive and environmentally sustainable economic growth. Urban sector outcomes will further support Pillar II, catalyzing private investment in all projects by providing a range of financing options. Sector outcomes will also support the CPS Pillar III on knowledge development by assisting in building institutional capacity for undertaking policy-oriented analytical work, and governance in the form of greater accountability and participation.

The ADB's urban program of activities for Sri Lanka over the next 10 years will be shaped by a vision aimed at realizing a national network of well-planned, managed and liveable urban settlements underpinned by competitive, inclusive and green-based economies; have strong and well-managed enabling environments and governance systems that provide a catalyst for private investment and enhance the effectiveness of public investment; deliver essential strategic infrastructure and community services efficiently and equitably to all citizens; support the development of human capital, knowledge and participatory engagement processes which lead to continuous improvement and development of urban communities and the well-being of people that live in them.

The Vision is consistent with the vision and principles of the Mahinda Chintana, the ADB's Urban Operations Plan and Country Partnership Strategy 2012-2016. It provides the basis for formulating strategies and integrated programs of urban sector programs that are consisted with the 3E Framework.

5 URBAN PRIORITIES

While Chapter 3 of this report provides the overall sector based needs assessment, it does not provide information about the locations which will be prioritised for investment. This section identifies urban strategic areas/locations for ADB intervention based on a number of government policy documents and with reference to World Bank infrastructure priority locations.

Mahinda Chintana National Growth Centres- The Mahinda Chintana identifies seven major growth centres which will be created to absorb amplifying urban population and to act as magnets for economic growth. The urban hierarchy of the integrated spatial development plan envisages identifying the growth centres of the country.

National Physical Planning Policy and Plan- The Plan has identified areas in which urbanization is expected to concentrate between 2011 and 2031. These areas include six metro regions (Western, Galle, North-Central, Eastern, Hanbantota, Jaffna) and two special purpose cities (Mannar and Mankulalam in the north).

WB Infrastructure Priority Provinces- Provincial priorities for infrastructure development have been identified by the World Bank in a series of policy reports (World Bank, 2010a). The recommendation for infrastructure priority includes (i) the Western Province; (ii) the Southern Province; (iii) the Northern and the Eastern Province; and (iv) the Uva province.

Based upon this assessment, five **urban priorities** have been identified for ADB investment.

Mahinda Chintana National Growth Centers	**National Physical Policy & Plan Priorities**	**Province**	**Priority Province Infrastructure WB**	**ADB Urban Priorities**
Colombo- Sri Jayewardenepura	Western	Western	Western	Colombo
Anuradhapura	North-Central	North-Central		
Greater Dambulla				
Greater Trincomalee	Eastern	Eastern	Eastern	Trincomalee
Batticaloa			Eastern	
	Galle	Southern	Southern	Galle
Kurunegala		North-West		
		Uva	Uva	
		Sabaragamuwa		
Jaffna	Jaffna	Northern	Northern	Jaffna
	Mannar			Mannar
	Mankulalam			

5.1 Urban Priority Strategic Profile

Each of the ADB urban priorities is unique in its own urban profile and key sectors. A comparative summary of each location by district is described below. Detailed 3E assessments for Trincomalee, Galle and Mannar are included as Annexes to this report.

Indicator	**Colombo**	**Trincomalee**	**Galle**	**Jaffna**	**Mannar**
Total District Population ('000)	2,553	374	1,084	611	104
District Land Area (km^2)	699	2,727	1,652	1,025	1,996
District population density (per km^2)	3,777	148	670	658	55
District Unemployment rate (%)	4.4	8.0	8.3	NA	NA

Source: Central Bank, 2011
All figures are in current to 2010 unless indicated otherwise.

Colombo (Sri Jayawardhanepura Kotte)
The Government of Sri Lank is in the process of implementing the shifting of public sector administrative institutions to Sri Jayawardhanepura Kotte (SJK). The aim of this project is to make the city of Colombo a vibrant commercial and service centre. The Government has embarked on large infrastructure development programs facilitating the establishment of administrative functions in SJK through domestic capital markets. In addition, a light rail transit system to ease the growing traffic resulted from the increased floating population is one of the key projects to be implemented through private-public partnership.

Jaffna
The city of Jaffna was founded as a trading town and has historically relied heavily on its port as a source of revenue. It is directly connected by railways and the roads system, both of which were disrupted during the civil war. The Uturu Mituru program plans to restore the railway line to Jaffna with assistance from the Indian government. The potential for dense economic activity in Jaffna will require sound urban transport planning. In particular, Jaffna has the potential to develop its agricultural, fishing and tourism sectors.

Mannar
Mannar is a coastal town located 312 kilometers from Colombo on the Madawachchi-Talaimannar (A14) road. Mannar forms an island surrounded by the Indian Ocean. Mannar has been particularly affected by the violent conflicts within Sri Lanka. The economy of Mannar is predominately focussed on the primary industries of agriculture and fishing. More recently the importance of Mannar as a point of access to India has been realised and projects are planned to provide greater access to markets in India. Mannar is also the most strategic urban center to the development of the Mannar Gulf oil reserve.

Trincomalee
Trincomalee is a port city located in the Eastern Province of Sri Lanka. Trincomalee harbour is the second best natural harbour in the world and the available water and land area is about 10 times as much as the Port of Colombo. The proposed industrial and tourism zone, coal power plan, port related development and coastal road network in Trincomalee contribute to a rapid urban expansion in the region.

Galle
Galle is the capital city of the Southern Region and a central location of international and local transportation routes. Galle was affected by the 2004 Asian tsunami and a significant portion of city infrastructure was damaged. Investment for reconstruction has encouraged good economic growth in the city, particularly from the manufacturing sector (cement, textile, apparel, coir, timber, handlooms, coconut and cinnamon oil industries) and tourism sector (culture based tourism, ecotourism and coastal tourism).

The following table provides an assessment of each location based on the 3E framework.

3E Assessment of Urban Regional Strategic Intervention Locations

Base	Sector Analysis	Colombo	Jaffna	Mannar	Trincomalee	Galle
Economic	Priorities for economic infrastructure investment	- Multi-modal transport - electrification of railways - Mass Rapid Transport systems	- inter-city transport linkages - tourism facilities - access to markets - security of land tenure	- oil exploration - Matugama Industrial Estate - cashew development - increased shipping traffic	- Port City development - construction of salturn - tourism facilities - coal fired power plant	- express rail line - road improvement - expansion of Galle Habour - Reconstruction of basic infrastructure affected by the 2008 Asian tsunami
	Constraints to growing the urban economy	- maintenance of infrastructure - limited IT infrastructure	- Basic infrastructure - State and public lands - Good governance	- Access to fast growing markets - Basic infrastructure - Skilled human resources	- Old port facilities - water and fuel supply	- Old municipal tax system - City land management of
	Main industries	- transportation, communication - education - Manufacturing	- Agriculture - Fisheries	- Administrative - Agriculture	- Administrative - Tourism	- Administrative - Heritage - Tourism
Equity	Main social development challenges	- low cost housing - access to water supply	- Displaced persons - Welfare dependency - Skill development	- Displaced persons - Skill development - Employment - De-mining	- inter-city transport links	-
Environmental	Main environmental problems	- solid waste disposal - air pollution	- vulnerability to flooding - Salt water fishing	- Accessibility of water	- vulnerability to flooding - Loss of fish species	- vulnerability to flooding - Response to the 2008 Asian tsunami (incl. damage to lagoons, estuaries)
	Priorities for environmental infrastructure/climate change infrastructure	-Greater Colombo Wastewater	- Fresh water fish culture - Improving community-based water supply and sanitation - building climate change resilience of road infrastructure	- wind power substation - mega water scheme - Gulf of Mannar environment and biodiversity conservation - IUCN demarcation of Ramsar Site to protect migrant birds	- construction of a liquid natural gas terminal to handle the LNG carriers - Cod Bay Fisheries Harbour project. - Jungle Beach hotel	- Sustainable Power Sector Support - Divi Neguma development project promoting small enterprise in a variety of environmental activities - Classification of Galle Fort as a World Heritage Site.

Source: Author's analysis

6 POLICY & PROGRAMMING

The problems associated with the management and development of the urban sector in Sri Lanka are significant. Meeting these challenges will require government to adopt and support multiple strategies, new initiatives and innovative funding solutions to address these problems. The ADB is an important international development assistance agency in supporting the improvements and development of the urban sector. Nevertheless, the ADB has limited funds to commit to its activities in Sri Lanka. It is important that the ADB's future program of investments in the urban sector is coordinated with other development agencies to avoid overlap and duplication.

This rapid assessment of the urban sector has identified some priority areas that the ADB could possibly target in line with the Country Partnership Strategy 2012-2016. CPS priority areas for development in the urban sector are detailed below under each of the three pillars.

ADB Pillars (CPS 2012-2016)	Suggested National Level Projects
I: Inclusive and sustainable economic growth	- National Urban Sector Policy - Integrated Development Planning for Focal Urban Areas - Economic Infrastructure Development Program - National Green Cities Program - Cluster Development Program - Climate Change Adaptation and Management Program
II: Catalyzing private sector investment and the effectiveness of public sector investment	- Urban Institutional Development Program - Urban Public Private Finance Improvement Project - Urban Financial Programming
III: Human resources and knowledge management	- Urban Management Capacity Development Program

6.1 Inclusive and Sustainable Economic Growth

6.1.1 National Urban Sector Policy

Many of the challenges being experienced in Sri Lanka's urban sector are happening against the absence of a policy to guide urban development. This general lack of a broad urban development policy presents a serious challenge to achieving sustainable urban development in the country. Its absence has resulted in spontaneous growth, weak links between rural and urban development, uncoordinated initiatives, and weak regulatory capacity and frameworks at all levels.

Building on the achievements of the National Physical Planning Policy and Plan, it is recommended that a well-thought and articulated urban development policy should be formulated. The implementation of such policy is critical if the challenges faced in urban areas are to be addressed and effectively used to drive the growth of Sri Lanka into the future.

6.1.2 Integrated Development Planning for Focal Urban Areas

The National Physical Planning Policy and Plan enables physical planning agencies to mobilize their resources effectively and facilitate capacity building in local authorities as the local authorities themselves are to be finally in-charge of maintaining urban services. In this context, expediting the preparation of city development plans through integrated participatory planning approaches with wider stakeholder consultation is a major task. The declaration of development plans for rapidly developing areas will curtail the disorganized urban infrastructure development, which leads to major environmental and socio-cultural problems.

The ADB are encouraged to continue to advocate the establishment of integrated urban development plans for the provision of physical urban infrastructure. Integration of such systems should act as a catalyst to economic activity and ensure that growth is not impeded by infrastructure bottlenecks. These development plans should incorporate economic, inclusive, and green development components for all integrated urban sector development projects. They will provide a basis for targeting strategic investments in urban infrastructure, urban management and governance, capacity building, environmental services and pro-poor development projects.

6.1.3 Economic Infrastructure Development Program

The government's development policy framework identifies that substantial infrastructure investments are required in transport, energy, water supply and sanitation, and urban development to promote equitable and economic growth. In the transport sector, assistance from the ADB for the period 2012-2014 will focus on key arterial national road links, and improve provincial and rural roads, especially in the lagging areas (ADB, 2011b). The ADB will also assist in pursuing a more environmentally sustainable integrated strategy by developing viable multimodal transport systems.

ADB interventions in water supply and sanitation will focus on improving access to drinking water and sanitation, reducing water pollution, and building resilience to climate change impacts. In line with this, one project is included in the pipeline for water supply service improvement and one project in the area of industrial sewerage. Two energy projects are also included in the 3-year pipeline, with a focus on clean energy.

6.1.4 National Green Cities Program

Developing green growth strategies at the city scale is not an easy task. Solutions for green housing, clean production technologies, urban and industrial waste recovery initiatives are being challenged by integration and co-ordination of local and national initiatives. Equity concerns must also be addressed to ensure that green growth policies do not generate or exacerbate social inequalities and, in some cases, may yield a more equitable distribution of environmental and economic benefits.

In the face of such challenge, the Organisation for Economic Co-operation and Development (OECD) has launched a programme on Green Cities to assess how urban green growth and sustainability policies can contribute to improving the economic performance and environmental quality of metropolitan areas. The results of this improvement will be the enhanced contribution of urban areas to national growth, quality of life and competitiveness. The National Green Cities Programme should provide recommendations on policies and institutional reforms to address these challenges in each case study city and also identify best practices across cities. The ADB is encouraged to support the implementation of outcomes from this program in Sri Lanka.

6.1.5 Cluster Development Program

The clustering of land use and other economic activities in cities is a response to both supply- and demand-side factors. On the supply side, governments introduce policies, provide specialized infrastructure, and offer financial incentives to companies that locate in a city or region. This approach to economic development has succeeded in the past. On the demand side, specialized skills, technologies, networks, and markets catalyse investment and development by giving a competitive advantage to businesses. It is concerned not with trying to establish or identify markets, but with responding to market demands as these arise.

Facilitating cluster development is a relatively new concept in most Asian countries. A recent ADB publication encourages clusters to be established and developed in two ways (ADB, 2011). The first approach is to build on existing or established core competencies and other

factors of competitive advantage in established local companies and industries. These clusters tend to evolve from historic industries, and as a city's or city region's population grows the cluster creates new opportunities for the development and expansion of local businesses and supply chains, thereby creating a critical mass of companies that feed off one another. The expanding cluster leads to the creation of centers of innovation and networks that are recognized by new business entrants for their excellence, creativity, and attractiveness.

