National Physical Planning Policy & The Plan – 2017-2050

National Physical Planning Department
Sri Lanka

National Physical Planning Policy & The Plan – 2017 - 2050

June 2019

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National Physical Planning Policy
& The Plan – 2017 - 2050

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I wish to thank profoundly the following, but not limited to

- Hon. Minister of Megapolis and Western Development for the continuous guidance and valuable comments.
- Secretary to the Ministry of Megapolis & Western Development and the team
- Members of the National Physical Planning Council (NPPC)
- Prof. Lalith P. Samarakoon, Secretary General and Chief Economist of the National Economic Council
- Members of the Inter-Ministerial Coordinating Committee (IMCC)
- Members of the Technical Advisory Committee (TAC)
- Participants at the focused group discussions from different institutions

Dr. Jagath Munasinghe
Director General
National Physical Planning Department

August 2018

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PART I : SECTION (I) — GENERAL

Government Notifications

GAZETTING OF THE UPDATED NATIONAL PHYSICAL PLANNING POLICY AND THE PLAN - 2050 APPROVED BY THE NATIONAL PHYSICAL PLANNING COUNCIL

I, Patali Champika Ranawaka, Minister of Megapolis and Western Development, do hereby publish, the Updated National Physical Planning Policy and Plan - 2050, prepared under the Section 5(a) and (b) of the Town and Country Planning (Amendment) Act, No. 49 of 2000, and approved by the National Physical Planning Council as per Section 3 (4a) of the Act on 26.02.2019, for the information of the general public.

PATALI CHAMPIKA RANAWAKA,
Minister of Megapolis and Western Development.

Ministry of Megapolis and Western Development,
Suhurupaya,
Battaramulla,
01st June 2019.

Updated National Physical Planning Policy and Plan - 2050

BASED ON THE NATIONAL PHYSICAL PLANNING POLICY AND PLAN - 2030 APPROVED ON 03.07.2007 AND 09.11.2011

This document was prepared in accordance with Sections 5A(b) of the Town and Country Planning (Amendment) Act, No. 49 of 2000, under powers vested with Director General of National Physical Planning Department, as per Section 4B(c) of the Act ; the plan was recommended by the Inter-Ministerial Coordinating Committee on 07.09.2017 and approved by the National Physical Planning Council chaired by His Excellency the President on 26.02.2019 as per Section 3(4a) of the Act.

Dr. JAGATH MUNASINGHE,
Director General.

National Physical Planning Department,
5th Floor,
Sethsiripaya,
Battaramulla.

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Executive Summary

With necessary consultation of the relevant stakeholders and the subject experts, the National Physical Planning Department (NPPD) has completed the updating of the National Physical Planning Policy and the Plan – 2050.

The main objective of the National Physical Planning Policy is to provide all development agencies in Sri Lanka with a broad national level guiding framework for the planning and execution of development activities, which will directly impact upon the physical environment of the island and its territorial waters, and to establish facilities, amenities and service related infrastructure incidental to the development of the physical environment.

It is commonly accepted that the state of the health, wealth and power of a nation is sensedin its physical environment. This implies that a well-ordered, efficiently managed and effectively used physical environment is a manifestation and in turn, a vehicle towards the increased livability, economic prosperity and political stability of a nation. Therefore, a planned physical development is more a necessity, rather than an option, in Sri Lanka's journey towards becoming a developed nation by 2030.

The National Physical Planning Policy consists of four main components:

1. **Conservation of the 'Critical' and the 'Unique'.**
   Adequate sensitivitytowards uniqueenvironmental settings,water resources, natural ecosystems and cultural landscapes in all development activities, adequate measures taken for the conservation and assurance of theirsustainability.

2. **Promotion of the 'Livability' for 'Human'**
   Selection of the environments that are most appropriate for human habitation in terms of favorable climatic conditions, safety from disasters, availability of essential services and resources to fulfill basic needs, in the planning of human settlements.

3. **Optimization of the 'Utility' of the 'Available'.**
   More attention to optimize the utility of the available resources and infrastructure, rather than endeavoring into entirely new ventures in future development activities, considering the economic constraints and fulfilling Sustainable Development Goals.

4. **Exploration of the 'Potentials' and the 'Enhancement' of the use.**
   Due consideration given to exploit the potentials of the locations with human resource: where populations with various skills and education levels are available; other resources: such asnatural reserves and scenic settings; and in-built potentials:such as areas with competitive advantage for diversified developments.

The Main Features of the Proposed National Physical Plan – 2050 includes the following:

The conservation Central Fragile Area

The 'Central Fragile Area' is the geographic entity that consists of the lands with sensitive natural ecosystems, highly vulnerable to landslides and is crucial in terms of water resources.

The conservation of critical land resources in these zones shall also be supported by a depopulation strategy. It is proposed to attract a larger share from the next generations (2020-2050) of the populations from these areas into the proposed economic development zones by means of more attractive employment opportunities, affordable housing and more beneficial and vibrant living environments.

The Coast Conservation Zone

The 'Coast Conservation Zone' includes the area for which boundaries have been delineated by the Coast Conservation Department under the provisions of the Coast Conservation Act No 57 of 1981. Even though a large quantum of physical developments of Sri Lanka has been taking place in this zone, conservation of the lagoons, estuaries, swamps, riverine environments and other sensitive environments is important for several reasons including the eco services that they provide, the attractions they have and the economic activities associated with them.

The Agricultural, Water Conservation, Eco and Forest Conservation Zones

An 'Agro Conservation Zone' is a geographic entity with lands that are predominantly used for agricultural purposes, as defined by the Agrarian Services Act No. 58 of 1979 and Rubber, Coconut and any other type of Plantations which are situated away from the main urban concentrations proposed in this report.

The 'Water Conservation Zones' include the areas those can have an impact on the long existing water cascading system, which includes the Large tanks, supplementary tanks, sedimentation tanks and small scale village tanks along with their water sheds and the feeding canals, mainly located within the Dry Zone of the island. The water bodies are mostly under the control of the Irrigation Department, but the associated lands are either under the control of the District Secretary or in the possession of private parties.

The 'Eco Conservation Zone' is an entity with wetlands, catchments of irrigation tanks, streams and reservoirs, and the sanctuaries declared by the Wildlife Conservation Department, under the provisions of the Fauna and Flora Protection Ordinance, No 2 of 1937, and subsequent amendments.

A 'Forest Conservation Zone' includes any area declared as a reserved forest by the Forest Conservation Department, under the provisions of the Forest Ordinance No 16 of 1907 and its amendments.

The Development Corridors

A 'Development Corridor' is a contiguous linear geographic entity, which connects a series of major and minor agglomerations of economic activities, a variety of secondary and tertiary sector industrial developments that mutually support the sustenance of each other through forward and backward links, clusters of urban facilities that support a relatively large concentrations of people who live, work and patronize the facilities within, and benefited by interconnected networks of physical, economic and social infrastructure.

Four Development Corridors are proposed according to the present context of the development in the country. In order to capitalize upon the advantages of the two major ports in Colombo and Trincomalee, the transport infrastructure and the favorable living conditions, a reasonably higher share of the future population (approximately 35-40%) of Sri Lanka shall be settled in lands that fall within the proposed East-West Development Corridor. The spatial extent of this corridor is defined approximately as the area within the first 10 kilometers (highest concentration), and 10-20 kilometers (medium concentration) and 20-30 kilometers (moderate concentration). Other Development Corridors are Northern Development Corridor, Eastern Development Corridor and Southern Development Corridor.

The studies show that around seventy to eighty percent (70-80%) of the population will be more than 80% 'Urban' in terms of the level of accessibility to urban facilities, engagement in livelihoods and lifestyles by 2050. Out of that population, at least sixty percent (60%) is expected to be concentrated within these Development Corridors, identified within the proposed spatial structure. Such concentration is mandatory to meet the thresholds of viability for the investments on specific infrastructure and high-end urban facilities and to have the critical mass required for their sustainability.

The Metro Regions

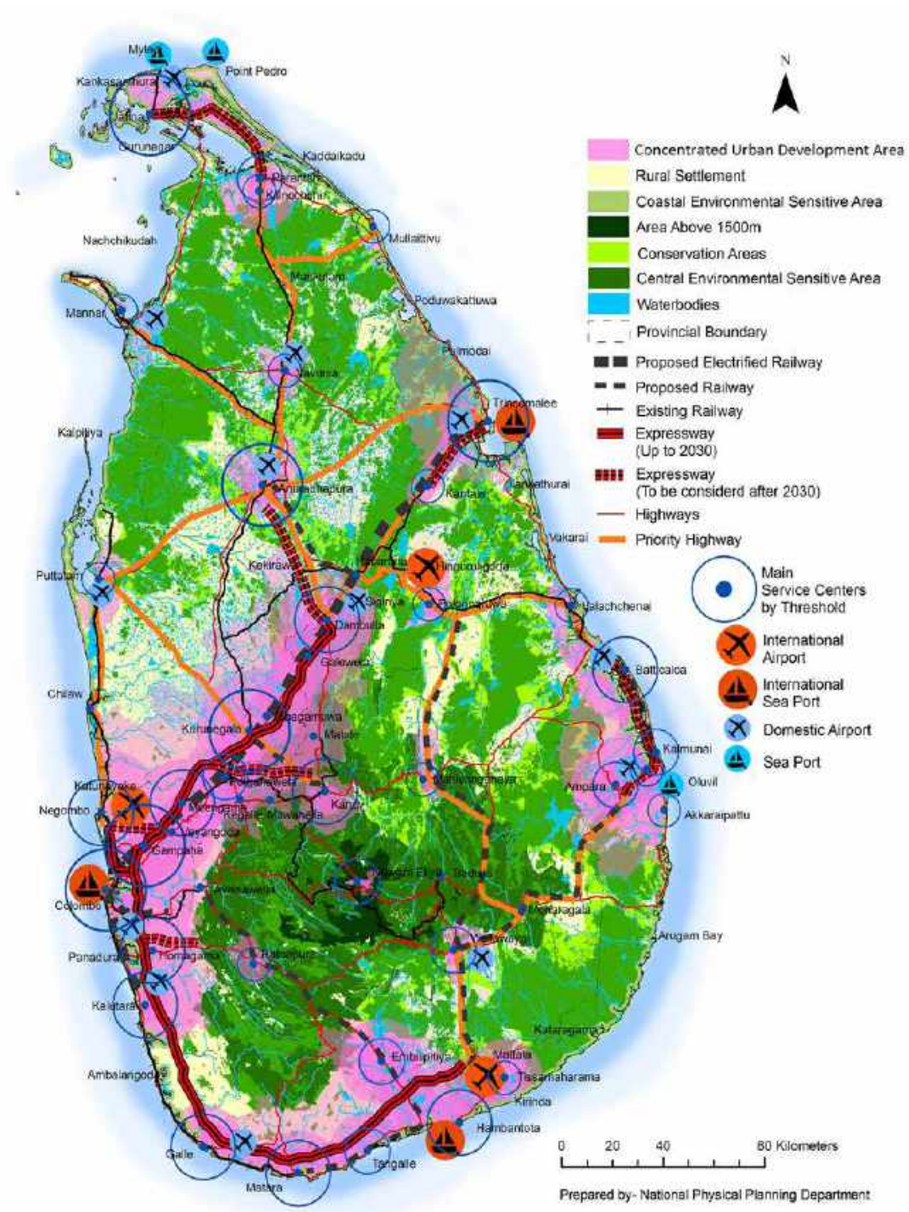
A 'Metro Region' is a geographic entity with a relatively larger agglomeration of economic activities, secondary and tertiary sector employment and a population around an urban area, characterized either by a single node or several nodes of urban facilities. Within this policy, a 'Metro Region' shall be an indication of an area with a minimum population of 500,000, and net residential population density between 1000 - 5,000 persons per square kilometer.