The second approach involves developing new clusters from scratch, usually in industrial parks. The ability to catalyze the expansion and integration of supply chains is critical to the development of greenfield clusters. As these clusters expand, opportunities for import substitution arise, and the expanded network of local competitive suppliers and distributors forms the nucleus of companies in the cluster and provides the means for cluster growth.

6.1.6 Climate Change Adaptation and Management Program

Cities can adapt to the impacts of climate change through effective urban management, however both adaptation and mitigation strategies require new and improved infrastructure and basic services. This challenge provides cities in Sri Lanka with unique opportunities to redress existing deficiencies in housing, urban infrastructure and services. This also provides new opportunities to create jobs, stimulate the urban economy, and to contribute to climate change adaptation.

Climate change mitigation can encourage green-based economic opportunity. Examples of opportunities for 'green' investment include clean, low-carbon infrastructure investments, retrofitting of buildings, and the renewal of our transport systems. Specific measures to reduce urban emissions include construction of urban wastewater methane gas capture projects, energy efficiency audits of municipal buildings, and development of mass transport systems to reduce the use of single occupancy vehicles.

Financial assistance for climate change adaptation is being provided through the Global Environment Facility under the United Nations Framework Convention on Climate Change. In addition, development assistance from bilateral and multilateral aid agencies has targeted this challenge. International funding is acting as a catalyst for raising awareness, building capacity, advancing understanding of risks and response options, and engaging developing country governments in prioritizing and assessing options

6.2 Catalyzing Private Sector Investment and the Effectiveness of Public Sector Investment

6.2.1 Urban Institutional Development Program

The ADB have recently approved the Local Government Enhancement Sector Project. Under the project, about 100 local authorities selected in seven provinces (excluding the Northern and Eastern provinces), whose reform plans are reviewed and confirmed by the government, will implement subprojects for roads and bridges, water supply and sanitation, drainage, solid waste management, and other basic facilities, including building or enhancing health-care centers and public markets. The project will support the institutional strengthening of the local authorities for improved and sustainable service delivery through business process reengineering and the development of their information technology systems.

The strengthening of municipal authorities and simplification of the regulatory framework for the provision of urban sector services needs to go further than provided in this project. It is proposed that an Urban Institutional Development Program with objectives to improve service delivery in the urban local governments, particularly those linked to the lagging

regions, be introduced concurrent to the above project. Similar programs have been conducted in other countries with the following objectives:

- improving management municipal governance through: (i) enhanced civic participation in key municipal decisions and monitoring/supervision of their implementation; (ii) adoption of extensive public information disclosure policies; and (iii) reform of procurement and financial management practices;
- strengthening of municipal institutional capacity to formulate long-term urban development strategies and plans, including local economic development and urban poverty reduction strategies; staff;
- building municipal institutional capacity and professionalizing municipal managers
- enhancing fiscal capacity by rationalizing expenditures and increasing revenues;
- financing priority urban investments that support improvement of urban services.

6.2.2 Urban Public Private Finance Improvement Program

Given the capacity constraints of urban local authorities, and the potential for efficiency gains and improvements in service delivery, ADB should advocate greater private sector participation in the provision of some urban services. In order to accelerate these activities in Sri Lanka, an Urban Public Private Finance Improvement Program could be considered. The program would provide for improvement in capacity of local authorities in urban finance management and resource mobilization to provide and sustain urban infrastructure and services.

An Urban Public Private Finance Improvement Program could provide the ADB the appropriate vehicle in which to advocate for: (i) the development of regulatory arrangements for PPP cooperation; (ii) equitable level of financing for the urban sector, as sub-central governments become more self-reliant; (iii) increased cost recovery for urban service provision; (iv) increased indirect cost recovery, mostly through taxes; (v) the use of urban environmental infrastructure funds to finance sanitation services and contribute to capital costs of services expansion; and (vi) clarification of property rights so as to stimulate the mortgage market.

6.2.3 Urban Financial Programming

During 2012-2014 the ADB will assist in implementing capital market reforms to promote the development of equity and debt markets and induce higher savings and investment. The Country Operations Business Plan 2012-2014 highlights a variety of policies which are available to support the mobilization of financial resources and to finance and maintain urban infrastructure and services (ADB, 2011). These and other innovative options are described below.

- **Promotion of fiscal autonomy-** The central government should allow local governments to retain locally collected revenue and to seek funding from a wide range of sources, including the private sector. Increased fiscal autonomy should be accompanied by regulatory mechanisms appropriate to protect the interests of stakeholders.
- **Computerization and automation-** Increased autonomy should also encourage computer-based accounting, cost control, billing and collection procedures; contracting out of services such as infrastructure maintenance; and development of management information systems and strategic financial planning.
- **Market-based and economic pricing of services-** Pricing policy will become more urgent given the pressures on government resources and the increased role of the private sector. While full cost recovery is the long-term objective, in the short term efficiency, cost reduction, and revenue collection should be improved. Some element of

cross-subsidy will frequently be justified as a last resort to maintain access to services for the urban poor.

- **Direct cost recovery-** Direct cost recovery through user charges will usually be more effective than indirect cost recovery through property taxes and similar levies. However, indirect taxes will remain important elements in the local government revenue base. Property taxes in particular can be better structured to capture the economic benefits of land.
- **User charges and service fees-** The adoption of market-based principles for pricing urban infrastructure and services will help estimate the incremental demand for resources more accurately. Fees should also take account of maintenance costs; for example, by adding a surcharge to water bills to help fund the cleaning and repair of drainage systems.
- **Land-related financial instruments-** LAs need to examine different methods of capturing some of the unearned gains in land values, which result from new or upgraded road construction and other assets built at public cost. Market based property valuation is likely to improve the revenue yield of property tax, and to give a better ratio of administrative cost to collections.
- **New sources of funds-** New funding sources including private capital are needed for local authorities to meet the costs of infrastructure investments. However, many city economies will take time to expand to a level where they can afford to employ private capital. In the meantime, they will need to continue to rely on transfers from central governments to supplement locally raised revenues. In turn, decisions will be needed on which taxes and charges should be controlled by local governments. Other methods that can be used to supplement local revenues include municipal development funds and other financial intermediaries, community mortgage programs, loans for housing finance through local community based organisations, and the funding of new infrastructure through associated property development, as in Hong Kong, China and the Philippines.
- **Capital markets and credit finance-** Cities need assistance to achieve long-term access to capital markets and/or direct private investment in infrastructure. Issues include removing constraints such as the lack of credit ratings for local governments, addressing the lack of long-term debt instruments such as municipal bonds, and assisting central governments to cope with the required expansion of credit and understand the lending options for urban infrastructure projects. The many examples of private concession contracts in relation to regulatory entities need to be available to people involved in city finance.
- **Tax Mapping-** Tax mapping is a useful method for the comprehensive and homogeneous field based valuation of all taxable land parcels. It serves as a basis for a uniform taxation of real properties, alleviating the problem of self-declaration of tax by property owners.

6.3 Human Resources and Knowledge Management

6.3.1 Urban Management Capacity Development Program

A national level programme on Institutionalization of Good Urban Governance Practices is an essential plan of action for implementation of urban development improvement. Institutionalization of best practices will ensure effective service delivery to the urban populations and contribute to eradicate urban poverty.

Examples of the ADB's increasing support for capacity building are the recently approved loans for the urban sector in India, Indonesia, and Sri Lanka and for TAs for governance in Dhaka and Bangalore, India. Across the region, some of the priority areas to be addressed include training in management skills, especially in response to the increasing use of demand-led provision of services; development of expertise in performance monitoring;

financing of investments; evaluation of development proposals; coordination of spatial planning and sector investments; and an increasing use of community resources.

Building appropriate institutional structures for urban management is an incremental process. Primary focus of urban management in Sri Lanka must be on public sector finance, infrastructure delivery, land planning, development and management, environmental services management, asset management and valuation and housing delivery. As such, the capacity building of the urban local authorities has to be carried out in a phased manner and should include short term and long-term strategies.

Short term: the short-term focus of capacity building activities should be on consolidating existing on training materials, identifying individual trainers and institutions, conducting TOTs in the specific urban sectors already identified and conducting training programmes.

Long term: the long-term capacity should be addressed through Academic and Professional Institutions which should be encouraged and supported in introducing courses aimed at improving urban management.

7 TARGETED INVESTMENT PROGRAM (3E)

7.1 Urban Projects Formulated Based on 3E Assessment

Sri Lankan cities are expected to contribute to more than 70 per cent of GDP and account for the majority of investment and jobs created in the next 10 years (GoSL, 2010a). The acceleration of urban growth will require careful planning and management if the problems of urbanization currently being experienced in the country are not to become more severe. Better strategic and development planning is needed to ensure that regional cities and economies become more dynamic and integrated in contributing to the development of the national economy. The primary drivers for developing the nation's cities are involvement of relevant stakeholders; development of strategic economic infrastructure; development of appropriate institutional bodies for implementation of activities; and capacity building of sectors and government agencies related to urban development at both the national local levels.

The 3E framework provides the platform for the ADB to leverage the drivers for developing cities and applies these to highlighted urban priorities. Sri Lankan cities must become more competitive, inclusive and environmentally responsive if they are to become more economically dynamic and liveable places. Incorporating the current sectors of focus in the Country Partnership Strategy- transport, energy, water supply and municipal services, and public sector management- the following outlines an agenda for the appropriate investment of ADB funding into its urban priority locations.

ADB Sector Focus (CPS)	Green Cities Projects	Competitive Cities Projects	Inclusive Cities Projects
Transport	- Increasing densities and growth among corridors - Promoting urban and ecological tourism	- Reducing infrastructure bottlenecks	- Addressing housing affordability
Energy	- Addressing climate change - Mitigating GHG emissions		- Investing in electricity
Water Supply & Municipal Services	- Water recycling and waste recovery	- Local revenue generating activities - Supporting infrastructure -led development	- Investing in water and sanitation
Public Sector Management	- Investing in clean production technology - Promoting urban and ecological tourism - Planning energy efficient building construction	-Strengthening property rights - Promoting private-public partnerships - Regional planning and coordination - Innovative financing alternatives - Collecting property valuation and taxation revenue	- Addressing project partnerships - Reforming local government institutional - Encouraging microfinance - Climate change and adaptation - Asset management and community-based budgeting

7.2 Green Cities

7.2.1 Increasing Densities and Growth along Corridors

The south-western region is the primary engine powering the growth of Sri Lanka's economy, and it is important that the wealth and taxes this region generates be used to support the development of the nation. Migration to the Western district, and the increase in income and better living standards that results from this, will remain an important source of lowering disparities across the country. However, the current pattern of urban development in the south-west and other regions is not sustainable, with urban densities falling and urban development sprawling in all directions - especially in Metropolitan Colombo.

The environmental consequences of sprawling cities are significant, especially on the consumption of primary land needed for agriculture production, pollution of water catchments, and higher energy and utilities services costs. There is a need for Sri Lankan cities to draw on the experiences of Malaysia in seeking to concentrate the density of economic activities and residential development to reduce externality and transaction costs. The concentration of employment and higher density residential development along key urban corridors will lead to agglomerations of skills, which is attractive to boosting the investment climate in urban manufacturing that will create demand for high productivity and high wage jobs. To take advantage of the better income opportunities, an additional program to improve workers skills will be necessary. Malaysia's experience shows that this is a productive mechanism to promote domestic economic opportunities.

Malaysia's New Economic Policies- A Benchmark for Sri Lanka?
Malaysia and Sri Lanka share many similarities and at different points in time similar development challenges. Drawing on Malaysia's experience, the analysis of Sri Lanka's disparities and some strategic directions are offered below:

- Continue to increase density of economic activity
- Shorten the distance between areas of dense and sparse economic activity
- Reduce divisions that segment the market and prevent country-wide integration into the global market

7.2.2 Addressing Climate Change

The National Climate Change Adaptation Strategy (NCCAS) 2011-2016 supports Sri Lanka's National Development Strategy and is aimed at ensuring its success and sustainability. There are five strategic thrusts identified in the Strategy:

1. Mainstream climate change adaptation into national planning and development actions- includes cross cutting policy measures, capacity building, safeguards, monitoring programs, coordination mechanisms, etc.
2. Enable climate resilient and healthy human settlements- includes housing, urban development and planning, public health, drainage, drinking water, urban wetlands, waste management, pollution control, etc.
3. Minimize climate change impacts on food security- includes agriculture, fisheries, irrigation, nutrition, etc.
4. Improve climate resilience of key economic drivers- includes tourism, transport, power, commercial agriculture, etc.
5. Safeguard natural resources and biodiversity from climate change Impacts- includes water resources management, biodiversity conservation, etc.

Under each of the strategic thrusts, key thematic areas for action along with priority adaptation measures have been identified. An estimated 47.7 billion rupees in incremental additional financing, beyond current and ongoing expenditure, will be required to implement

the NCCAS over its six year duration. A pipeline of projects related to each strategic thrust has also been developed as an integral part of the NCCAS development process, to expedite investment. The rollout of these projects into some of the urban priorities should be strongly supported by the ADB.

7.2.3 Mitigating GHG Emissions

The coastal pattern of settlement and infrastructure development within Sri Lanka exposes many urban settlements to the potential hazard and effects of severe climate change. Given Sri Lanka's strategy for growth, the country cannot afford to implement large-scale investments without carefully considering the potential threats posed by climate change. As in many other island nations, climate proofing and GHG mitigation measures must become core components of major spatial planning initiatives. ADB projects to encourage such measures should become a feature of development within the urban priorities listed.

In addition to the option for Sri Lanka being a carbon sink, Sri Lanka's main GHG mitigation efforts need to be concentrated primarily on industry and energy.

- **Industry** – Change in industrial policies to encourage "soft industries" which are more environmentally friendly; enhancing productivity; pollution control through both monitoring and waste management; energy efficiency; emission control.
- **Energy** – Fuel switching with more fuels which emit less GHG to the environment; using efficient new technology which reduces power and enhances efficiency; energy conservation measures through florescent light bulbs and less wastage; investing in alternative renewable energy sources such as solar, wind and biomass.

7.2.4 Water Recycling and Waste Recovery

Within the CMR less than 25 per cent of wastewater is treated (World Bank, 2011b). Outside of Colombo, many local authorities are not of adequate size to support efficient waste processing facilities and water and sanitation services. Local authorities therefore need to coordinate investment for a single water treatment plant which can service multiple areas. Despite indication that Sri Lanka will meet the MDG targets for water supply and waste management, the government is concerned over the condition of services, especially in Colombo.

Assisting the government in this sector, the ADB are supporting the Greater Colombo Wastewater Management Project. The investment project covers rehabilitation to existing systems, repairs to the sewer outfalls, upsizing of under capacity sewers, and upsizing of under capacity pumping stations. The project will directly benefit about 645,000 residents in Greater Colombo, focussing specifically on low-income groups and poor. The Project will also have significant net positive environmental impacts, including better marine and inland water quality and consequently improved public hygiene and sanitary conditions. The ADB should look to implement similar projects in other urban priorities.

7.2.5 Planning Energy Efficient Building Construction

Urbanization can be viewed as one of the most serious 'problems' causing climate change in that in general, the more urbanized a nation, the higher the greenhouse gas emissions per person. The International Panel on Climate Change estimates that residential and commercial buildings emit an equivalent to 8 per cent of GHG emission— per year globally. Commercial and residential buildings are directly (e.g. such as on-site fuel combustion) and indirectly (electricity consumption through lighting, heat etc.) responsible for GHG emission. Emission is also associated with the materials used to construct them. Depending on the manner they are constructed and the behaviours of their occupants, emission levels vary.

Experience has shown that a mixture of incentives and regulation are effective measures to encourage developers in energy efficient building construction. Local authorities can

stimulate green building with a range of incentives including investment assistance, rate reductions for certified buildings, and sustainable development grants. In India, Development Authority Regulations give a fee concession proportionate to the floor area of all certified green buildings. Regulations through planning protocols must be used carefully to be effective.

The Green Building Council of Sri Lanka was established in 2009. The mission of the Council is to develop the sustainability of the built environment by transforming the way it is planned, designed, constructed, maintained and operated and drive the adoption of green building practices through market-based solutions. The ADB could also help to forge a new partnership between government, industry and other stakeholders on this issue. The ADB could look to assist the Council in developing the regulatory mechanisms to better manage and encourage the construction of energy efficient buildings.

7.2.6 Investing in Clean Production Technologies

Clean production technologies have the potential to be a key driver for improved business and environmental efficiency in developing countries. The recovery and conversion of waste and emissions into useful materials and by products has a direct relevance to the green economy and to the application of industry ecology. Apart from generating renewable and recoverable resources, such approach helps mitigate the negative environmental impacts due to water and soil pollution. The energy from waste can be used as raw material to enhance other business activities (see below for example).

The **Rathkerewwa Desiccated Coconut Industry** saved in excess of USD 200,000 for an investment in clean production technology of less than USD 5,000. RECP enabled the company to simultaneously decrease waste quantities and reduce the amount of greenhouse gas emissions to almost zero through the utilization of waste for energy (UNEP).

The National Cleaner Production Centre (NCPC) was established in 2002, under the Ministry of Industry and Commerce, to assist industries to operate more efficiently with minimum harm to the environment. Cleaner Production is the tool promoted by NCPC to assist industries to achieve this goal. The Sri Lankan division of the NCPC works closely with United Nations Industrial Development Organisation and United Nations Environmental Program to promote the adaptation and adoption of Resource Efficient and Cleaner Production methods, technologies and systems by enterprises and other organizations in the country. Future ADB investments in green production technology should look to support the initiatives raised by the Centre.

7.2.7 Promoting Urban and Ecological Tourism

Travel and tourism contributed approximately 7.5 per cent GDP and over 500,000 jobs to the Sri Lankan economy in 2009 (Ranawinghe and Deyshappriya, 2010). Sri Lanka's rich biodiversity offers ample potential to support the government's current tourism related policy aimed at maximising potential for nature-based tourism and cultural tourism. This policy has the capacity to provide employment opportunities to rural youth and motivate communities to protect the natural environment that provides their livelihood.

At present, local governments in Sri Lanka exert minimal effort to promote tourism. Ecotourism has received the attention of authorities recently, but the potential of Sri Lanka's cultural heritage and scenic beauty has largely remained untapped. Municipalities have few public parks, and facilities for entertainment and travel are inadequate. Promoting urban tourism will not only generate additional income and employment but also satisfy the growing demand for domestic tourism. The ADB should support action to develop adequate infrastructure to encourage the growth in visitors. Access roads, sewerage disposal facilities,

drinking water supplies, electricity and transport should be planned to match areas of tourism development

7.3 Competitive Cities

7.3.1 Reducing Infrastructure Bottlenecks

During the last two decades emphasis was placed on the rehabilitation of existing roads and construction of new rural roads to reduce infrastructure bottlenecks. In addition to the issue of road maintenance, the limited capacity of trunk roads currently poses major challenges to the fast growing traffic. Traffic levels now exceed the design capacity of many roads and new construction has not kept abreast of the rapid growth in demand for transport. Uncontrolled roadside development has reduced the capacity of the road network. The scope for widening roads on existing alignments is limited mainly because of land acquisition issues. Increasing traffic volumes and a traffic mix consisting of motorized and non-motorized traffic have resulted in low travel speeds, severe traffic congestions, and increased accident rates. In addition to the need for improving and rehabilitating deteriorated roads, there is an urgent need to embark on a program for the construction of new intercity highways.

The ADB has a successful history of investment in infrastructure bottlenecks. The recently completed Southern Transport Expressway from Kottawa to Galle has transformed the 4-5 hour journey between Matara and Colombo to only 2 hours. This improvement will help boost tourism, industrial development and agricultural incomes in the south. The ADB should focus future investment on reducing infrastructure bottlenecks around the urban priority locations.

7.3.2 Local Revenue Generation Activities

The increasing devolution of responsibility from central government to provincial government provides the opportunity for urban authorities to be more responsible for a greater number of urban services. New revenue generating projects could assist to offset the financial problems of local governments. This approach will place greater emphasis on individual regions to increase their own GDP while enhancing their capacity to contribute to the national economy. As a starting point, local authorities in ADB urban priority locations can look to undertake the following fee generating projects.

- **Collecting Garbage**- Local authorities currently collect garbage for free. A mechanism to collect garbage and charge a fee from households and commercial enterprises is recommended. Strict enforcement of such regulation would be necessary to compel people to pay to keep the environment clean and thus reduce public health service costs.
- **Installing Parking Meters**- Introduction of parking meters will enable municipal councils to generate revenue and control traffic, particularly along busy urban thoroughfares.
- **Building Car-Parking Facilities**- Lack of car parking is a serious problem in major cities, resulting in heavy traffic and congestion. Major municipal councils may build fee-collecting multi-story car-parking facilities in joint venture with the private sector.
- **Establishing Day Care Centers**- Local authorities currently provide a limited number of day care and child minding facilities in urban areas. However, rising demand from the growing number of working parents and increasing urbanization is placing strain on the system and resulting in lost productivity and efficiency. Local authorities should look to a program of establishing day-care centers of appropriately high quality and standards.

7.3.3 Supporting Infrastructure-led Development

The civil war and various natural disasters have left a major backlog of infrastructure investment needed to rebuild the nation and foster its development. The 2011 national budget announced the largest program of infrastructure development in the history of the

country. The government's investment plan (2010-2015) envisages annual investment of 5.7 per cent of GDP in the infrastructure sectors. This is an ambitious target; particularly as between 2001 and 2010 annual public investment in economic services has averaged only 3.2 per cent of GDP.

A 2005 ADB study focussed on infrastructure development in South Asia suggests that in order to achieve 7.5 per cent GDP growth for countries in the region, investments in infrastructure equivalent to about 5 per cent of GDP are required (Chatterton and Puerto, 2005). In addition, a further 2 per cent of GDP would be required for capital replacement and maintenance. The ADB should look to assist in bridging this gap, particularly in the transport and energy sectors, where about two thirds of these expenditure requirements are associated (see table below). This translates to an annual contribution for new investment and capital repair and maintenance of $3.8 billion (World Bank, 2011b). Urban priority locations should be targeted for initial investment.

Table: Infrastructure Investment needs to meet 7.5% Growth

	Electricity Generation Capacity	Tele-communications	Paved Roads	Rail Routes	Improved Water	Improved Sanitation	Total
New Investment	1.80%	0.70%	2.00%	0.10%	0.30%	0.40%	5.40%
Capital Replacement	0.70%	0.40%	0.50%	0.10%	0.30%	0.30%	2.20%
Total	2.50%	1.10%	2.50%	0.20%	0.60%	0.70%	7.60%
New Investment	$900	$350	$1,000	$50	$150	$200	$2,700
Capital Replacement	$350	$200	$250	$50	$150	$150	$1,100
Total	$1,250	$550	$1,250	$100	$300	$350	$3,800

Source: World Bank, 2011b

7.3.4 Strengthening Property Rights

The World Bank Doing Business Report highlights the time consuming and costly process involved in property registration in Sri Lanka. Further, there is not a clear linkage between the information in the register and the actual situation on the ground. There is also tension between the agencies responsible for managing and maintaining land data for state and private land. This has contributed to a large number of land disputes, which often take years to resolve in the courts. The issue of planning and land management was investigated as part of the commission of enquiry into local government reforms, with a number of recommendations made to improve the system (GoSL, 1999). The clarification and strengthening of property rights, particularly in priority urban areas, is a precondition to many other infrastructure development projects.

With a high proportion of the population living in squatter and informal settlements, disputes over ownership, resettlement, compensation are becoming more difficult to resolve, because of poor land records management of ownership, land encumbrances and taxation. A future strategy suggested for improving housing under the Mahinda Chintana is the issuance of title deeds to the tenants of all government owned housing schemes. After transferring the ownership to the occupants, the maintenance responsibility will be given to the respective local authorities while the Government plays the role of regulator instead of role of the landlord. In order to effectively provide local governments with increased revenue through taxes, significant reforms are needed in the management and collection of revenue.

7.3.5 Promoting Private-Public Partnerships

Private sector participation in local government activities will improve the efficiency of services and help reduce the burden on the local government budget. In 2006, the

government identified a PPP contribution to sector initiatives in the order of Rs. 56 million for projects ongoing until 2011.

Major infrastructure projects can be undertaken with the private sector as joint ventures or on build-own-operate (BOO), build-operate-transfer (BOT), or build-own-lease-transfer (BOLT) bases. These arrangements can reduce the fiscal burden on the local government as the private contractor builds, finances, and operates a project, and collects the revenues for a given period.

BOT projects are highlighted as particularly useful strategies for government investment. In BOT projects, the government not only gets to transfer the responsibility of financing and providing infrastructure services to the private sector, but also have the benefit of inheriting a fully operational project which the governments are incapable of financing and operating with own finances and technology. Where BOT projects are concerned, they also enable the government to privatize in the short-term while retaining future control. Another important fact is that, where developing countries are concerned, apart from the private capital, BOO / BOT projects give access to private sector technology.

To take full advantage of PPPs, the Government of Sri Lanka should first recognize the key hindrances that potential investors face in the present system: lack of political backing, jurisdictional confusion and legal bottlenecks. It is also essential to ensure that sound procurement policies, transparency, and free market access are part and parcel of the goals of good government. The present government of Sri Lanka has already taken some positive steps in the right direction with the pronouncement of the government policy on transparency and the renewed undertaking to maintain free market economy. The ADB should continue to support a PPP approach to investment, as has been undertaken in the port subsector.

7.3.6 Regional Planning and Coordination

Gains in inclusive growth can be had by removing divisions that prevent poorer communities from taking advantage of improved income opportunities. These divisions persist because large segments of the population do not have the required skills or there is insufficient work or investment in regional cities and towns. Many regional towns and cities lack the economic infrastructures necessary to provide some form of competitive advantage necessary to attract entrepreneurs, investors and developers. The significantly higher unemployment and poverty rate of the Central Province, relative to the Western Province, in spite of the physical proximities of the regions, is an example of the economic costs of limited connectivity (World Bank, 2010b). Creating more dense economic activity and shortening the distance between areas of dense and sparse economic activity will help reduce divisions between communities and regions and will help to move towards a less segmented Sri Lankan economy thereby facilitating greater global integration for sustained growth.

There is need to extend the market reform that benefited primarily the Western province to other priority urban centers and provinces. The latter continue to contend with paternalistic legacy agricultural policies such as land provisioning, crop specific fertilizer subsidy and protective import tariffs aimed at self-sufficiency in paddy production. This has discouraged the development of high value added crops and, in turn, has prevented private investment to flow into commercial agriculture and other agri-business activities. The ADB should continue to use regional planning and coordination mechanisms to invest in improved infrastructure development, particularly in regards to transport connectivity.