The area that falls within the proposed Metro Regions of Kandy and Anuradhapura and other

The Main Cities

A 'Main City' is a relatively larger concentration of economic activities, urban facilities and residential population, and serves as the higher order service Centre to a reasonably larger land area. Within this policy, a 'Main City' shall be defined as an area with a minimum population of 100,000, and net residential population density between 100 – 500 persons per square kilometer.

The Proposed Spatial Structure – 2050



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Chapter 01

Introduction

01

1.1 Introduction

This report contains the Overall Policy Framework for Planning Physical Developments in Sri Lanka and the Strategic National Physical Plan for Sri Lanka for the period 2017- 2050, devised out of that policy. This Physical Planning Policy and the Plan have been formulated by the National Physical Planning Department, as per the powers and functions vested with the Department under Section 5A, 5B of the Town & Country Planning Ordinance No. 13 of 1946 and the amendment to the Ordinance by Act No. 49 of 2000.

The main objective of the National Physical Planning Policy is to provide a broad national level guidance for all development agencies for the planning and execution of development activities, which will directly impact upon the physical environment of the country and to establish facilities, amenities and service related infrastructure incidental upon the development of the physical environment.

This National Physical Plan shall be regarded as the development framework derived out of the said National Physical Planning Policy, and it shall be implemented and enforced through detail Regional Plans which are formulated either for Provinces or Specially Designated Regions, Local Area Development Plans which are prepared either by the Urban Development Authority as per the provisions of the relevant law or the development agency authorized to formulate such plans, and Development Projects which are designed and executed by sector specific development agencies as per the provisions of the respective legislations.

This Policy and the Plan shall be reviewed in ten years for needy updates and amendments.

Google Earth

Lorenzot81 / Dreamstime

Sri Lanka has a land area of 65,610 square kilometers, which is relatively smaller compared to other nation states of the world. The total population is close upon 20.36 million (2012 census) and this leads Sri Lanka to be placed as a land with a relatively high population density.

1.2 The Need for a National Physical Plan

The state of health, wealth and power of a nation can be sensed in its physical environment. It implies that a well-ordered, efficiently managed and effectively used physical environment is a vehicle towards increased livability, economic prosperity and political stability of a nation. Therefore, a planned physical development is a necessity in Sri Lanka's journey towards becoming a developed nation by 2030.

Sri Lanka has a land area of 65,610 square kilometers, which is relatively smaller compared to other nation states of the world. The total population is close upon 20.36 million (2012 census) and this leads Sri Lanka to be placed as a land with a relatively high population density. The extractive resources of the island are limited, and the country's economy depends mainly upon tertiary sector contributions. The per capita GDP of the country in 2016 was US $ 3835 The Government aims to increase this up to US $ 12,250 by 2030. Even though this is an achievable target, there are many challenges on its way forward. Development economists' view is that for a healthy future, Sri Lanka needs to boost its national economy with an improved productivity of its labor force, enhanced and strengthened income through exports, and increased attraction of foreign investments. To that end, the government has to work in many fronts.

First, given that the capacity of the state sector is limited, the conditions shall be attractive for both local and foreign direct investments. Amidst competitive conditions prevalent in the region as well as around the globe, the physical and the socio-political environment of the country should be conducive for investments and must provide relative advantages to invest in Sri Lanka.

Second, it has to improve the required physical, social and economic infrastructure to facilitate effective and long lasting development programmes. The fast-evolving technology, increasingly shred information and ever modernizing means of communication necessitates Sri Lanka to act fast and choose the most appropriate, economical and effective strategies to improve its physical environment and the infrastructure.

Third, it has to generate employment opportunities appropriate for the relatively high literate and highly trainable labor force. With the increased attainment in tertiary education and the prevalent trends of youth deviating from farming and other traditional means of employment, Sri Lanka will have to focus more on high tech and innovation based industries to cater to the emerging demand for employment in the next few decades. Yet, with the physical resources that it possesses compared to other competitors in the region and around the globe, value addition, product development and transit services, capitalizing upon its strategic geographic location is the best possible option presently available to achieve a long sustaining growth in Sri Lanka's economy.

The implementation of the above for an increased and steady social and economic development is possible only through a planned physical development.

In order to address to the need for a planned physical development throughout the island, a National Physical Planning Policy was first formulated in 2007 and it was made a statute in 2011. Sri Lanka is one of the few countries that can be proud of having a National Physical Planning Policy. The National Physical Plan derived out of that policy and known to all development agencies has been updated by the National Physical Planning Department with a wider consultation of national and regional level authorities, government and non-government sector development agencies, and other interest groups. The Plan provides a comprehensive guide towards directing the physical developments of the island, addressing issues related to the economically, socially and environmentally sustainable use of land, water, ocean, human and other resources.

The National Physical Plan shall be understood as a broad policy guide which needs to be implemented at the provincial level by the provincial planning and implementation authorities and at the local level by various national and regional level development agencies and the local authorities. To that end, many statutory provisions are available, of which the Urban Development Authority Law of 1978, along with the subsequent amendments, Road Development Authority Act No. 73 of 1981 along with the subsequent amendments, National Environmental Act No: 47 of 1980 along with the subsequent amendments, are the most highlighted.

1.3 The Previous National Physical Plan - Prepared in 2007

In spite of the availability of a National Physical Planning Policy, it is sad to note that Sri Lanka has failed to achieve planned development in its physical environment so far. Ad hoc developments are common in all parts of the island and they have already caused irreparable damage to natural environmental systems, human lives and their properties. The main reason for this situation is the gap between the National level plans and the local and institutional level implementation.

The National Physical Plan is a broad policy guideline, which needs to be effectuated on the ground through two types of institutions. The first is the various national and regional level development agencies such as the Road Development Authority, National Water Supply & Drainage Board, Ceylon Electricity Board, etc. These agencies are supposed to undertake inter-regional and regional level development projects. The other is the local authorities. Local Development Plans are the apparatus that translate national level Physical Development Planning Policy guidelines for local level implementation. Contrary to this arrangement, gaps in implementation can be observed due to several reasons such as the lack of Planning and Implementation capacities of local authorities, lack of political will and appreciation for planned developments, mainly due to eagerness on short-term results instead of long-term, sustained benefits, undue interventions from interest groups, and the changing priorities from time to time with the change of political authorities.

The objective of establishing Municipal Councils as early as the 1860s, Urban Councils since the 1920s and the Pradeshiya Sabhas since the 1980s was to decentralize the functions of planning and implementation of development programs and projects at the local level, in addition to the provision of services and amenities for the common benefit of the local communities. Presently, 21 Municipal Councils, 41 Urban Councils and 275 Pradeshiya Sabhas are covering the local authority functions of the entire island. The planning and implementation capacities of these institutions are not at all satisfactory in terms of the availability of capable technocrats, the use of state-of-the-art methods and technology, and the required motivation for the same. In that context, the comprehension, adherence to, and implementation required for planned developments cannot be expected from the present state of those institutions.

Parallel to the above, it could be noted that the existing National Physical Plan has a few limitations in terms of meeting the current demands of development. Since its formulation was based on the ground situation more than ten years ago, it needs to be updated to meet the present and emerging situation.

The existing National Physical Plan should be regarded for its many progressive elements, such as the identification of 'Central Fragile Area', 'Coastal Zone', 'Wildlife Corridors', etc., as crucial to be conserved for future generations, the proposal to contain future urban developments within five Metropolitan areas along with a hierarchy of urban centers, and addressing the need for greater accessibility to all locations across the island.

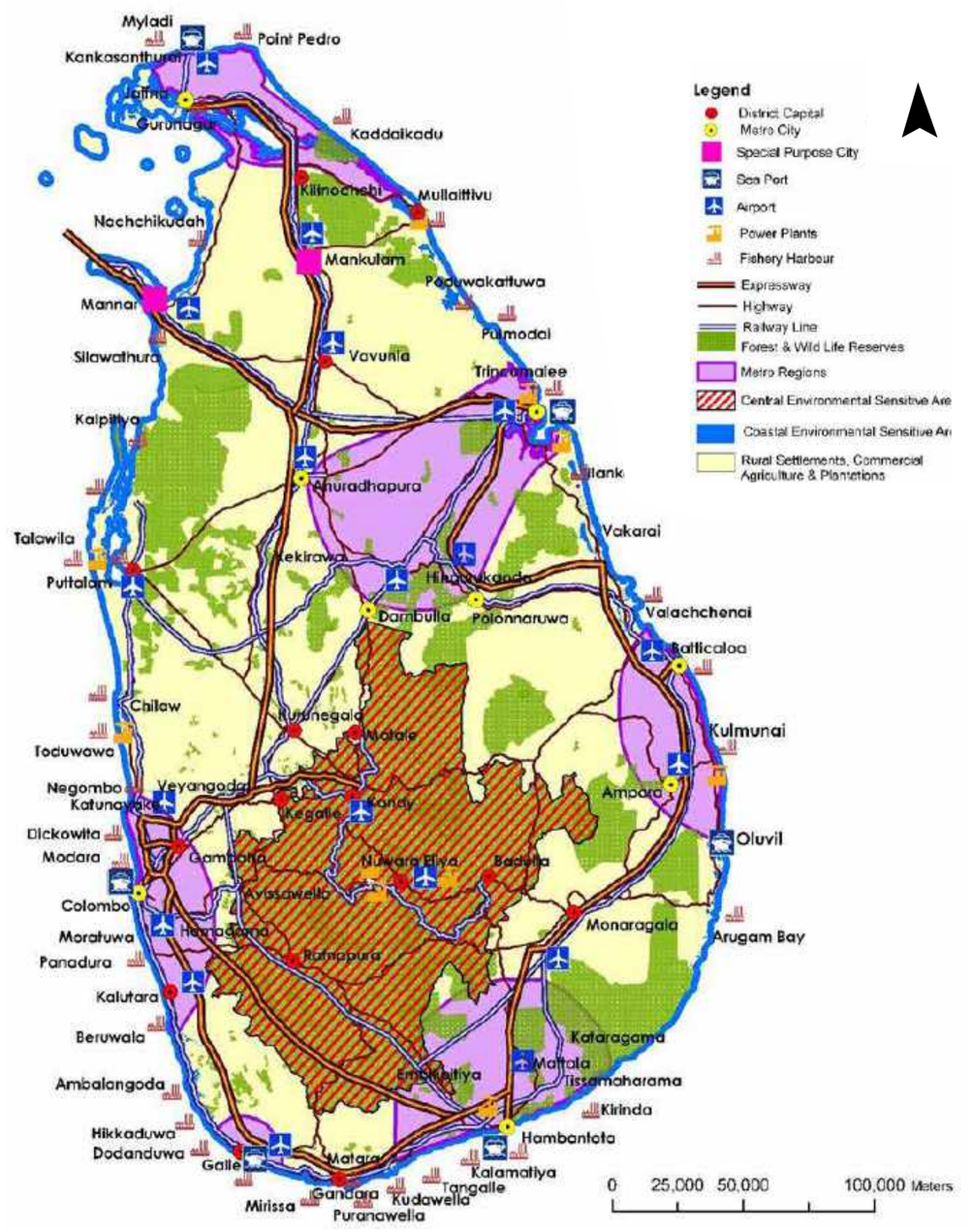
However, the plan also suffers from the limitations of compatibility with its main objectives with the priorities of the Government. The Plan has given higher emphasis to conservation, but proposed a redistributed the development throughout the island, based on the situations and other policies existed at the time of its preparation. Accordingly, the validity of the overall Structure Plan in terms of the five Metropolitan areas, missing major urban agglomerations etc., in the face of present day development trends, needs to be revisited.