A significant issue for urban and regional development is improvements to supply chain systems and management. Many elements of supply chains in the manufacturing and agriculture sectors remain highly inefficient. As a result, the food supply chain in Sri Lanka has a 40 per cent loss of product between farmers and consumers (source). There is a

need to develop a better understanding of the role that regional cities and towns have in facilitating the movement of goods and services, and how to improve these. At the local scale supply chain systems need to be improved for the provision of basic infrastructure, health and community services.

7.3.7 Collecting Property Valuation and Taxation Revenue

Revenue currently collected by local authorities, along with shared taxes and grants, are inadequate to meet the needs of basic urban infrastructure services. The main revenue sources include the stamp duty levied on property and other transactions, and the assessment tax levied on the deemed value of property and rents. Property taxation is the most important source of revenues of urban local authorities, accounting for about 78 per cent of own source revenues and 51 per cent of total recurrent revenues (GoSL, 2011). Overall, property generates only approximately Rs 150 per person.

However, property taxation is under-utilized as a revenue item. The major problem with the property tax is that it is generally difficult to estimate and costly to administer. Systems of mass-appraisal based on broad market assessment criteria should be looked at to better reflect real property values at an ongoing basis. In addition, better systems to administer and collect property tax are needed, particularly with regards to arrears and estimation of stamp duties. The result of a more efficient collection system and less costly administration can have dramatic impact on local government finance. A project focussed on the introduction of mass-appraisal valuation systems coupled with more efficient collection mechanisms could be run as a planned activity from the current ADB Local Government Infrastructure Improvement Project.

7.3.8 Innovative Financing Alternatives

Limited access to bank financing, in particular long-term development financing at low interest rates, and resource constraints of the central Government make it worthwhile to explore alternative arrangements to raise funds for local government. Provided that existing legal impediments are eliminated and necessary precautionary measures adopted, the following other alternative financing arrangements may be considered.

- **Issuing of bonds/debentures in the domestic market**- Given their relatively small size, most local authorities are not in a position to issue bonds that will attract potential investors.
- **Issuing of international bonds**- Local governments looking to consider issuing bonds on the international market must wait until the infrastructure is established to make the bonds viable. Major councils such as Western Provincial Council and Colombo Municipal Council could use their semi-sovereign status to tap the international market even before the infrastructure is established if a supranational lending agency such as ADB could guarantee their bond issues.
- **Borrowing from multilateral lending agencies**- long-term concessional borrowing from multilateral lending agencies appears to be the most cost-effective and desirable mode of local government financing in the immediate future. Lending by multilateral agencies could be linked to the development of infrastructure that would support own resources, including a legislative framework, standard accounting systems, good governance, and transparency rules (see example below).
- **Collaborating with international lending agencies such as ADB, World Bank, and International Finance Corporation for specific project financing**- apart from directly borrowing from multilateral lending agencies, local authorities may collaborate with these institutions to finance long-term development projects, which could be undertaken as joint ventures, with shared responsibilities and returns. This arrangement could help establish good governance, reduce political interference, and increase the overall productivity of local government bodies.

Lanka Financial Services for Underserved Settlements
The Lanka Financial Services for Underserved Settlements, a company specialising in credit guarantees, was established on a pilot basis as a partnership between the Government and UN-HABITAT. The organisation aims to link microfinance institutions with the formal banking sector by providing full, partial or other forms of guarantees with government support to banks. The banks then in turn extend loans to the microfinance institutions and community based organisations for loans dedicated to home improvement for low-income communities. As a condition to the provision of credit, the government is required to provide some form of tenure security to participants. The program has provided loans to 1,400 families so far.

7.4 Inclusive Cities

7.4.1 Addressing Housing Affordability

The increasing urban population and higher speculation of property close to urban growth centers is making the purchase of land and provision of housing increasingly less affordable. Strategies for the ADB to consider to address housing affordability include the following:

- provision of mass developed land through trunk infrastructure; in particular, access roads for commuting, water supply and sanitation and electricity supply.
- adoption of a vertical development approach in high and medium density areas supported by the provision of adequate urban infrastructure for cluster housing developments.
- activation of a housing finance market operating through primary and secondary mortgage financing. Initially, concessionary financing will be obtained to meet the resource constraint in mobilizing housing loans for low-income groups.
- construction of housing schemes for public and private sector employees through PPP arrangements.

7.4.2 Investing in Electricity

The funding gap for household electrification is at least USD658 million per year to 2020 (World Bank, 2011b). First, the government aims to provide 95 per cent of households with electricity by 2016, which will require major investments in grid-extension and off-grid service provision. In particular, improvements of the transmission and distribution network are necessary, especially in the war-affected Northern and Eastern Provinces where some ADB urban priority areas are located.

7.4.3 Investing in Water and Sanitation

According to the World Bank (2011b), there is a minimum funding gap for water and sanitation projects of US $82million per year to 2020. Significant efficiency gains can be achieved by improving the allocation of scarce resources: to sustain existing assets, the service delivery should be streamlined in rural areas and capacity should be built in the local bodies to maintain these services. In addition, the World Bank (2011b) estimates that hidden costs or implicit costs associated with NRW, bill collection efficiency and tariffs–below-cost could save the National Water Supply and Drainage Board up to US $42 million annually. In particular, a revision of the tariff structure could improve revenue because tariffs are below cost and subsidies are poorly targeted (World Bank, 2011b). ADB infrastructure investment in the water supply subsector should in future be linked to institutional reforms and decentralization of the NSWDB.

The funding gap in the solid waste management sector is at least USD 25million per year (World Bank, 2011b). Sri Lanka needs to consider improvements for solid waste facilities for

industrial waste management of processing, especially associated with the garment and rubber industries. In addition, there is a need to double collection efficiency relative to 2004 by doubling the number of workers employed in the sector and by upgrading the fleet of collection vehicles. In order to ensure the environmentally sound disposal of the collected waste up to 100 sanitary landfills need to be built. This number can be lowered if regional landfills and transfer stations are constructed instead. The construction of sanitary landfills would allow local authorities to capitalize on economies of scale, reduce waste collection and disposal costs, improve access to better technologies and expertise, ensure longer lifetimes of landfills and implement higher public health safeguards and environmental safety measures. Efficiency could also be enhanced through the introduction of cost recovery mechanisms, cross-subsidies and community mobilization for more awareness of the principles of reduce, reuse and recycle.

7.4.4 Local Government Institutional Reforms and Development

Sri Lanka is moving progressively towards decentralisation, with provincial and local governments playing a greater role in the delivery of urban services. However, local government in Sri Lanka remains weak and the parallel structures that operate between local government and central government agencies lead to duplication, inefficiencies and confusion over responsibilities-especially maintenance of basic infrastructure services. There is need for significant reform and capacity building in local governments-especially city governments which are experiencing development pressures resulting from increasing levels of urbanisation. The ADB should continue to support these needs, including the following:

- improvements to financial management -especially budgeting (including community-based budgeting), revenue collection, property valuation, cost recovery and operations maintenance.
- clarification of administrative and financial responsibilities between central government line agencies and local governments on responsibilities for the provision and maintenance of basic urban services and facilities.
- improvements in planning for land use, infrastructure, land development, economic development, environmental and community services. These processes require greater stakeholder and community engagement.
- developing skills and expertise needed to run local government.

7.4.5 Developing Project Partnerships

Few local governments and business organizations in Sri Lanka have the resources or expertise to fully develop and implement larger development projects and programs. Most depend increasingly on networks, partnerships, strategic alliances, and catalysts. Collaboration has become a strategy for doing business and developing local economies. Many industrial countries now strive to develop collaborative advantage in addition to competitive advantage as a development strategy.

Partnership building has had modest success in Sri Lanka's urban development projects. Institutional and ideological issues create barriers to establish effective partnerships. These issues, in turn, lead to suspicion and mistrust, which has led to the breakdown of many partnerships between the private and the public sectors on urban development activities, particularly in Colombo (Roberts and Kanaley, 2006). To overcome some of these problems, change management programs should be introduced in all development projects involving institutional partnerships. Change management can improve trust building and openness in urban collaborations. The failure to change institutional, business, and community attitudes; beliefs; customs; and habits is the reason many urban partnerships in Sri Lanka continue to fail. The ADB should encourage and advocate healthy partnerships with public and private sector stakeholders when investing in programs in urban sector development.

7.4.6 Asset Management and Community-Based Budgeting

Best practice for local asset management requires communities to clearly define and state the respective goals that reflect their expectations of local infrastructure. Such standards can be set by the community either directly through public consultation, or indirectly via elected officials at the local authority. The success of various community-based projects in Sri Lanka, (for example, the ADB supported Community Based Rural Water Supply and Sanitation in Post Conflict Areas Project), supports the continued development of community based service delivery and management activities. Critical to this process is the importance of developing project partnerships, particularly with community-based organisations. As an outcome of this process, an asset management plan should be prepared for key investment areas with equitable consideration of infrastructure delivery and maintenance costs and innovative payment options. Training and capacity development of actors involved in the process should be supported by the ADB.

7.4.7 Encouraging Microfinance

According to a survey by the Consultative Group to Assist the Poorest, microfinance in Sri Lanka has achieved impressive outreach; with more than 15 million deposit accounts and 2 million outstanding micro loans from a population of 20 million people (CGAP, 2006). Future projections of investment in microfinance show consistent increases until 2016 from government, commercial banks and non-government organisations (NGOs) (see table below). In addition to micro loans, working capital, trade finance, investment credit, crop loans and savings facilities are the most common services provided.

Table: Micro Finance for Livelihood Development 2007-2016 (Rs. Mn)

Source of Investment	**2007-2009**	**2010-2012**	**2013-2016**
Government Sub Total	**27,664**	**33,350**	**43,550**
Central Bank	432	600	800
National Development Trust Fund	1,840	3,000	6,000
Co-operative Rural Banks	17,000	20,000	23,000
Regional Development Banks	847	1,500	3,000
Samurdhi Authority	7,000	7,250	7,750
Thrift and Credit Co-operative Societies	545	1,000	3,000
Commercial Banks Sub Total	**4,249**	**5,725**	**7,750**
Bank of Ceylon	1,831	2,500	3,500
People's Bank	1,940	2,600	3,100
Hatton National Bank	379	500	1,000
Seylan Bank	99	125	150
NGOs Sub Total	**3,658**	**4,600**	**6,700**
SANASA	1,020	1,500	2,500
SEEDS	2,603	3,000	4,000
Janashakthi	35	100	200
Others	128	200	400
Total	**35,699**	**43,875**	**58,400**

Source: CGAP, 2006

Despite positive growth in the sector, several challenges hinder the development of an effective and sustainable microfinance sector in Sri Lanka. To achieve the government goals, the ADB should consider investment in the following strategies:

- A policy and strategy for the microfinance sector needs to be formulated;
- A unit within the Central Bank should be set up to supervise and regulate the sector;
- The micro enterprise sector is to be linked with the small and medium industry sector through the adoption of a cluster based development framework;
- The capacity of providers of microfinance training should be strengthened.

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Annex 1: District City Case Study: Galle

INTRODUCTION

Galle is a central location of international and local good transportation with its natural fort and central location in the ancient cart roots of the island. The written history of Galle dates back to 125-150 AD when it was a busy port, trading with Greece, Arab countries, China and others.

Galle City Statistics	
Region in Sri Lanka:	Southern
City Population (2007):	98,669
Land Area (km^2):	17
Population density (per km^2):	56.6
Population growth (per cent/year):	1.1
Number of families in region:	280,000
GDP in the Region (Rs Million)[4]	493,292

Galle was clearly chosen as a port for excellent strategic reasons. It has a natural harbour protected, to the west, by a south-pointing promontory to the next piece of land, literally, is the frozen waste of the Antarctic, over five thousand miles distant.

The Portuguese first arrived in 1505, when a fleet commanded by Lorenzo de Almeida took shelter from a storm in the lee of the town. In 1587, Portuguese seized control of the town from the Sinhala kings and began the construction of Galle Fort. This event marked the beginning of almost four centuries of European domination of the city, resulting in the fascinating hybrid architecturally, culturally and ethnically, which Galle is today.

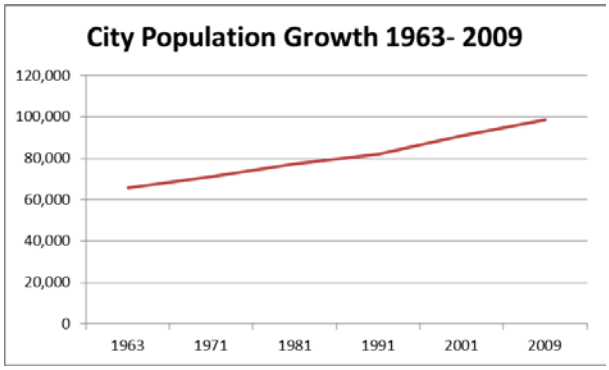
The Dutch captured the city from the Portuguese in 1640, and immediately began strengthening the fortifications. They remained for almost 150 years, until the city was in turn taken by the British in 1796. In recognition of this fact, the Old City of Galle essentially the fort and its surroundings declared as a World Heritage Site in 1988.