The feasibility of the proposed developments such as expressways, modern railways, air-ports, large cities, etc. in the resource-const-rained economic environment in Sri Lanka is questionable. In addition to overcoming the above limitations, the newly identified con-straints and emerging challenges such as the increase in landslide-prone areas, the need for reforestation, etc. as well as emerging potentials such as wind power and Petroleum deposits, etc., need to be incorporated into the National Physical Planning Policy.

Another limitation identifiable in the Plan is the less regard that it provided to the evolving technologies, and the resulting transformation of then society, which demand unconventional physical environments for its existence and progress. The Plan is more static in nature and therefore, provided less flexibility to adapt into the emerging uncertainties.

In spite of the availability of a National Physical Planning Policy, it is sad to note that Sri Lanka has failed to achieve planned development in its physical environment so far. Ad hoc developments are common in all parts of the island and they have already caused irreparable damage to natural environmental systems, human lives and their properties.

Figure 1.3 : The Previous National Physical Plan - Prepared in 2007



1.4 The Scope of the Policy and the Plan

It shall be noted that the National Physical Planning Policy aims mainly at the physical development aspects of the nation. The physical developments include changes in the land uses, establishment and extension of settlements, shifting and location of human activities, installation and improvement of physical infrastructure, conservation and enhancement of any land based heritage or resource, etc. Any other development which does not have direct implications upon the physical environment of the country may not be covered within the scope of this policy.

The National Physical Plan is an overall national level guiding framework, devised from the policy, and it indicates approximate spatial extents, earmarked to accommodate identified physical developments. The detail demarcation for the implementation of such developments shall be established at the regional, local and project based plans.

At the same time at the implementation, the Plan shall be understood as a 'Dynamic Process Strategy' that provides adequate space for adjustments, amendments and incorporations for improvements with the upcoming changes, surfacing new information, evolving technologies, etc, rather than a static Master Plan that provides sets of regulatory structures.

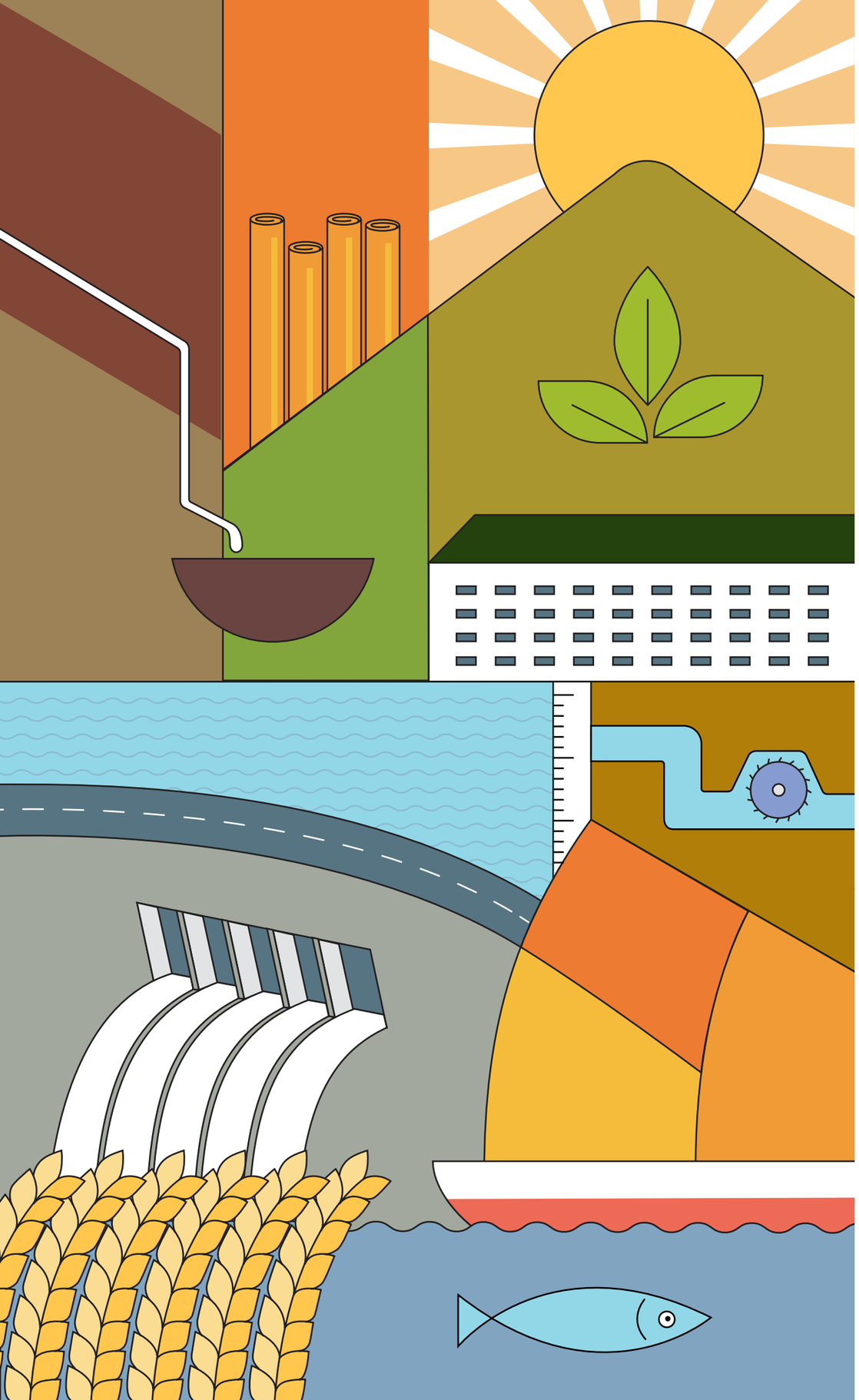
The effectuation of the Policy and the implementation of the Plan need high level coordination among all development related agencies and political authorities, both at the national and regional levels. At the same time, in order to have the development activities continuously complying with the Plan, increased awareness among citizens about the Policy and the Plan and their importance to ensure sustainable development of the nation is necessary.

The National Physical Plan is an overall national level guiding framework, devised from the policy, and it indicates approximate spatial extents, earmarked to accommodate identified physical developments.

Chapter 02

The Context

02



2.1 The National Physical Planning Department

The National Physical Planning Department is the successor to the former Town & Country Planning Department, which was established under the provisions of 'Town & Country Planning Ordinance No. 13 of 1946'. The amendment to the said Ordinance by 'Act No. 49 of 2000', enabled the reestablishment of the Department with changes to the original scope of its work. As per the amendment the Powers and Functions of the Department are given in Section 5A of the Act as follows:

1. *To formulate a National Physical Planning Policy*
2. *To prepare a National Physical Plan*
3. *To prepare physical planning guidelines to be adopted by the regional or local physical planning authorities.*
4. *To prepare any regional or local plan where the regional or local planning authority fails in, or requests*
5. *To assist Provincial Councils in the preparation of Regional Physical Plans*
6. *To make recommendations to the coordinating committee on plans*
7. *To review and examine, periodically the National Physical Planning Policy, National Physical Plan and the strategy in operation*
8. *To monitor the implementation of the National Physical Plan*
9. *To assist the Council and the Coordinating Committee in all activities*

Accordingly, the formulation of the National Physical Planning Policy and the National Physical Plan are the primary tasks assigned to the Department.

2.2 Development Targets of the Government of Sri Lanka

The National Physical Planning Policy and the Plan intends to facilitate the development needs of the nation. The dev-elopment needs emerge from several domains such as economic, social and environmental, and they inevitably vary from time to time. While some needs are long-lasting, the others may be transitory and evolve into some other form. Thus, they can be identified in relation to different time horizons.

Out of many official reports published by the Government and the statements made by His Excellency the President, Honorable Prime Minister and the other leaders of the government, the following could be identified as the current development targets of the Government.

2.2.1 Short Term Targets (03-05 years : 2025)

a. 05% - 06% steady growth in national economy
b. 1,000,000 employment opportunities
c. 100 Economic Development Zones
d. Increased opportunities for Foreign Direct Investment
e. Balanced development across the Island
f. Preserved traditional agriculture, traditional industries,cultural landscapes and traditions
g. Sustainable use of land, water and other resources

2.2.2. Medium Term Targets (within 15 years : 2035)

a. Transformation in the economy from conventional industries to high-tech and knowledge based industries.
b. Increased accessibility across the Island
c. Exploration for new resources for development

2.2.3. Long Term Targets (within 30 years: 2050)

a. Sustaining central water sources of the Island
b. Responding to effects of Climate Change
c. Encountering natural hazards
d. Sustainable urbanization
e. Increased international trade

2.3 Ongoing National Level Projects and Programmes

The National Physical Planning Policy is an overarching development guide for all sectors of developments. The National Physical Plan is a composite of development projects those need to be implemented by different development agencies. The Policy and the Plan therefore, have to incorporate a wide array of different projects and programmes prepared and implemented by different agencies. However, at the stage of this update of the National Physical Planning Policy and the Plan a number of development projects and national level programmes, those have direct impact upon the physical environment of Sri Lanka, are already underway. They are essentially reviewed and incorporated into this Policy and the Plan as appropriate.

The list of development projects and programmes those are being implemented and under review, and considered for this task are given in Appendix 2.3.

2.4 International Conventions and Agreements

Sri Lanka has been party to many international treaties and conventions. Among them, the United Nations (UN) pioneered treaties take the lead. The most prominent is the Sustainable Development Goals that all UN member states are bound to achieve by 2030, covering a wide array of development matters those need to be addressed through physical panning. The Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) on mitigating greenhouse gas emissions (2017) has a direct implication on the physical planning of all member states.

In addition to them, the agreements for regional corporation and inter-government trade and defense related affairs too play a vital role in deciding future economic and socio-political landscape of the state and thereby the physical environment of the island.

The future physical developments in the country need to pay due regard to the conditions and the accomplishments envisaged by those conventions and agreements. The conventions and agreements reviewed for this updating exercise are given in Appendix 2.4.

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The total land extent of Sri Lanka is limited to 65,610 square kilometers for which it has been placed among the smallest twenty third nation states of the world. Yet, the land has inherited of high bio diversity, natural ecosystems and attractive geographic settings and also complimented with historically evolved cultural landscapes and traditions continued by its inhabitants.

2.5 The State of the Physical Environment

The total land extent of Sri Lanka is limited to 65,610 square kilometers for which it has been placed among the smallest twenty third nation states of the world. Yet, the land has inherited high bio diversity, natural ecosystems and attractive geographic settings and also complimented with historically evolved cultural landscapes and traditions continued by its inhabitants.

Water is one of the scare resources that Sri Lanka is gifted with, owing to the tropical weather conditions. There are 103 rivers radiating throughout the island from central hills and serving water needs for consumption, irrigation, power generation and to maintain numerous ecosystems associated with those water ways (Figure 2.5.1). In spite of seasonal variations, the annual precipitations and the discharged quantities show that the water demand for regular uses and development activities until 2030 can be met with the annual flows of these rivers if they are well managed (Figure 2.5.2).