DEMOGRAPHICS AND ECONOMICS

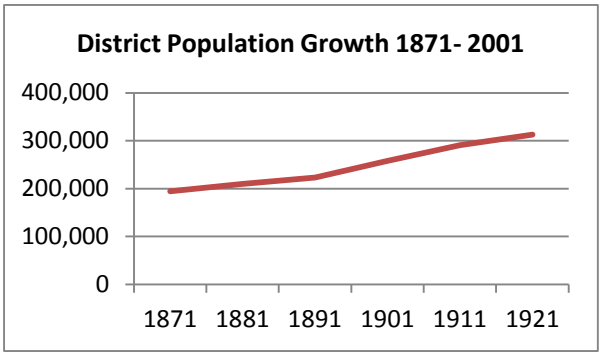
Galle is one of the more densely populated cities in Sri Lanka, with

	Population (2010)	**Pop. Density Persons per ha**	**Rank (in terms of population)**
City (MC area)	98,669	56.6	
District (Galle district)	1,075,000	6.6	6th out of 25 districts
Region (Southern)	2,443,000	4.4	3rd out of 9 regions

[4] 2009



(Urban Development Authority Sri Lanka, 2009)



(Department of census & statistics Sri Lanka, 2010a

City Population Growth and Rate

Year	*Population*	*Growth rate (% per annum)*
1963	65,636	
1971	71,266	1.1
1981	77,183	0.8
1991	81,830	0.6
2001	90,934	1.1
2009	98,669	1.1

Census year	Population	Growth rate per annum
1871	194,400	
1881	209,700	0.8
1891	222,900	0.6
1901	258,100	1.6
1911	291,000	1.3
1921	313,100	0.8
1931	363,600	1.6
1940	459,800	2.9
1953	524,400	1.1
1963	641,500	2.2
1971	735,200	1.8
1981	814,500	1.1
2001	990,500	1.1

After the 1991 census there is a slight increase in the growth rate which was due to high migration based on educational, health and administrative facilities concentration in Galle. But compared to growth rates of nearby cities like Matara, Hambanttota, Tangalle, Ambalangoda this still remains a lower rate. This indicates that Galle has received the early urbanization advantages and near to its threshold in terms of population density compared to other urban centres in the southern region which are growing at a higher rates at present. Daily commuting population around 125,000 persons per day shows the service potential of Galle city.

The western coastal trade route is an economically productive district within Galle Region which includes the main town of Galle.

URBAN HIERARCHY

Galle is a first order town of Sri Lanka, one of the major Capital cities of the Southern Region. It is proposed as an administrative center of the southern region in National Physical Plan. To make southern region as 3rd largest economy of the country Galle district has contributed compared to two other districts of the region. In Galle District, core of the economy is at Galle city which can be considered as the engine of growth of Southern Region.

Connectivity with other major urban centers of the country is made through the "Galle road", Colombo-Matara railway line, Koggala airport (8km away from city), Galle sea fort and Southern Expressways. There are various development potential areas through increasing the international connectivity and development at the Galle habour site. There is also economic potential with service sector engagements like culture based tourism, eco-tourism and coastal tourism; health and education industries and spice trade. Transport improvements would complement tourism potential at the Galle Fort site which was declared as a World Heritage Site.

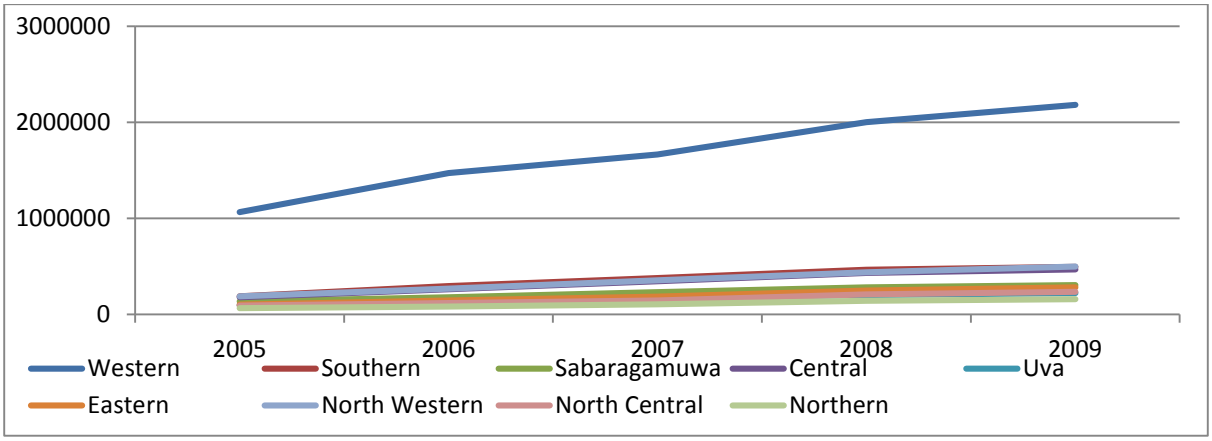
In terms of economic growth in the industry sector, there is potential to expand the manufacturing sector through engagement in cement, textile & apparel, coir, timber, handlooms and coconut & cinnamon oil industries.

Boundary	**Land area**	**Rank (in terms of land area)**
City (MC area)	17 km^2	
District (Galle district)	1,652 km^2	10 out of 25 districts
Region (Southern)	5,559 km^2	07 out of 09 regions

	Official (2010)		**Predictions**	
	City	**District**	**City**	**District**
Urban	98,669	149,604	109,652[5]	NA
Rural	NA	907,092	NA	NA
State (Plantation)	NA	18,304	NA	NA

Galle district consists 43.5% of population of southern region where Matara and Hambantota districts consists 33.6% and 22.9% respectively. But in terms of land areas these three regions occupy 30%, 23% and 47% respectively.

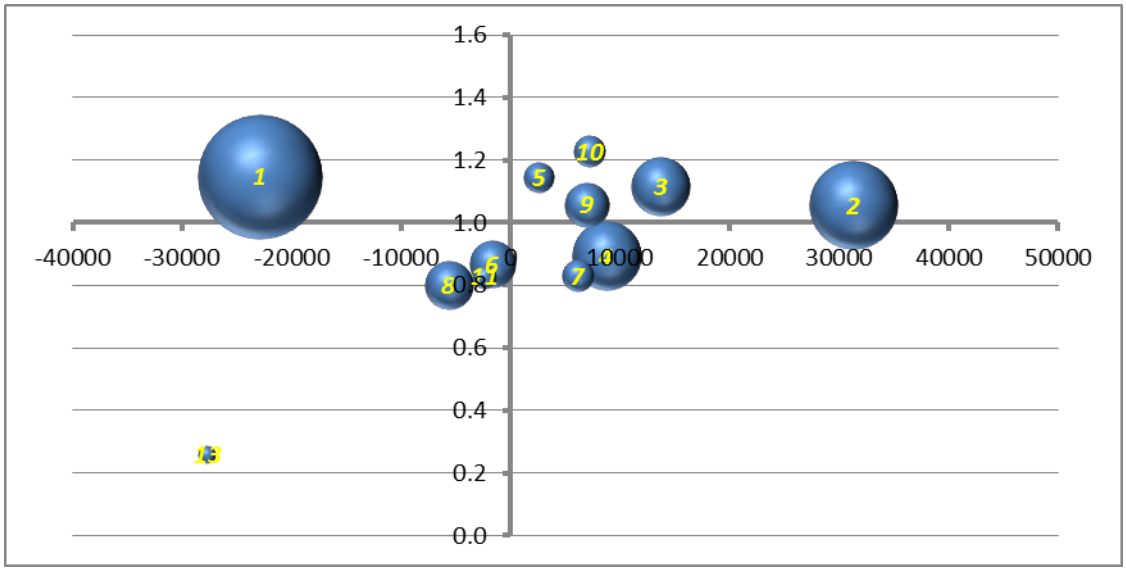
Diagram of GDP growth in regions across Sri Lanka



URBAN INVESTMENT BASE

Galle is a well located town in a region with better than average infrastructure and services as compared to many other regions in Sri Lanka. It is well connected with road, sea and railway transport to support efficient trade markets. There is however, potential to increase this city's competitiveness.

Manufacturing, Construction, Education, Hotels and Restaurants and Health industry are the promising industries for the Southern region while manufacturing sector holds the larger portion of.



Source: Department of Census & Statistics, Sri Lanka, 2004, 2005, 2006, 2007, 2008, 2009, 2010b.

1	Agriculture Forestry and Fishery
2	Manufacturing
3	Construction
4	Wholesale,Retail trade and Hotels & restorents
5	Transport,storage and communication
6	Financial intermediation and real estate
7	Public administration
8	*Education*
9	*Health and social work*
10	*Other*

COMPETITIVE BASE

There are a number of suggestions in which to improve the competitiveness of Galle, while recognising constraints also. However, as reported by the Ministry of Economic Development, Galle only had Rs. 658 Mn invested in the District, as compared with Rs.1,936 Mn in Trincomalee and Rs.1,996Mn in Mannar. The following table summarises economic opportunities, constraints and growth areas

Priorities for economic infrastructure investment:

- Development of express rail line

- Improve the condition of inner fort and connecting roads to urban areas
- Improve the condition of road which connect Galle city with other main urban centers such as Elpitiya, Deniyaya, Baddegama, Udugama and Mapalagama.
- Expansion of Galle Habour

Constraints to growing the urban economy:

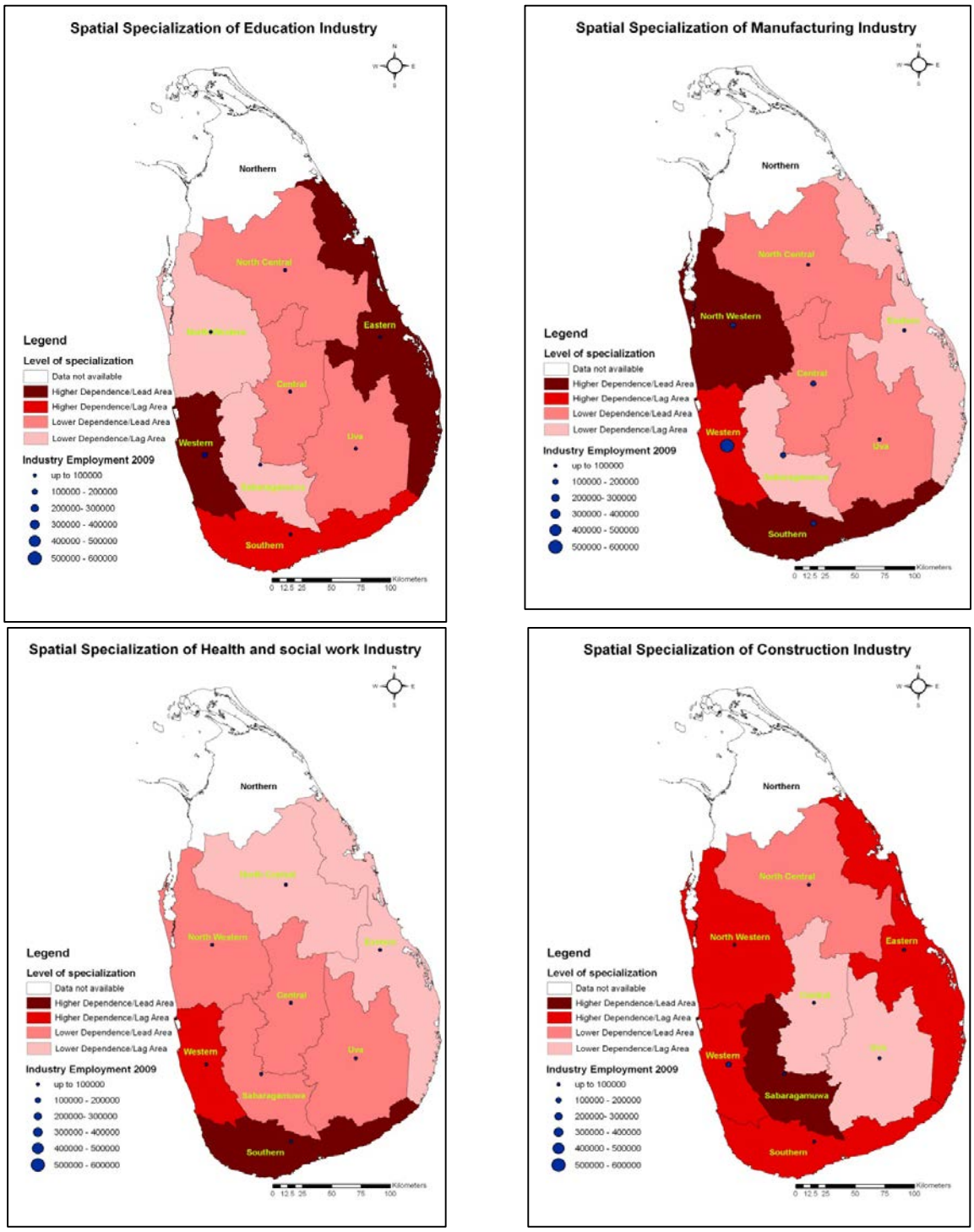
- Outdated municipal taxation system, and the need to upgrade the municipal taxation system and rates based on property values
- Poor management of city land use to achieve optimal value of the land and sustainability
- Redefine the boundaries of city to facilitate the urbanization at its pace
- There is a need to regulate the development near southern express way interchange

The potential for Galle and other regions in various industries is shown spatially in the following four images, where the region for Galle rates as a high dependency area in all industries.