The sources as well as the continuous flow of these rivers have been supported by the forest cover, especially in central highlands. The present forest cover of the island is limited to twentyeight percent (28%) and under the UNREDD programme, the Government targets to increase it up to 32% within next ten years (Figure 2.5.3). Forests are also habitats for numerous species of wild life. However, as a result of unplanned physical developments the forests, coastal areas and the central highlands are increasingly disturbed by various human activities. It is estimated that the forest cover of the island has depreciated by more than 10% within the last decade.

The increasing disaster situations such as frequent floods and landslides that Sri Lanka has been experiencing in the recent past clearly show a relationship with the human intervention in the natural settings, over and above its exposure to the effects of climate change. About twenty percent of the total land area of the island is in central hill zone that has been declared as vulnerable to landslides, but accommodates a residential population of about four million (Figure 2.5.4).

Approximately another five percent of the land in the coastal zone, with about twenty percent of the country's residential population, is exposed to sea level rise and the other effects of climate. change. The on-going development pattern shows that the populations in both the central hills and the coastal areas have been gradually increasing over the last few decades (Figure 2.5.5). This, on one hand accelerates the degradation of those fragile environments, whilst on the other increases the vulnerability of those populations to disasters. In addition to the floods and landslides, cyclones are also experienced periodically in certain areas of the island (Figure 2.5.6).

The Exclusive Economic Zone (EEZ) of Sri Lanka extends over an area which is eight times larger than the land area, but remains unexplored for its potentials (Figure 2.5.7). Still Sri Lankans enjoy oceanic resources, marine eco systems and coastal riverine landscapes as a result of being an island nation.

The infrastructure is a critical component for physical as well as socio-economic development of a nation. While the availability of physical and social infrastructure is not a problem in most of the sectors, the sustainability and utility are not commendable. For example, according to the World Bank (2015), Sri Lanka is a country in the region that has a widely distributed road and service network, but is poorly maintained. Apart from that, the excessive designs and non-consideration of cost-effective and more productive alternatives, especially in the development of transport infrastructure, is another form of suboptimum utility. Similar reflections are also observable in education infrastructure, public administration, etc.

In this context, planned physical development is a necessity and not an option for Sri Lanka to move forward into the next stage of development.

Ceylon Tea Trails

Figure 2.5.1 : Major Rivers, Tanks (Weva) and Reservoirs of Sri Lanka

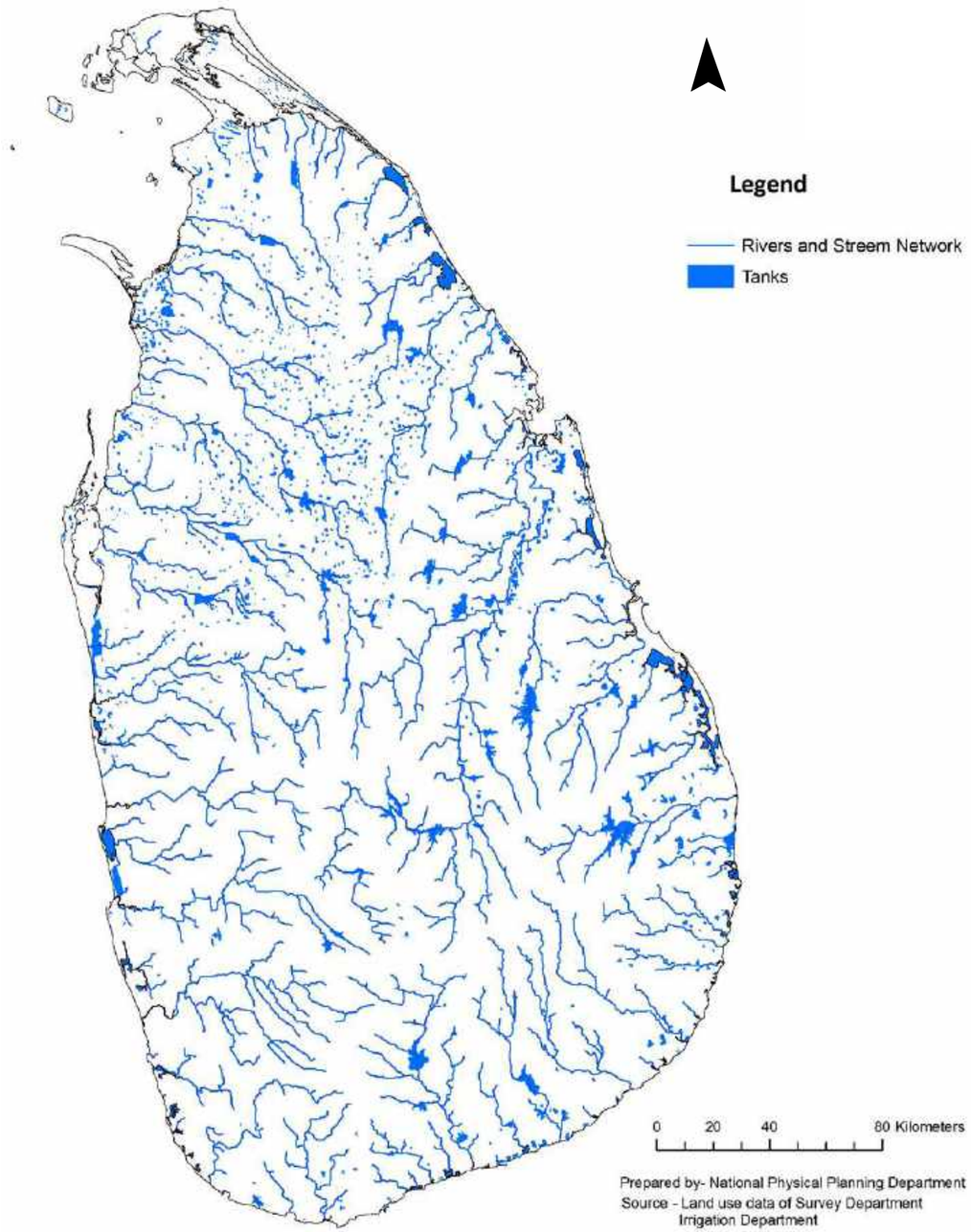
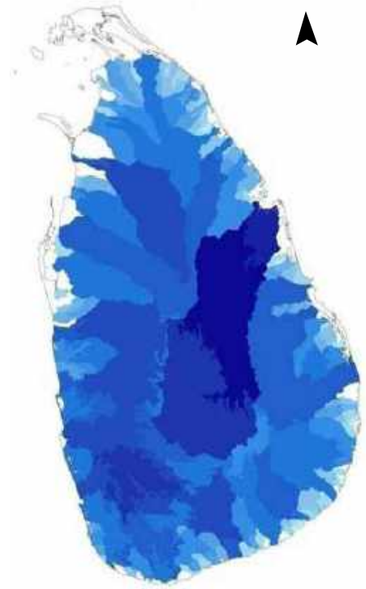
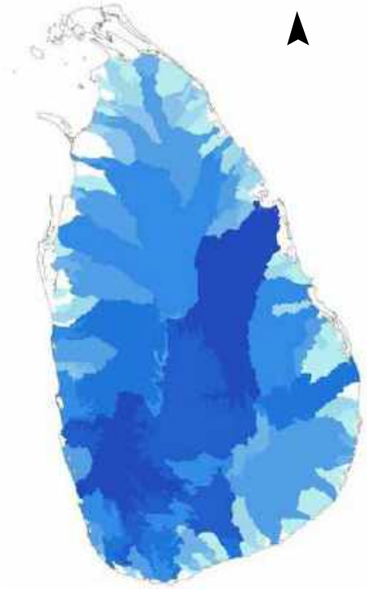


Figure 2.5.2 : River Basins of Sri Lanka and Annual Flows

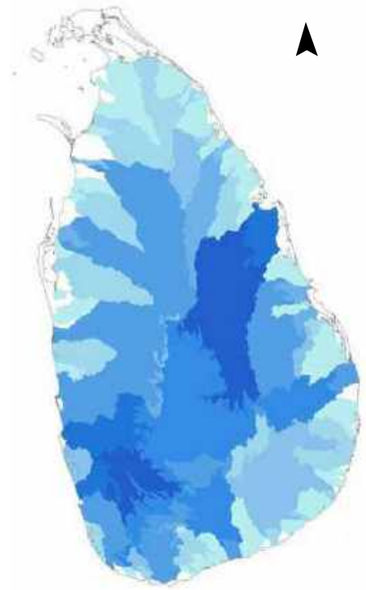
Average Annual Receipt based on Precipitation (2000-2012)



Average Annual Discharge at the Destination (2000-2012)



Availability for further use(Discharge - Use) as at 2017



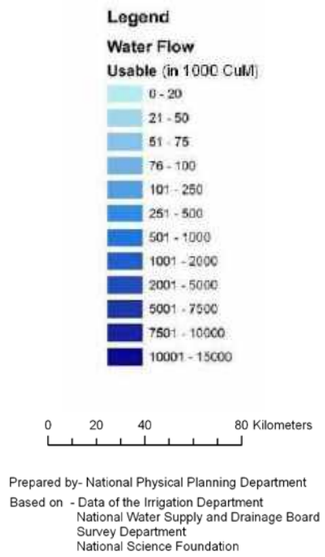


Figure 2.5.3 : The Forest Cover by Type

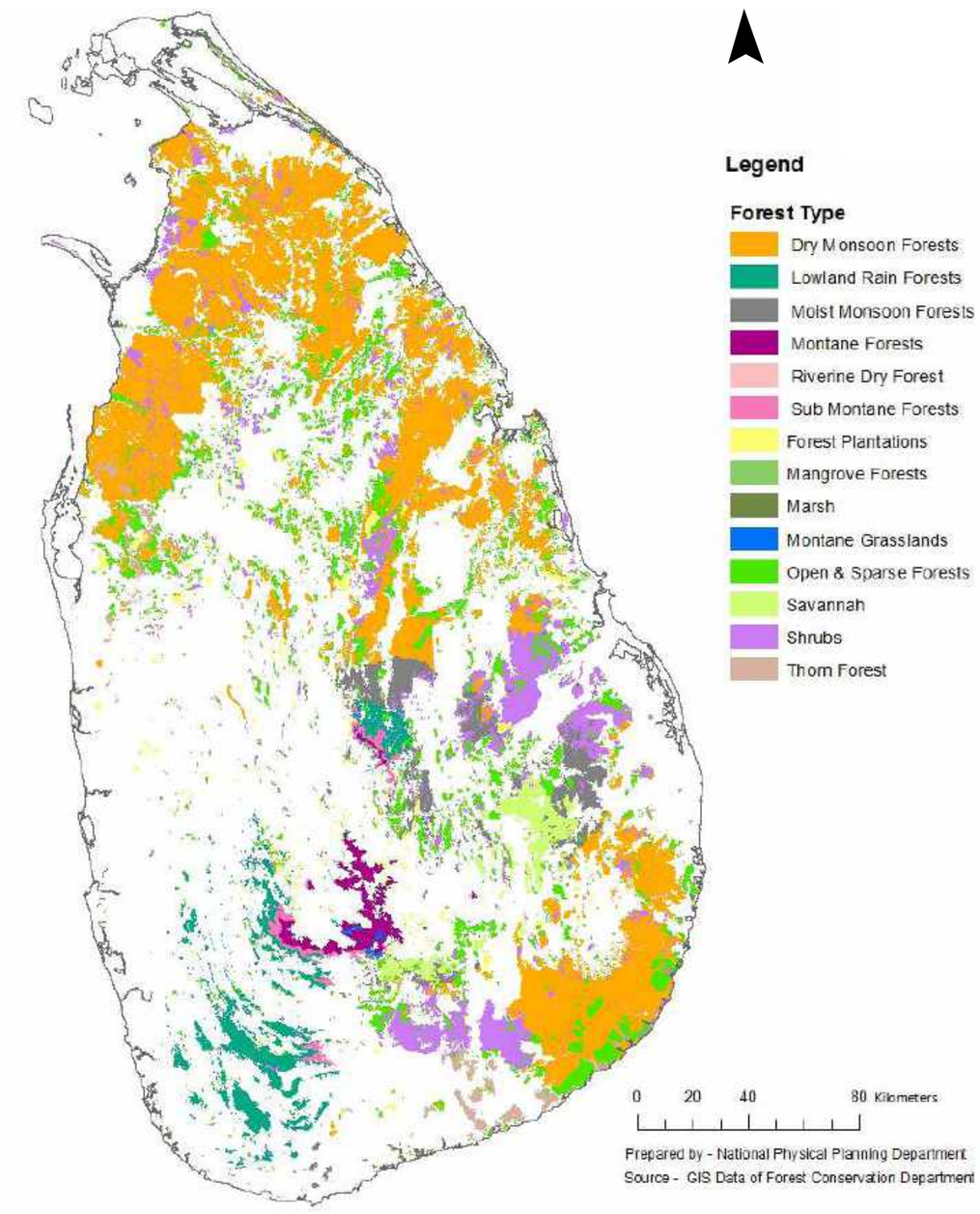


Figure 2.5.4: Central Environmental Fragile Area with Contour and Elevation Range