Employment 2009	Agriculture	%	Industry	%	Services	%	Total
Sri Lanka	2475921	32.6	1910318	25.1	3216175	42.3	7602414
Galle District	117134	28.6	122049	29.8	170377	41.6	409560
Matara District	128795	41.8	74566	24.2	75182	24.4	308123
Habantota District	108351	44.4	59544	24.4	76139	31.2	244034
Southern Region	354281	36.8	256159	26.6	321698	33.5	961717

86% of total land is under urban use, 2.2% is agricultural and 11.9% is undeveloped with abandoned paddy, vacant lands, and marshy lands and underutilized reservoirs. Residential land use dominates in the city which utilize the prime tourism lands, industrial lands and commercial lands for less economic living activities (Siyambalagahawatta, China garden and Pettigalawatta).

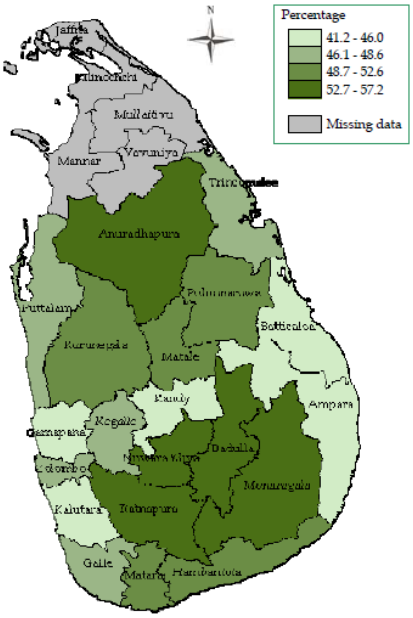
Specialization of Industries in the Regions of Sri Lanka



Department of census & statistics Sri Lanka, 2004, 2005, 2006, 2007, 2008, 2009, 2010b

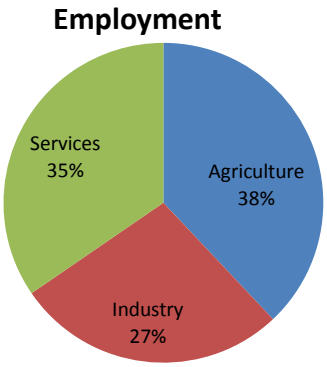
Galle District Economy

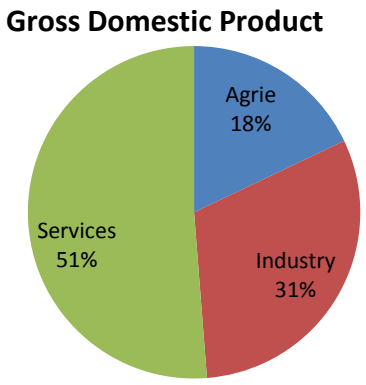
It can be observed high labour force participation rate from agriculture oriented districts compared to service oriented districts. But their productivity is questionable against other per capita GDP figures of each region.



	Total	Male	Female
National	48.7	66.6	32.8
Galle	46.9	63.5	32.9
Matara	49	66.8	33.1
Hambantota	52.6	70.2	36.5
Colombo	46.5	65.5	29.7

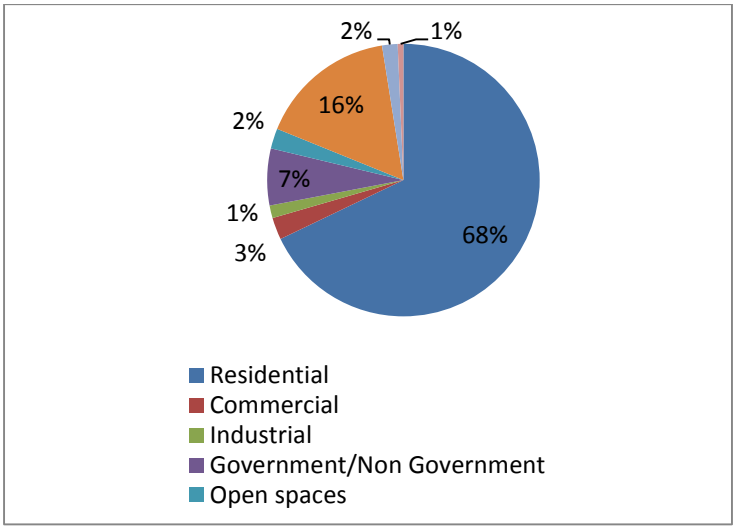
The two pie charts below show a comparison between GDP share and employment share by sectors in the Southern Region (data from 2009). This shows a typical trend with the agricultural GDP being low, while employment rates are higher in the same sector due to higher labour demands of agriculture. The service sector on the other hand requires fewer labour resources for higher economic gain, indicating the crops and agriculture market are not high value.





Aggregation of the Southern regional statistics disguises the larger impact the Service Sector has in Galle district for employment as opposed to the other 2 districts in the Region. The Galle employment in the Services sector is more aligned to the national average of 42%. However, Galle does suffer from higher than average unemployment rates of 8.3%, where the national average is 6.3%.

Galle City Land Use (2006)



Use	Extent ha
Residential	1016.44
Commercial	39.2
Industrial	22.4
Government/ Non-government	100.9
Open spaces	35.77
Roads	244.81
Religious	27.6
Tourism	10.1
SUB TOTAL	**1497.2**
Undeveloped	**244.8**
TOTAL	**1742**

Urban Development Authority Sri Lanka, 2009

Land Values of Galle City

Ward	Land Value per perch Rs.		
	1992	2000	2007
Galle Fort	25000	200000	1,000,000
China Koratuwa	50000	300000	800000
Bazaar Street	15000	800000	1200000
Talapitiya	20000	150000	200000
Magaalla	15000	200000	400000
Katugoda	15000	150000	300000
Athiligoda	15000	100,000	200000
Dangedara	15000	150,000	500000
Minuwangoda	15000	300,000	600000
Galwadugoda	20000	100,000	250000
Dadalla	8000	75000	300000
Kaluwella	15000	300,000	800000
Kumbalwella	10000	100,000	300000
Madawalamulla	12000	100,000	300000
Hirimbura	20000	200,000	500000

Urban Development Authority Sri Lanka, 2009

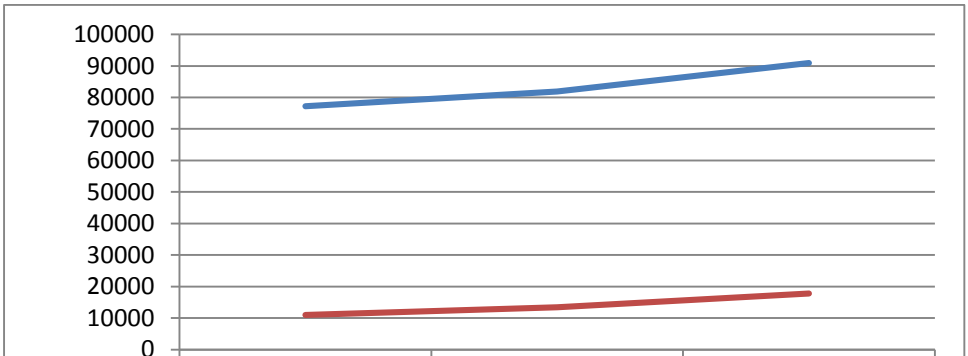
INCLUSIVE BASE

Main social development challenges

- Forty four projects have been implemented under Social Infrastructure scheme of the Galle District, with Rs. 19.52 Mn. Earmarked, aiming to benefit 37,500 people.
- A sports stadium is under construction at a cost of Rs. 4.87 Mn. and it will benefit 540 people.

Housing

This city population and housing growth rate has a close positive correlation, where by people per house density is decreasing from 7 people per household 1981 to 5 people per house by 2001. However, this is must be considered even with expected housing deficits of 2,579 in 2010 and predictions that it will increase to 3,898, by 2015 and 5,301 by 2020. In 2003, figures showed that almost 10% of housing types was temporary.



	1981	1991	2001
Population	77183	81830	90934
Housing	10954	13407	17794

(Urban Development Authority Sri Lanka, 2009)

GREEN BASE

Main environmental problems

- Response to the 2008 Asian tsunami

Priorities for environmental infrastructure/ climate change infrastructure

- Galle is a central point for the $120 million ADB Sustainable Power Sector Support Project
- The Divi Neguma development project is promoting small enterprise in a variety of environmental activities
- Galle Fort is now classified as a World Heritage Site and drawing tourists

Sustainable Power Sector Support Project

The project will contribute to a reliable, adequate and affordable power supply for balanced and sustainable economic growth in Sri Lanka and increase the numbers of electricity connections in rural areas, specifically in the Eastern, North Central, Southern and Uva provinces.

The cost of the project is $ 162.03 million (Rs 17,553 million) of which $ 42.03 million (Rs 4,553 million) will be provided by the Government. The loan from the ADB includes a loan of $ 10 million (Rs 1,083 million) from the Asian Development Fund and a loan of $ 110 million (Rs 11,917 million) from Ordinary Capital Resources.

Annex 2: District City Case Study: Mannar

INTRODUCTION

Mannar City Statistics	
Region in Sri Lanka:	Northern
City Population (2007):	22,581
Land Area (km^2):	27.85
Population density (per km^2):	811
Population growth (per cent/year):	NA
Number of families in region:	27,530
GDP in the Region (Rs Million)[6]	158,678

Mannar is a coastal town located 312 kilometres away from Colombo on the island of Mannar, surrounded by the Indian Ocean. Mannar is located along the Madawachchi – Talaimannar (A14) road. Mannar island is rich in legend and history, famous for its pearl fishery trade, the embryo of Mannar. According to the National Physical Plan of Sri Lanka, Mannar is identified as one of the major city and estimated population is 200,000 by 2030.

DEMOGRAPHICS AND ECONOMICS

The Mannar District, which includes areas outside the capital city of Mannar, has seen significant ethnic population fluctuation and an overall population increase since the 1930's. A notable rise in Tamil ethnic populations is shown in 2001 population estimates as compared to prior census results, and decrease in other ethnicities.

Year	Sri Lankan Tamil		Sri Lankan Moors		Sinhalese		Others		Total
	No.	%	No.	%	No.	%	No.	%	No.
1921 Census	16,949	66.25%	8,002	31.28%	538	2.10%	93	0.36%	25,582
1946 Census	19,623	62.22%	10,410	33.01%	1,186	3.76%	319	1.01%	31,538
1963 Census	40,140	66.70%	17,260	28.68%	2,262	4.35%	160	0.27%	60,180
1971 Census	53,353	68.50%	20,878	26.81%	3,568	4.58%	83	0.11%	77,882
1981 Census	68,178	63.75%	**28,464**	**26.62%**	8,710	8.14%	1,588	1.48%	106,940
2001 Estimate	**92,911**	**94.84%**	5,038	5.14%	16	0.02%	0	0.00%	97,965
2007 Estimate	**95,560**	**92.16%**	8,073	7.79%	55	0.05%	0	0.00%	103,688

The Mannar District is recipient to a wide range of development activities totalling an investment of Rs. 1996.46Mn in 2010, as reported by the Ministry of Economic Development. There is strong expenditure across the board on projects, including but not limited to: skills development, cultural activities, water supply, electricity, de-mining, resettlement, roads construction, education, health and community development.

[6] 2009

URBAN HIERARCHY

Mannar Capital City, on Mannar Island, is one of the least populated capital cities connected by road to the mainland area of Mannar. It has a low urban population density and low GDP. The majority of people in Mannar district live in rural areas and are involved in agriculture and fishing and therefore human capital is largely labour orientated rather than a skilled professional workforce. The island and gulf areas of Mannar have environmental significance, while there is a strong argument for increasing investments in Mannar to take advantage of the shipping passage that runs along a short part of Mannar Island, and other transport routes, including bridge connections to mainland Sri Lanka and also foreseeably India.

DONOR ACTIVITIES

Donors are active in Mannar through various livehood and investment projects, including ADB, JICA, AusAID, UNDP. Larger donors are interested in the significance of investment in infrastructure and are assisting the Government in tapping into potentially large resource reserves in the Gulf of Manner and expanding transport routes.

URBAN INVESTMENT BASE

COMPETITIVE BASE

Priorities for economic infrastructure

- Sri Lank has demarcated 8 blocks for oil exploration in the Mannar Basin
- Matugama Industrial Estate for plastics, electronic items, dairy sea foods processing projects
- AusAID Cashew Development training
- The Sethusamudram Project will increase shipping traffic to the harbour investment

Constraints to growing the urban economy

- Access to fast growing markets
- Basic infrastructure
- Skilled human resources

Oil Exploration

The 2D seismic survey carried out in the Mannar Basin in 2001 (phase I) and 2005 (phase II) in the area from the coastline of western Sri Lanka to the maritime boundary covers an area of 33,715 sq.km show significant potential of the presence of hydrocarbons (oil/gas) more than 1.0 billion barrels of oil lie under the sea which produces no oil and imported $2.1 billion worth in 2006. Total area divided into 8 blocks as table shows. According to available information, two of these blocks i.e., block No. 1 and No. 8, have been reserved for India and China, respectively, on nomination basis for oil exploration. As per estimates, it would cost around US dollars 60 million to drill a well in the deep sea. Generally, it takes about 7-8 years for exploration,

development and production of oil even in a proven field. At the same time, with the start of oil exploration, there will be new demand for goods and services as well as labour that is needed for the oil industry, creating strong forward and backward linkages in economic activities. The new demand will be in the areas of banking, insurance, construction, transportation, utility services, and technical and other infrastructure related services.

This project is expected to generate not less than 100 local employment opportunities to begin. ONGC Videsh Ltd (OVL), has already paid One million Dollars and purchased the data for identifying acreages in the Mannar basin, and expects the first commercial crude oil production by 2010," company signed with Board of Investment (BOI), will invest $133 million (Rs.6 billion) on oil and natural gas exploration in the Mannar Basin.

Mannar Harbour and Sethusamudram Project

Mannar has an ancient port which needs to be expanded into a large harbour like Rameshwaram Harbour. The current 'Sethusamudram Project' by the Indian Government will bring 90% of the shipping traffic very near to the Mannar Harbour.

Sethusamudram Ship Channel Project proposes linking the Palk Bay and the Gulf of Mannar between India and Sri Lanka by creating a shipping channel through the shallow sea sometimes called Setu Samudram. This would provide a continuous navigable sea route around the Indian Peninsula. The strategic advantages derive from obtaining a navigable sea route close to the coast, with a reduction in travel distance of more than 350 nautical miles (650 km) (for larger ships). The project is expected to provide a boost to the economic and industrial development of coastal Tamil Nadu. The project will be of particular significance to Jaffna, Kankesanthurai, Mannar, Point Pedro and Tuticorin harbour. Tuticurin has the potential to transform itself into a nodal port. The Tamil Nadu Government has announced its proposal to develop 13 minor ports, including Ennore, Cuddalore, Nagapattinam, Thondi, Valinokam, Kolachel and Kanyakumari.

Development of the canal and ports is also expected to provide increased maritime security for Tamil Nadu and Sri Lanka.

All the other harbours of Sri Lanka will get bypassed by the ships and Indian harbours will be servicing the shipping traffic. As such a hundred million dollar project needs to be started to build a modern harbour in Mannar to compete. The location of such a harbour can be on the northern side and southern side of Mannar as both the sides can cater for deep sea vessels. Environmentalists have expressed concern over this project. The project would intercept the Gulf of Mannar Marine Reserve.

INCLUSIVE BASE

Main social development challenges

- Resettlement of displaced persons
- Skill development and employment

GREEN BASE

Main environmental problems

- Accessibility of water
- Gulf of Mannar Marine National Park – under threat from development
- Mannar Island Ramsar Site – under threat from development

Priorities for environmental infrastructure/climate change infrastructure

- The ADB is funding a 220 kV Grid Substation to support a wind park
- The ADB has pledged Rs 30 million for the Stage 1 of a mega water scheme
- Conservation & Sustainable Use of Gulf of Mannar Biosphere Reserve's Coastal Biodiversity
- IUCN demarcation of Ramsar Site in Mannar Island to protect migrant birds

FUTURE GROWTH FOR MANNAR

PROPOSED INDO – LANKA BRIDGE CONNECTING RAMESWARAM & TALAIMANNAR

The need for a land bridge between Sri Lanka & India suggested to reaching the required economic growth rates to meet the challenges of development, will require the acceleration of access to larger markets & to attract greater FDI. The above needs strides Sri Lanka towards this project as a National Spatial Strategy for networking it's urban agglomeration. It is a 30 km length bridge between Talaimannar & Rameswaram, have both highway & railway facilities likely to cost around $500 million and the preliminary pre-feasibility study have already done by BOI. This catalyst emerge Mannar Urban Centre as gate way to India Because of it highway link to Indian southern states Kerala, Tamil Nadu, Andra Pradesh and Karnataka which are fastest growing regions in India. The opportunity of this land bridge becomes significant in the context of connectivity to sea port of Colombo/ Hambantota and of Trincomalee. With these benefits it has suggested different revenue streams along to improve its financial viability such as setting up of a 2 x 500 mw power project along with cross border transmission link, extension of Indian fibre optic backbone to Sri Lanka, a cross border gas pipeline and a transmission link to wheel power.

ONGOING CONSTRUCTION OF NEW BRIDGE & EXPANSION OF CAUSEWAY

The existing Mannar Bridge was constructed in the year 1930 & it was damaged in a bomb blast in 1990 and was replaced with a temporary, narrow bailey bridge which is restricted for heavy vehicles of over ten tones. Under the peace project of the Japanese government grant fund approximately Rs. 2017 million was allocated for reconstruction of the bridge and causeway. The reconstruction is expected to be completed in 2010. Approximately 40,000 people living in the Mannar Island will benefit from this project by way of safe, smooth and increased inward and outward movement of people and essential commodities.

According to the result of the socio- economic, traffic and field surveys and the basic design under the study, the project implementation will generate the following impacts & effects.

Countermeasures Taken by the Project	Direct Impacts and Effects
A new bridge with 2 carriage-ways is constructed in parallel with the existing bridge	Project will provide a vital life road and bridge contribute to the growth of traffic and accelerate regional economic activities by reducing traffic operation cost as a result of accessibility of large – sized vehicles and high vehicle running speed.
Widening of the causeway to a total width of 11.0 m with two carriage ways considering the use of large- sized vehicles	Wide and safe causeway will increase frequency of transport and accelerate regional economic growth.

Following indirect impacts and effects would be generated by the project implementation

- Regional industries such as agriculture & fisheries sector will be activated, because existing bridge is a bottleneck for the transport of products from the said sectors.
- This project will improve transportation in Mannar Urban centre to enhance agriculture & fisheries production and provide opportunities for resettlement of displaced persons into their original industries.
- Mannar Urban centre will be connected to Sri Lanka's road network by the new bridge & causeway as an economic growth centre based on agriculture & fisheries sectors in the Northern Province.

POTENTIAL FOR TOURISM

Recently IUCN has demarcated a Ramsar Site in Mannar Island, which has been a safe haven for migrant birds and it is their last stop at the end of the Central-South Asia flyway as well as on their way back. Lagoons, tidal mud flats, seasonal shallow water-bodies, ponds with a variety of vegetation and a small reservoir make this site is irresistible to migratory birds. It sustains well over the 20,000 water bird mark in approximately 4,800 ha. The Triangle indicated in the image below includes Thirukethiswaram which is a declared sacred area for sacred area development. Having Ramsar status is a strong drawcard for promoting and developing eco tourism.

AVAILABLE RESOURCE AND POTENTIAL INDUSTRIES

Income generating pattern of the people in Mannar Urban centre mainly depends on agriculture & fishery sector. It determines the future potential for agro - industrial activities, which determine the future population attraction in this urban centre. The resources listed below are areas for industrial development based on existing resources. This would require significant capacity building and industrial investment in assisting a more complex industry and market for trading products, as opposed to the agricultural and fishing trades of raw products. Key transport routes are being opened to support an increase in this industry base.

Raw Materials	Industries
Fish	Fish sale, Dry fish, Packing dry fish, sale of fishing nets, repairing fishing boats, repairing OBM, fish meal production, manufacturing ice, manufacturing boats.
Prawns	Prawn sale, shrimps and development of prawn culture, export
Crabs	Crabs sale, processing crabs, export
Sea cucumber	Sale of sea cucumber / beach de mer, export
Rice	Rice marketing, rice flour sale, rice flower packing, preparing noodles
Cashew	Processing cashew nuts, sales, sales of cashew fruits
Sea shell	Production of lime, production of handicraft items
Salt	Whole sale, grinded salt for curing dry fish, iodized salt sale
Palmyra Coir/ Fiber	Broom stick, Small brushes, mattresses, pots
Palmyrah leaves	Hats, baskets, trays, flowers, fans and other handicraft items
Coconut Coir	Broom stick, Small brushes, mattresses, pots
Palmyrah products	Jam, Palmyrah jam, dries Palmyrah root, Palmyrah root lower
Palmyrah Toddy	Palmyrah vinegar, bottles toddy, Palmyrah jaggery, jam
Clay	Red brick, tiles, pottery, Ornamental items, vessels
Pan grass	Mats, hats, baskets, fan, ornamental items, wall hangers
Fruits	Fruit sale, Cordial, juice, jam, pickle, achcharu, toffee, other sweet items
Vegetable & Cereals	Vegetable sale, jam, pickle, achcharu
Kerosene Oil	Kerosene Oil
Milk	Milk sale, yoghurt, curd, Cheese

Annex 3: District City Case Study: Trincomalee

INTRODUCTION

Trincomalee City Statistics	
Region in Sri Lanka:	Eastern
City Population (2007):	101,958
Land Area (km^2):	7.5
Population density (per km^2):	13,594
Population growth (per cent/year):	1.1
Number of families in region:	106,437
GDP in the Region (Rs Million)[7]	281,810

Trincomalee is a port city located in Eastern Province of Sri Lanka. Trincomalee lies on the east coast of the island, about 113 miles south of Jaffna. The city is built on a peninsula, which divides the inner and outer harbours. Overlooking the Kottiyar Bay, Trincomalee is one of the main centers of Tamil speaking culture on the island. The city is home to the famous ancient Koneswaram temple alluded to in its historic Tamil name Thirukonamalai from which its anglicized name is derived, and has been a sea port that has played a major role in the maritime and international trading history of Sri Lanka.

The Bay of Trincomalee's harbor is renowned for its large size and security; unlike every other in the Indian Sea, it is accessible to all types of craft in all weathers. The beaches are used for surfing, scuba diving, fishing and whale watching. The city also has the largest Dutch fort in Sri Lanka. It is home to major Sri Lankan naval bases and a Sri Lankan Air Force base.

DEMOGRAPHICS AND ECONOMICS

Trincomalee City has a population of approximately 100,000 (2007).

URBAN INVESTMENT BASE

Trincomalee's location, in a less well developed and sparsely populated area has in the past hampered its own development. In the aftermath of the 2004 Asian Tsunami, Trincomalee was a focal point for relief efforts on the eastern coast of Sri Lanka. Plans are under way to develop Trincomalee as a commercial seaport and energy supplier while also considering plans for developments to attract tourism. The two opposing sectors for development energy versus tourism may need to be carefully considered when developing economic potential for the area.

[7] 2009

COMPETITIVE BASE

Trincomalee Harbour Development

Trincomalee harbour is the 5th largest natural harbour in the world and the available water and land area is about 10 times as much as the Port of Colombo. Trincomalee was tentatively identified to cater for bulk and break bulk cargo and port related industrial activities including heavy industries, tourism and agriculture etc. At present SLPA is in the process to re-develop Trincomalee as a metropolis growth centre. SLPA has completed zoning plan to utilize the huge amount of existing unutilized land under its jurisdiction on the outcome of the analysis with the other sectors of the development, such as UDA, BOI, and Tourist Board etc. SLPA plans to advertise internationally and locally to call for proposals from potential investors for Industrial Park and Tourism Zone under Trincomalee Port City Development Project. Drafting of the RFP has been assigned to a Project Committee and in the process of calling tenders for the surveying of the SLPA owned lands.

Development of Trincomalee as a Port City

In June 2011 President of Sri Lanka His Excellency Mahinda Rajapaksa's proposal submitted to the cabinet was approved to develop Trincomalee as port city. 2000 Hectares in the vicinity of the port of Trincomalee owned by the government will be set aside for this project. This will be used to build an industrial zone as well as other income generation industries. At present Government of Sri Lanka has appointed two committees to carry out the preliminary studies on this proposed project.

Present Development Initiatives

1. 'Jungle Beach' hotel project at Kuchchaweli, Trincomalee- Cost 700 million LKR
2. Sri Lanka's Largest Salturn in Trincomalee-

The construction work on the largest Salturn of Sri Lanka has commenced at Kurumpitya in the Trincomalee district. The establishment of this Saltern is part of large scale development work being carried out by the government to improve infrastructure facilities and raise the standard of living of people in the District. The Saltern is being established in a land with an extend of 1,800 acres and upon completion it would produce 50,000 metric tons of salt per year.

Trincomalee Coal Fired Power Plant

Agreements relating to Sampur power plant and Sri Lanka-India under sea High Voltage Direct Current (HVDC) transmission line, which is linked to the former, will be finalized soon. India wants these to be implemented as soon as possible, since it is interested in purchasing power from Sri Lanka. The 1GW (1,000MW) Sampur Plant, which was earlier expected to provide 500MW to the national grid by 2012 under its Phase One, has now been re-scheduled to 2014.

Meanwhile, the proposed 400 KV HVDC transmission line which would connect Madurai in Tamil Nadu to Sri Lanka`s Anuradhapura via Talaimannar, will be built by India`s central transmission utility-Power Grid Corporation.

This will include HVDC overhead lines from Madurai to the Indian coast (near Rameshwaram) (139 km), a 400 KV HVDC cable from the Indian coast to the Sri Lankan coast (39 km), a 400 KV HVDC overhead line from the Sri Lankan coast to Anuradhapura/Puttalam (125km).

The Government of Sri Lanka has agreed that, after the commissioning of this power station, no more coal-fired power stations will be commissioned in Sri Lanka. This and the Norocholai Coal Power Station are the only two coal-fired power stations in Sri Lanka.