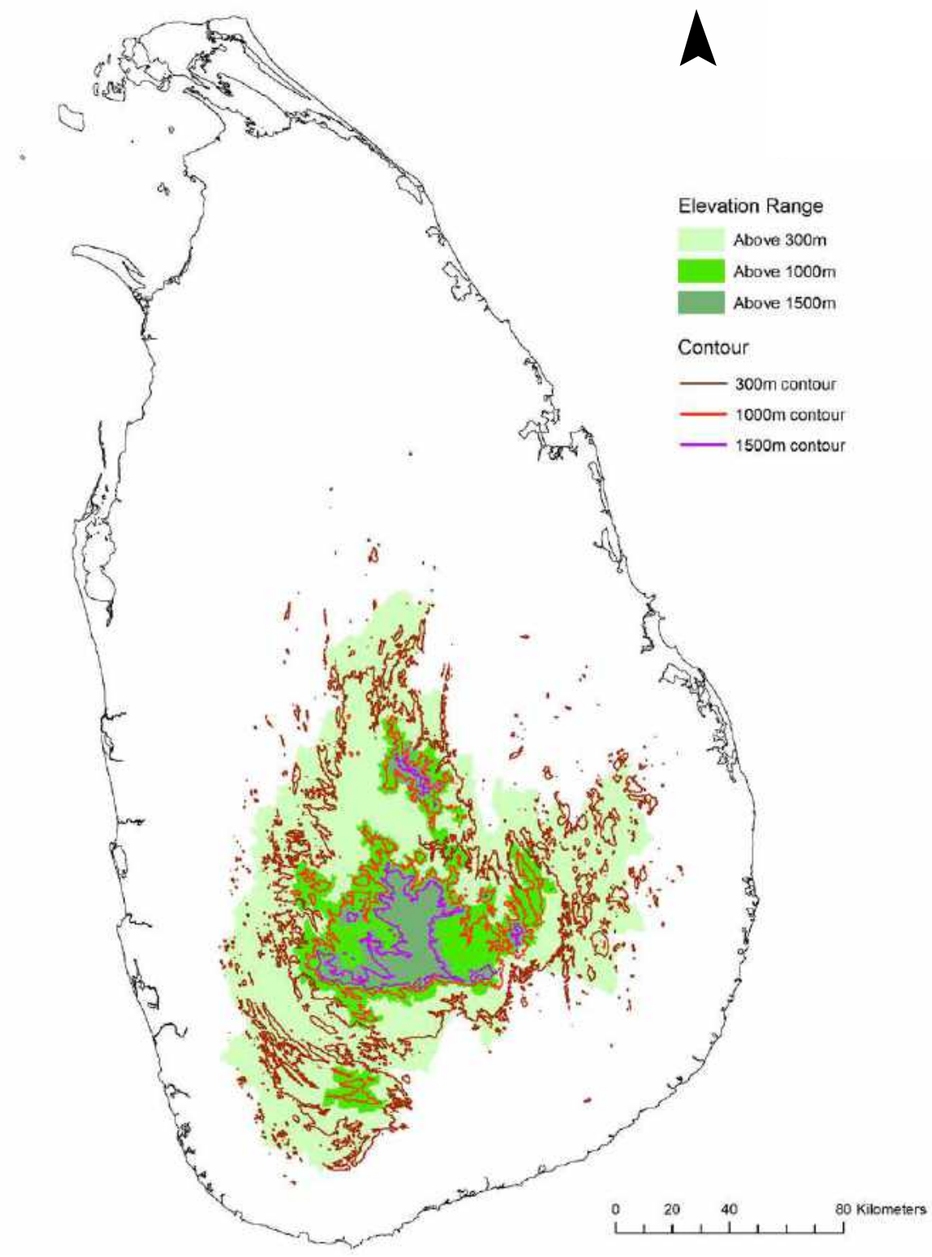


Figure 2.5.5 : Ongoing Development Trend Pattern

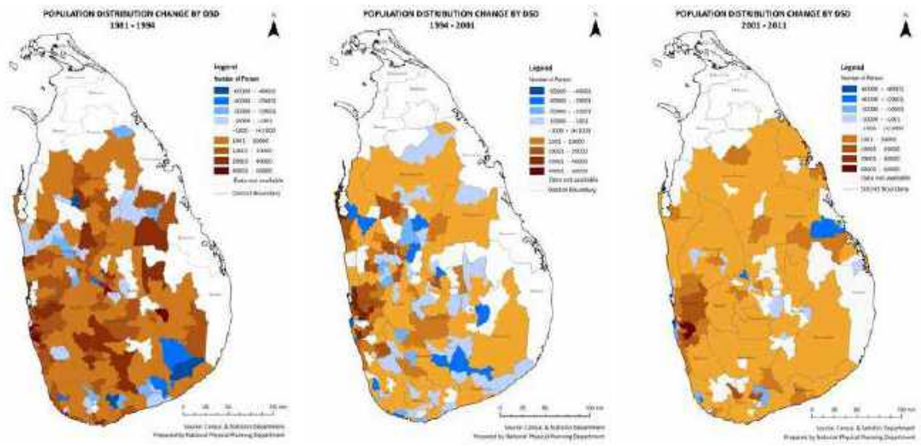
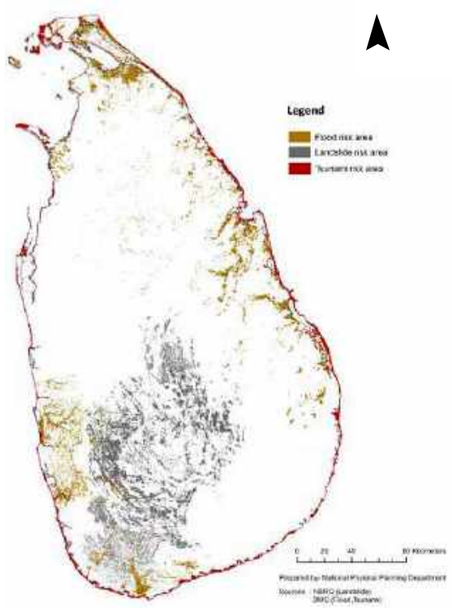


Figure 2.5.6 : Disaster Prone Areas

Areas vulnerable to Floods, Landslides and Tsunami



Cyclones and strong winds

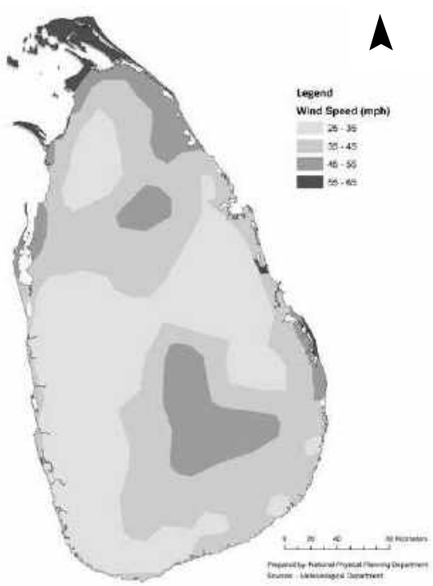
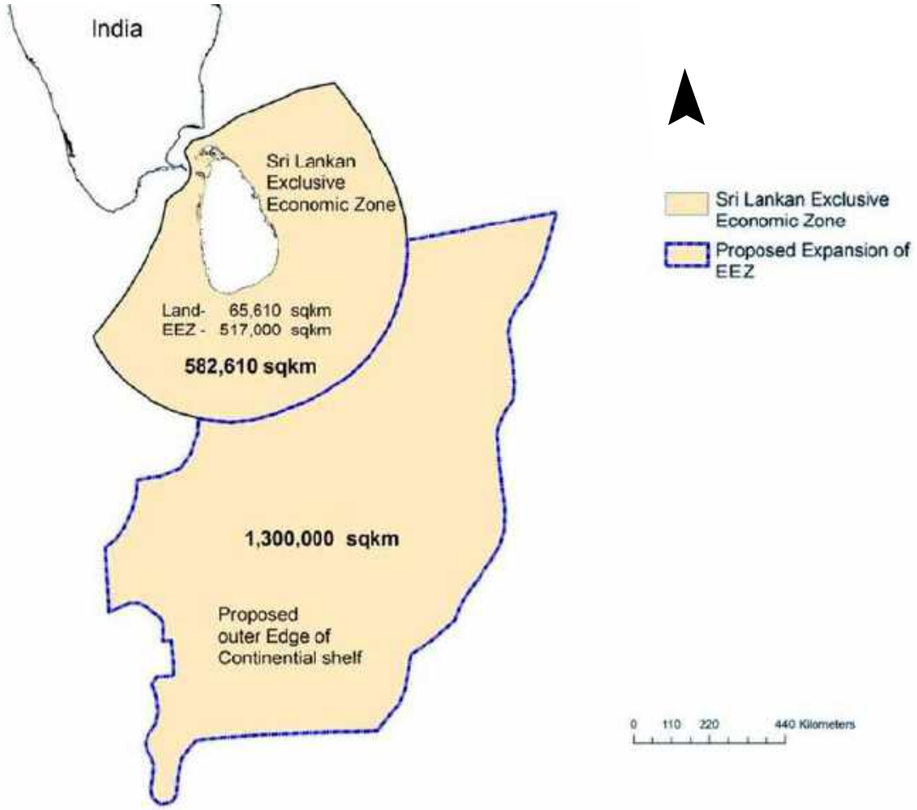
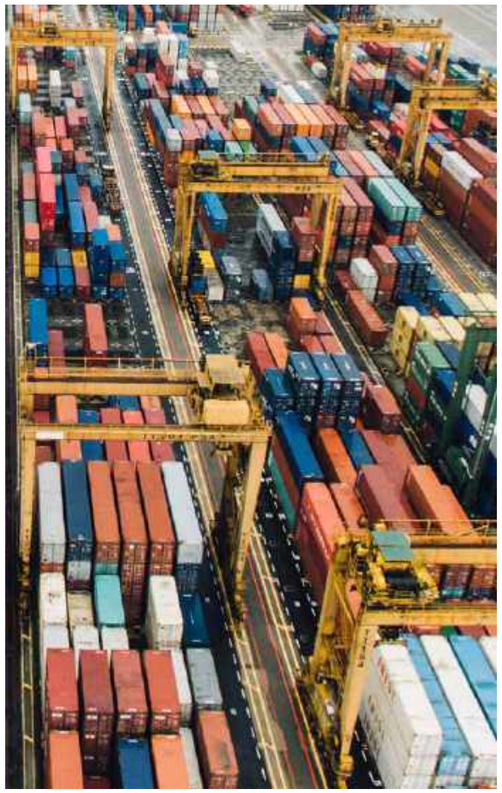


Figure 2.5.7 : Exclusive Economic Zone and Extension Potentials





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Sri Lanka is facing many constraints in its journey towards a developed nation. On one hand, the present status of the country indicates the need for an increased investment in some critical infrastructure development, employment generation and socio-economic development within next few years.