INCLUSIVE BASE

Main social development challenges

- Lack of access to nearby major centres

GREEN BASE

Main environmental problems

- Loss of fish species in nearby waters
- Environmental impact on from LNG project and coal fired power plant developments

Priorities for environmental infrastructure/climate change infrastructure

- A liquefied natural gas terminal in Trincomalee is proposed which could handle the LNG carriers
- Cod Bay Fisheries Harbour project in China Bay, will enhance prawn, crab, and lobster stock.
- Jungle Beach hotel project at Kuchchaweli, Trincomalee

Cod Bay Fisheries Harbour Project

Several projects funded by the Asian Development Bank, through the North East Coastal Community Project are making headway improving the living standards of the Eastern province population, especially in the Trincomalee District. The Cod Bay Fisheries Harbour project in China Bay, is one such project under which mangroves are re-established to enhance prawn, crab, and lobster stock. The project is envisaged to enhance existing berthing capacity for ocean going vessels venturing into fringe waters bordering Sri Lankan nautical limits.

Cod Bay project would cost Rs. 237.3 Million. Work related to the project will include dredging of the bay, extending and fortifying the quay wall, onshore works for buildings and infrastructure, and facilitating berthing facilities. Upon completion of the project, the present capacity of berthing facility for about 450 boats would be increased to 650 boats at any time. The harbor would increase the income of the Fisheries Harbor Corporation to around Rs. 4 Million. It would enable migratory fishing fleets from Negombo, Chilaw and Tangalle to seek birthing facilities in Cod Bay.

Development of Kuchchaveli

The Urban Development Authority has prepared a zoning plan to identify suitable locations for different categories of tourism facilities, such as hotels, guesthouses, conference facilities, and locations for recreational activities etc. In addition, the maximum number of rooms per acre will be limited and the footprint of any area to be built up shall not exceed 25% of the land. Furthermore, undeveloped areas will be landscaped with plants, creepers and trees endemic to the area. A stretch of land, 8km long with an extent of approximately 600 acres, has been identified for tourism development in Kuchchaveli.

FUTURE GROWTH FOR TRINCOMALEE

1. The biggest and best advantage that Trincomalee has over the other ports in the region is the fact that its port has an unlimited draft and its largeness, capable of handling the largest ships afloat today and in the future, as well as the availability of adjacent land for development.
2. The next advantage is its location, being on the east coast of Sri Lanka, it could become the hub port for East India, Bangladesh and Myanmar, and the operation of the Thai Canal in the future makes it more viable. It's close proximity to India, making pipeline transfer viable and the already existing underutilized oil storage tanks are also assets.

Though Trincomalee was a major port in the past and a major Royal Navy base during the last World War, it has hardly been used. However now with the tendency for ships to be bigger with greater draft, the obvious choice turns back to Trincomalee. In the shipping world the trend is for the operators to build and operate their own terminals as is happening around the world. Therefore if the thinking of the authorities is focused on those lines, there would be many interested in developing the terminals there.

The total volume handled by the Colombo Port is approximately 2.6 million TEUs, of which 70-80% is transshipment cargo for India. The present development of the South Colombo port was delayed by about 10 years and in the meantime the Indian ports saw massive development which would certainly affect the volumes at Colombo. The total revenue of the Colombo Port is approximately US$240 million, which is actually quite small for a port.

Situated on the east coast, with its unlimited draft, Trincomalee could handle the largest of ships and then feed the east coast of India, Bangladesh and also Myanmar, thus becoming a hub for that region. What we may lose in Colombo would be gained in Trincomalee. If this is handled properly, it could easily target US$ 500 million.

Dry dock facilities

There is plenty of space within the Trincomalee harbour for dry docks that are large enough for big ships. This facility would make Trincomalee a major base for the ship repair and servicing industry. In the 1980's Singapore's three facilities grossed S$ 800 million from ship repairs. In today's terms this figure would be over US$ 2 billion.

This too if incorporated in a development plan for Trincomalee would certainly attract great interest and investment.

Liquefied Natural Gas terminal

Natural gas is one of the cleanest sources of energy available at present and is expected to be available for the next 250 years. India's energy demand keeps on rising and specially, the demand for natural gas has outpaced its availability. It tried to obtain its requirement from Iran which means, a pipeline through Pakistan. This did not materialize for two reasons. First the Iranians were stuck with the sanctions for the liquidification technology and second the Pakistan factor was not all that comfortable.

A pipeline from Myanmar, which is 900 km through Bangladesh, is still undecided. A liquefied natural gas terminal in Trincomalee could handle the LNG carriers of deep draft without difficulty. A pipeline from Trincomalee to India would not be more than 250 km.

Our own power needs could be met by a power plant in Trincomalee using natural gas which would give us cheap clean energy as well as the possibility of trading carbon credits. The revenue from a LNG Terminal in Trincomalee supplying India would be much more than we could ever expect.

Oil storage facility

Though Sri Lanka took over this facility from the British Admiralty in the mid sixties after the payment of sterling pounds 250,000, it has been hardly used. Some 35 tanks have been leased to the Indian Oil Company while the rest remains unused. Each tank with a capacity of 10,000 mt amounts to a large volume of oil. The pipes would require rehabilitation as well as some of the tanks.

Many countries are looking out for storage facilities, and the possibility exists for more tanks to be constructed further inland with pipes laid underground. The idea of storage facilities out of the Middle East (ME) is because in the event of war in the ME, the straits of Hormuz could get blocked and no oil would flow through that area. Kuwait has already started construction of a facility in Indonesia, while Japan is to construct one in the UAE and so on.

If the government or any other organization sets up a refinery, it is needless to mention the billions of petro dollars that would flow. This in itself is a very large industry which is still possible to be done out of Trincomalee.

Ship building, marine structures

Another logical industry for Trincomalee would be the ship and marine structure building. The once thriving ship building industry in Britain moved east to Japan and later to Korea. Now some projects have moved to Subic Bay, in the Phillipines. This industry could be brought to Trincomalee, together with a plate manufacturing steel mill.

These are not investments the government has to make if it does not want to or does not have the funds to do so. It's investment could always be in the form of a facilitator.

Aircraft maintenance

With the rapid development of aviation in India, it is already short of maintenance facilities. A well-developed modern airport in Trincomalee would be required for the already mentioned projects, as well as for the massive tourist development programme.

Aviation engineering around the world is worked on a man hour cost and we could be very competitive. Even if we were not so competitive, the sheer lack of facilities in relation to the growing Indian market would make many such facilities viable.

When the airport is designed, a state of the art cargo facility that is capable of attracting the major air cargo operators as a gateway to India and the region to make use of the strategic location.

All that has been mentioned requires a proper plan and implementation, which needs to be coordinated by an authority with power set up by the Central Government. This authority would have to be staffed by well-trained officers with the correct positive attitude. If it is dependent on the present officers from the public service, it would certainly be a non-starter.

A transparent policy that is clear with the minimum delay is required. In India, the Gujarat state approves projects in two days and has positioned itself at the top of investors' preferred locations

If such a programme is to be implemented the government would need to show its seriousness by committing itself to such an effort. Commencing the Colombo – Trincomalee freeway which would link the two cities with minimum travel time, could be the first of such.

Appendix 1: Table Urban Indicators

Demo graphic Indicators

Indicator	Measure	Date	Source
Total Population	20,859,949	2010	WDI
Annual Increase in Population	190,807	2010	
Population growth (annual %)	0.92%	2010	
Average Age			
Urban Population[1] estimate	3,149,852	2011	WDI
Urban Population[2] estimate			
Level of urbanization[1]	15.1%	2010	WDI
Level of urbanization[2]	51%	2010	
Urban Density (people per sq. km of land area) (Colombo)	3,220	2010	Department of Census and Statistics, Sri Lanka
Population in the largest city (% of urban population)	21.8%	2009	WDI
Urban population growth (annual %)	0.92%	2010	
Population density (people per sq. km of land area)	332.6	2010	
Net migration	-249998	2010	
Average Urban HH Size (Colombo)	6	2008	Asian Sanitation Data Book (ADB, 2008)

Economic Indicators

Indicator	Measure	Date	Source
GDP per capita			
GDP Urban Sector			
% GDP Urban Sector	65%		
Urban HH Consumption			
Workers' remittances, receipts (BoP, current US$)	4.12 bn	2010	
Productivity Urban Sector			
Investment Urban Sector			
Cost of business start-up procedures (% of GNI per capita)	5.4	2008	WDI
CPIA financial sector rating (1=low to 6=high)	3.5	2009	WDI
quality of public administration rating (1=low to 6=high)	3	2009	
Electric power consumption (kWh per capita)	402	2008	
Employment to population ratio, 15+, total (%)	51%	2008	
Health expenditure, total (% of GDP)	3.95%	2009	
Public spending on education, total (% of GDP)	3.05%	1998	
Logistics performance index: Overall (1=low to 5=high)	2.29	2009	
Time required to register property (days)	83	2009	

Environmental Indicators

Indicator	Measure	Date	Source
CO2 emissions (kt)	12303.71	2008	WDI
CO2 emissions (metric tons per capita)	0.606923	2008	WDI
Improved water source, urban (% of urban population with access)	98%	2008	WD1
Improved sanitation facilities, urban (% of urban population with access)	88%	2008	WDI
Alternative and nuclear energy (% of total energy use)	3.97%	2008	WDI
Water pollution, textile industry (% of total BOD emissions)	43.5%	2.66	
CPIA policy and institutions for environmental sustainability rating (1=low to 6=high)	3.5	2009	WDI
Fossil fuel energy consumption (% of total)	43.3%	2008	
Urban solid waste per capita per day	0.65-0.85		World Bank (World Bank, 1999)

Equity Indicators

Indicator	Measure	Date	Source
Education			
Number of Individuals per urban household	4.2	2010	Central Bank Report 2010
Number of Income Receivers per urban household	1.8	2010	Central Bank Report 2010

Urban Gini Coefficient (Households)	0.45	2010	Central Bank Report 2010
Urban Gini Coefficient (Income Receivers)	0.53	2010	Central Bank Report 2010
Poverty gap at urban poverty line (%)	1.3	2007	WDI
Poverty headcount ratio at urban poverty line (% of urban population)	6.7	2007	WDI
policies for social inclusion/equity cluster average (1=low to 6=high)	3.8	2009	WDI
property rights and rule-based governance rating (1=low to 6=high)	3.5	2009	WDI
social protection rating (1=low to 6=high)	3.5	2009	WDI
transparency, accountability, and corruption in the public sector rating (1=low to 6=high)	3	2009	WDI
Labour force with tertiary education (% of total)	16.5%	2007	
Literacy rate, adult total (% of people ages 15 and above)	90.55	2008	
Unemployment, total (% of total labour force)	7.6%	2009	
Slum population, % of urban population	14%	2001	United Nations, Millennium Indicators Database
Slum population in urban areas	600,000	2001	United Nations, Millennium Indicators Database

Appendix 2: Human Resource Development Index Sri Lanka

HUMAN RESOURCE DEVELOPMENT INDEX SRI LANKA	
Indicator	Value
Prevalence of under nourishment in total population (% of population)	21
Expenditure on health, public (% of GDP)	2
Under-five mortality (per 1,000 live births)	15
Life expectancy at birth (years)	74.4
Education	
Mean years of schooling (of adults) (years)	8.2
Adult literacy rate (both sexes) (% aged 15 and above)	90.8
Combined gross enrolment ratio in education (both sexes) (%)	68.7
Expenditure on education (% of GDP) (%)	2.7
Internet users (per100 people)	5.8
Mean years of schooling (of adults) (years)	8.2
Expected Years of schooling (of children) (years)	12
Income	
GNI per capita (2008 PPP US$) LN	8.5
GDP per capita (2008 PPP US$)	4,999
GNI per capita (2008 PPP US$) LN	8.5
Household final consumption expenditure per capita PPP (constant 2005 international $)	2,150
Inequality	
Inequality-adjusted HDI value	0.546
Income Gini coefficient	n.a.
Inequality-adjusted education index	0.519
Inequality-adjusted income index	0.414
Inequality-adjusted HDI value	0.546
Inequality-adjusted life expectancy	n.a.
Poverty	
Multidimensional poverty index (k greater than or equal to 3)	0.021
Multidimensional poverty index (k greater than or equal to 3)	0.021
Intensity of deprivation	38.7
MPI: Headcount (k greater than or equal to 3), population in poverty (% of population)	5.3
Population living below $1.25 PPP per day (%)	n.a.
Gender	
Gender Inequality Index, value	0.599
Maternal mortality ratio (deaths of women per100,000 live births)	58

Population with at least secondary education, female/male ratio	0.973
Adolescent fertility rate (women aged 15-19 years) (births per 1,000 women aged 15-19)	29.8
Labour force participation rate, female/male ratio (Ratio of female to male shares)	n.a.
Gender Inequality Index, value	0.599
Shares in parliament, female-male ratio	0.061
Maternal mortality ratio (new estimates) (deaths of women per100,000 live births)	39
Gender Inequality Index (updated)	0.576
Sustainability	
Adjusted net savings (% of GNI)	10.4
Carbon dioxide emissions per capita (tonnes)	0.6
Protected area (per centage of terrestrial area)	20.8
Adjusted net savings (% of GNI)	10.4
Human Security	
Refugees (thousands)	137.8
Refugees (thousands)	137.8
Unemployment rate, total (%) (% of labour force)	5.2
Homicide rate (per 100,000)	7.4
Robbery rate (per 100,000)	n.a.
Population affected by natural disasters (average per year, per million) (average per year per million people)	31,444
Composite indices	
HDI value	0.658
Indicator	**Value**
Multidimensional poverty index (k greater than or equal to 3)	0.021
HDI value	0.658
Gender Inequality Index, value	0.599
Inequality-adjusted HDI value	0.546