2.6 State of the Economy

The current Gross National Product of Sri Lanka is recorded as Rs. million 11,506,217 (US$ million 79,353). The annual GDP growth rate varied from 6% to 4% over last ten years (2006-2016). The per capita GDP remains Rs. 558,363 (US$ 3,835) range as at 2016, and the Government targets to bring it to Rs. 1,776,250 (US$ 12,250) range by 2030, which will elevate Sri Lanka to the state of a 'Developed Nation'.

Sri Lanka is facing many constraints in its journey towards a developed nation. On one hand, the present status of the country indicates the need for an increased investment in some critical infrastructure development, employment generation and socio-economic development within next few years. It is estimated that approximately rupees three hundred trillion is required for immediate improvements in road developments, transportation, health and education infrastructure, urban facilities, agriculture and fisheries, social welfare, etc., within next five years. On the other hand, the current situation in the national economy provides less space for the Government to undertake large scale investments within next ten years, due to high debt to GDP ratio and the reduced repayment capacity. Therefore, Sri Lanka has no option but to resort to a balanced path that will bring the economy to a comfortable debt ratio by 2025. The optimum use of the available resources to provide the economical and sustainable opportunities is thus, the only way to deal with this situation.

The Western province of the island has the largest concentration of economic activities, causing many disparities across the island. It is noted that more than 25% of the total population, 40% of the GDP contribution and more than 50% of the physical infrastructure concentration is in the 5% of the island's land space demarcated as the Western Province. The connectivity between distant areas and the modes of access are at relatively lower levels compared to the relatively shorter distances to them from Colombo which is the epicenter of this concentration. As a result, there are issues related to the inequity in providing basic facilities, employment opportunities, income distribution, accessibility to education, health and other services. Such imbalances have already paved way to conflict situations in the Northern and Southern parts of the island in the recent past.

As stated earlier, in order to bring better economic future to Sri Lanka, the government will have to work in many fronts. Firstly, it has to create an environment conducive for both local and foreign direct investments. While most of the conditions depend on the fiscal and monitory policies of the government, the enabling physical environment is a critical factor for an investor to be attracted to a location.

Secondly, it has to improve the necessary physical, social and economic infrastructure required to facilitate effective and long lasting development programmes. The fast evolving technology and ever modernizing means of communication necessitates Sri Lanka to act fast and chose the most appropriate, economical and efficient strategies to improve its infrastructure.

Thirdly, it has to ensure that the forthcoming investments generate employment opportunities those will match the demands of the relatively higher literate and trainable labour force. With the increased attainment in tertiary education and the prevalent trends of youth deviating from farming and other traditional means of employment, Sri Lanka will have to shift from the conventionally hailed agriculture and low-key manufacturing sectors to high-tech and innovation based industries

to meet the emerging demand for employment in the next few decades. Yet, with the limited physical resources that it possesses compared to the other competitors in the region and around the globe, value addition, product development and transit services and capitalizing upon its strategic geographic location are the best possible option presently available for a sustainable growth in Sri Lanka's economy.

Finally, it has to ensure that the developments and their benefits reach all throughout the country, irrespective of age, ethnic and location differences. It is widely discussed that even at the electronic age, the physical accessibility still decides the demand for locations. Higher accessibility leads to higher potential for development, and the accessibility is dependent upon connectivity. Therefore, in order to have a balanced development with wider outreach to communities all over the island, differences in connectivity, owing to distance and the variations in geographic conditions, need to be ironed out through appropriate means of communication. Planned physical environment is important to facilitate such modes of communication.

Nazly Ahmed / Flickr

The general population distribution pattern throughout the island from the first census year 1881 to the latest 2012, show a dramatic shift of the population and settlement distribution pattern

2.7 Population and the Settlement Distribution Pattern

According to the National Census 2012, the total population of Sri Lanka is 20,359,439, and is growing at a low rate of 1.1, which is below the Global average growth rate. It is projected that with the present rate of growth the total pollution is unlikely to exceed twenty-two million (22.0 million) by 2030, and if the trends continue, it will reach maximum twenty-four million (24.0 million) by 2050.

Out of the total population the active labour force is 51.6% and the dependency ratio is 48.4% The ratio is likely to increase within next ten years. This indicates that the labour force has to engage in highly productive sectors in order to meet the increasing costs on social welfare. This requirement for more productive engagement is further highlighted by the increasing education attainment of the upcoming generations of the population. The figures for consecutive years up to 2012 show an increasing pattern in tertiary education all over the island in general and relatively higher rates in certain regions (Figure 2.7.1). The populations with higher education attainments necessarily demand high end employment. Within the current context, the provision of such employment opportunities are possible with the developments in trade and services, finance, information technology and innovation based industries.

The changing demand pattern for more productive employment is further indicated by the changing unemployment patterns throughout the island. Except for Northern and Eastern provinces, whose statistics are not clear, a positive relationship is observable between the changing education attainment and the changing unemployment ratios (Figure 2.7.2).

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The general population distribution pattern throughout the island from the first census year 1881 to the latest 2012, show a dramatic shift of the population and settlement distribution pattern (Figure 2.7.3). At the early census years (1881) the distribution pattern retained the population centre of mass associated within close proximities to Kandy. The subsequent census figures lead to observe a gradual shift of the population centre of mass towards Colombo until 1981, and then towards central hills by 2012 (Figure 2.7.4). Even though this can be regarded as a hypothetical phenomenon, it can be related to the shift of political stronghold of the island.

The figures for consecutive years up to 2012 show an increasing pattern in tertiary education all over the island in general and relatively higher rates in certain regions. The populations with higher education attainments necessarily demand high end employment.

Figure 2.7.1 : Changing Pattern of Tertiary Education Attainment (2001-2012) (by Divisional Secretariat Areas)

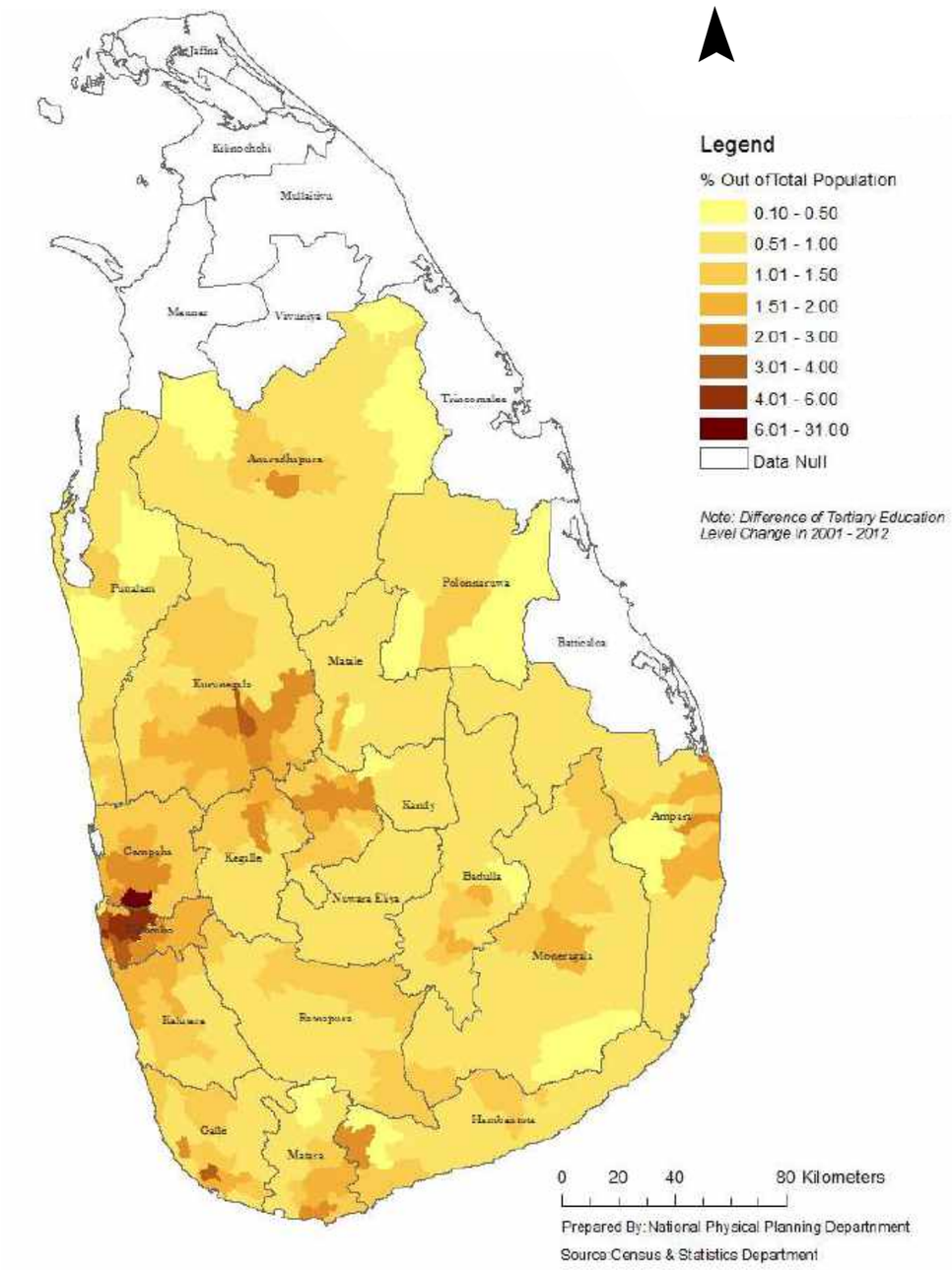


Figure 2.7.2 : The Changing Pattern of Unemployment 2001 – 2012 (by Divisional Secretariat Areas)

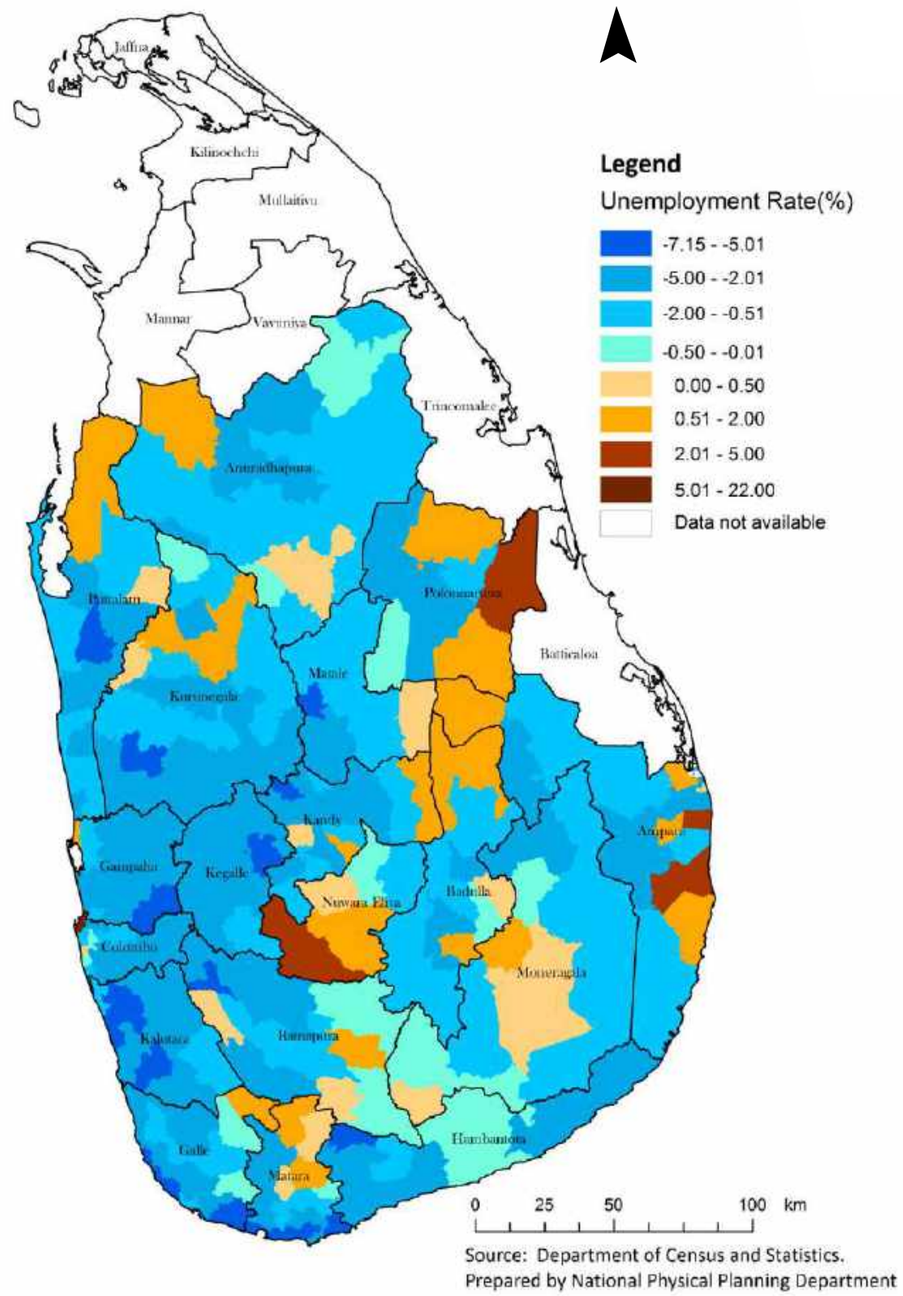
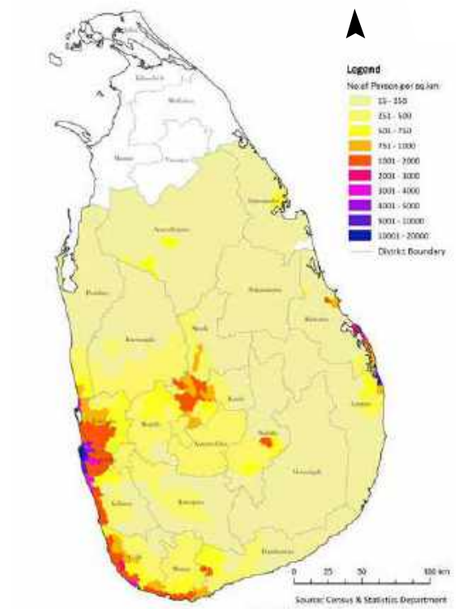
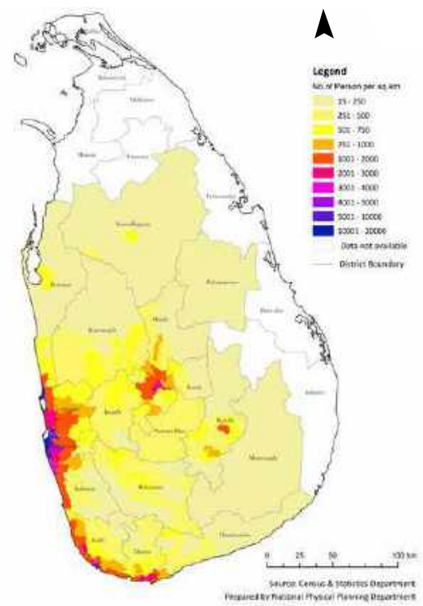


Figure 2.7.3 : The Changing Pattern of Population Distribution

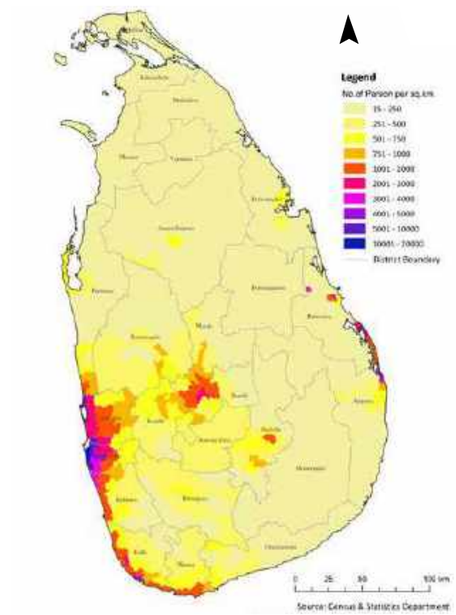
Population Density by DSD – 1981



Population Density by DSD – 1994



Population Density by DSD – 2001



Population Density by DSD – 2011

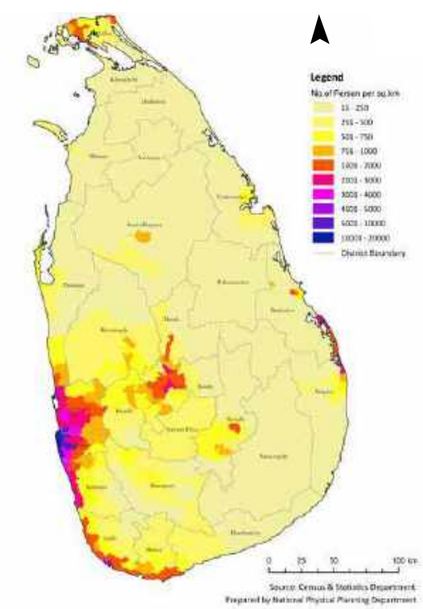


Figure 2.7.4 : The shifting Population Center of Mass (1881 -2012)

$$D = \int md / M$$

D = Distance (Co-ordinates), m= Mass (Population) in DS Div,
d = Distance of Town Center, M= Total Mass (population)

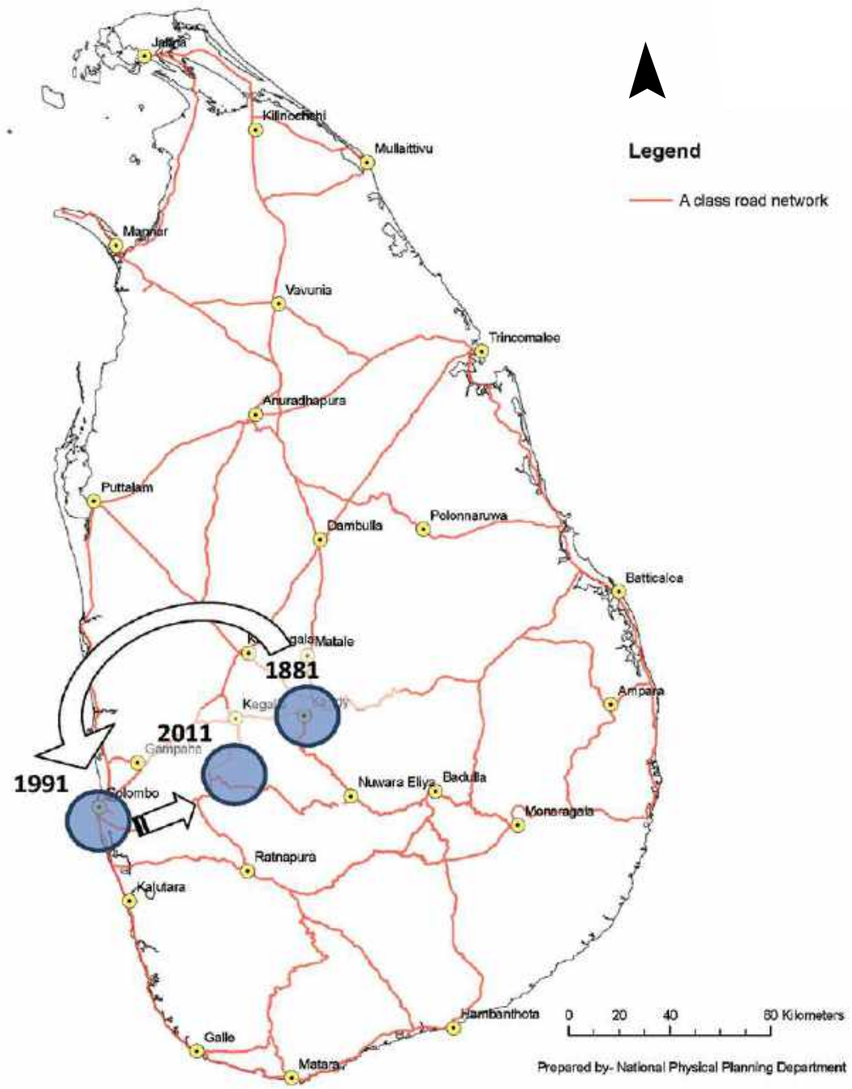
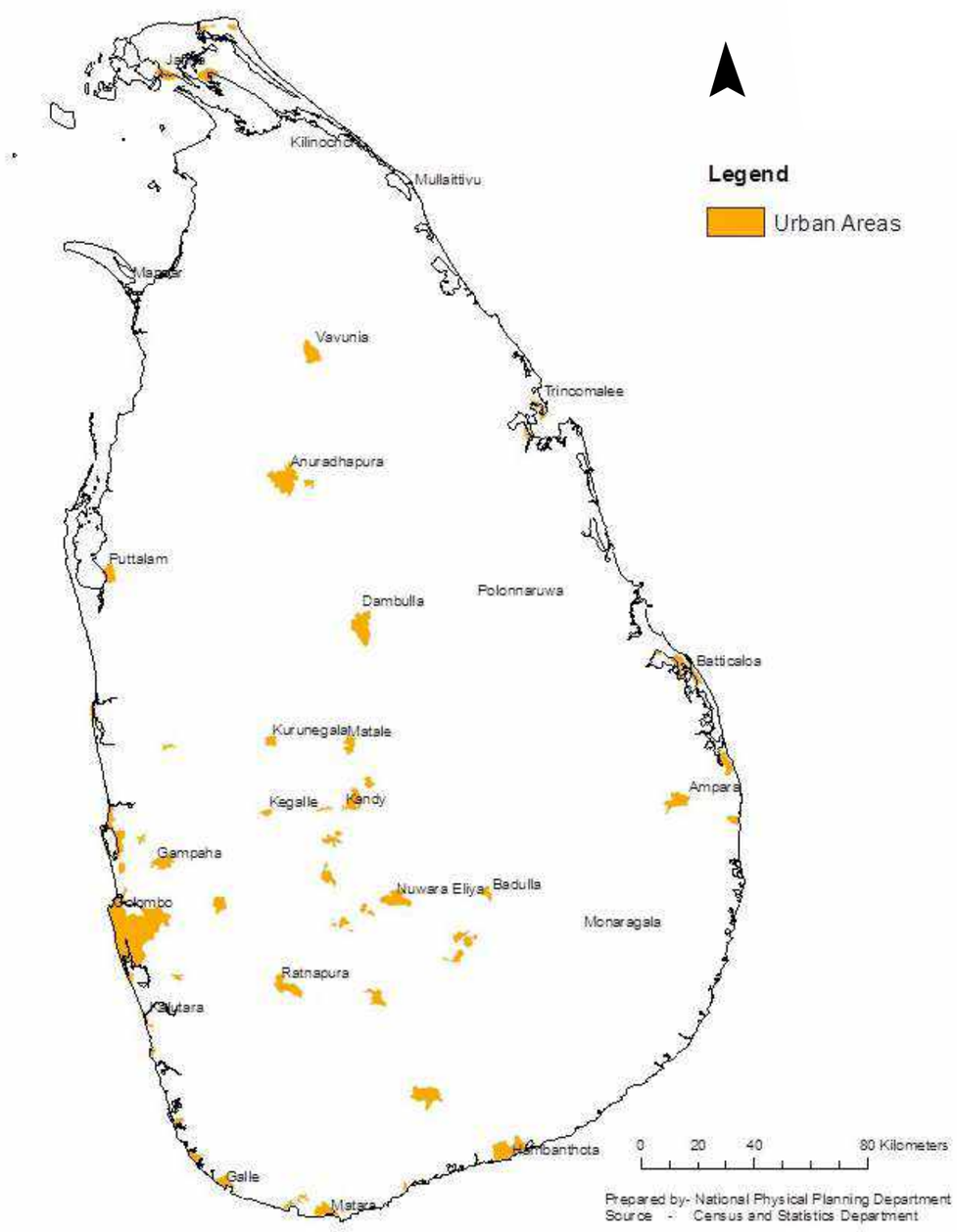


Figure 2.8.1 : Urban Areas (Municipal Councils and Urban Councils Areas)



2.8 The Urbanization Process

Urbanization has gained wide attention throughout the globe for its inevitable consequences as well as for the enormous opportunities that it will provide for economic progress and better quality of life. It is recorded that more than half of the world population is already urbanized and by 2030 more than seventy percent of the populations will be living in urban areas. The situation in South Asia will be eighty percent (80%) with the present development trends. In that context, in its roadmap towards achieving Sustainable Development Goals UN too has emphasized the need for National Urban Agenda for each nation state.

The population and household census 2012 shows that less than 20%out Sri Lanka's population is 'urban', defined as those who live in the areas under the jurisdictions of Municipal Councils and Urban Councils (Figure 2.8.1). Yet, there is a mismatch between the figures and the ground realities, as more areas than those under Municipal or Urban councils are already urban in their functions and outlook.

An independent study carried out by the University of Moratuwa reveals that 'Urbanization' in Sri Lanka is unique compared to many other countries and rather different from the conventional understanding of the urbanization process. Instead of populations moving into urban areas, urban facilities are fast reaching out into populations at large and urban lifestyles and aspirations are fast embraced by the people, even though they live away from designated urban areas. Accordingly, the urbanization of a population is not an instantaneous phenomenon. Rather, it is a continuous transformative process and thus, at a given point in time, varying shares of the population are urbanized at different levels(Table 2.1).

Irrespective of where they live, increased access to urban facilities such as the pipe-borne water supply, grid based electricity, municipal waste collection, street lights and other public services is the first indicator of becoming 'urban'. The changing lifestyles from 'rural' to 'urban' with increasing dependence on non-primary sector based livelihood, housing conditions those are 'urban' in character and the use of urban amenities, is the second indicator. The 'urban' aspirations reflected by the increased leverage towards service sector based and white and blue collar employment opportunities and the declining engagement in conventional agriculture and fisheries based activities is the third indicator.

The 'urbanizing' of the populations is continuing and at present (2016), it has been observed that more than eighty-five percent (85%) of the population is more than 30% urbanized and settled in about fifty-five percent (55%) of the island's land area. Within the same cohort, and in a cumulative counting, more than forty two percent (42%) of the population is more than forty percent (40%) urbanized and are settled in about eight percent (8%) of the total land area, which can be considered as the 'sub-urban' level, while more than a quarter (26%) of the population is already more than half (50%) urbanized and settled in about three percent (03%) of the land area, which can be considered as the 'urban' land area of the island. In a broad picture nearly half (50%) share of the Sri Lanka's population is more than forty percent (40%) urbanized and are concentrated into about

one tenth (12%) of the total land area of the island (Figure 2.8.2). With the prevalent patterns, it can be forecasted that about eighty percent (80%) of the population will reach the level of more than sixty percent (60%) urban by 2030, and will be scattered throughout the island.

It is important to note that the fast evolving technology is increasingly converge the distance between places on one hand and increasing the connectivity and the mobility of the people on the other hand. These inevitable technological advances will fast transform the lifestyles, utility patterns and the aspirations of both the present and the future generations of the population within next few years.

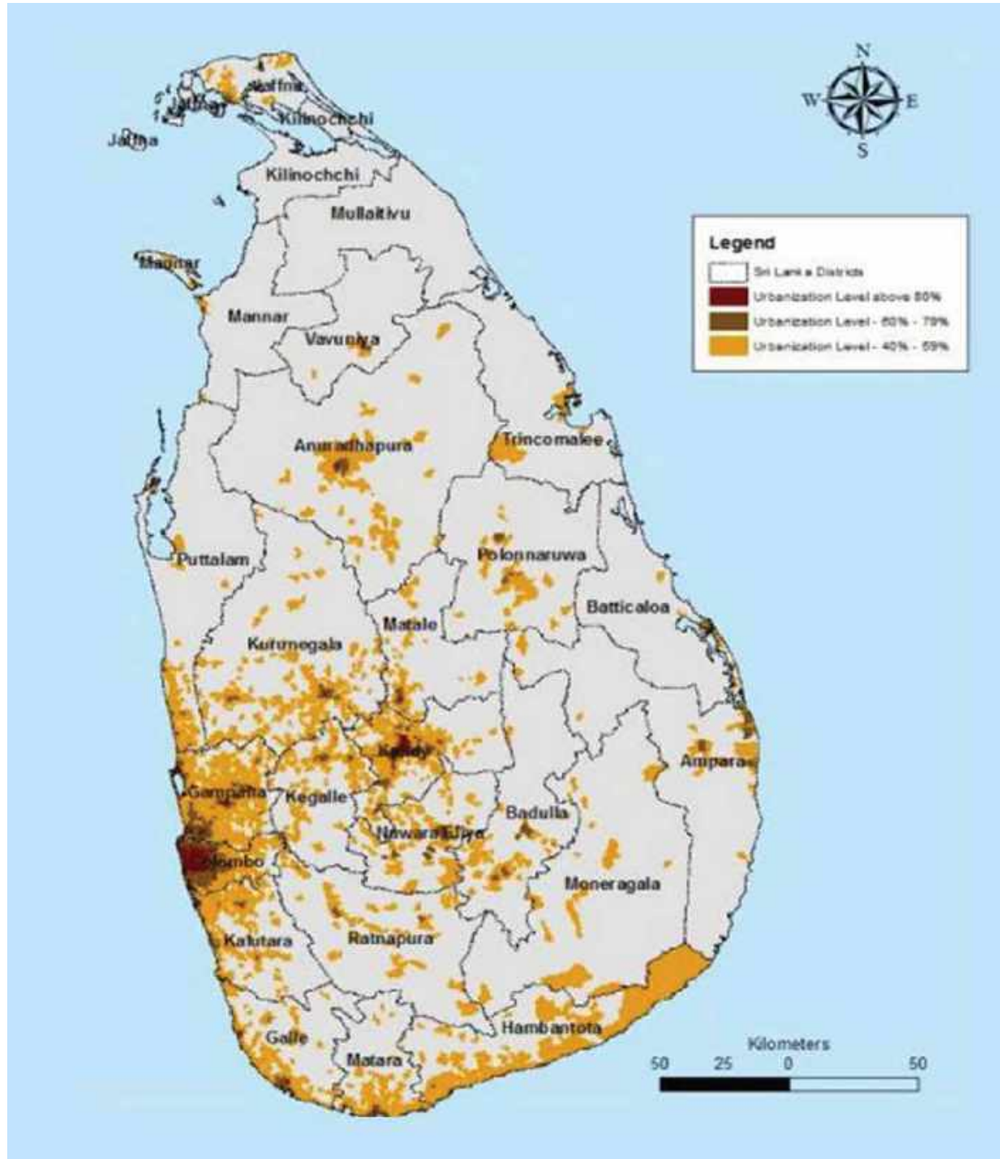
The likely consequence will be the increasing demand for more employment opportunities in non-conventional sectors, which are essentially associated with 'urban' way of life. Thus, the demand for urban infrastructure provision into distant arras will become a necessity. Resulting further growth of settlements in to reserved area and the likely destruction of natural settings and resources, seeking for modern developments will be inevitable with such patterns of development.

Unless the ongoing urbanizing process will be arrested in a healthy manner into a designated area, the haphazard physical development will be the outcome.

Table 2.1 : The Level of Urbanized Populations and Lands

Level of 'Urban' (percentile category)	% of the Total population	Cumulative % Population	% Land Extent of Settlement	Cumulative % Land Extent
91-100	0.54	0.54	0.03	0.03
81-90	1.67	2.21	0.1	0.13
71-80	5.28	7.49	0.37	0.5
61-70	6.37	13.86	0.56	1.06
51-60	12.17	26.03	1.86	2.92
41-50	16.71	42.74	5.27	8.19
31-40	41.7	84.44	36.91	45.1
21-30	12.57	97.01	32.87	77.97
11-19.9	2.85	99.86	19.05	97.02
0 -10	0.15	100.01	2.96	99.98

Figure 2.8.2 : Urbanizing Areas of Sri Lanka
(As identified by the study on Urbanization in Sri Lanka by the University of Moratuwa)



2.9 The Problem Statement

Non-compliance to the available plans and unplanned developments at the local level has already caused several disasters over the last few years, causing much life and property damage. It has also caused inefficiency, congestion and other externalities, especially in urban areas, chaos, pollution and public nuisance have become an integrated part of ongoing development. These also affect the quality of life of inhabitants, both in urban and non-urban areas, parallel to the deterioration of the unique environments in them.

The ongoing physical development scenario will cause several problems to Sri Lanka's landscape, national economy and its inhabitants:

The first is the cost of sub-optimum utility of resources. It can be observed that most of the available resources are not utilized to the best of their capacity, in the absence of access to such resources. Some of the highly potential attractions such as the beach fronts, wildlife locations and other scenic settings which are yet well exposed, the highly trainable human resources available throughout the island waiting for appropriate opportunities, the large scale infrastructure developed with heavy costs, and the lands suitable for various developments but not yet put into appropriate uses are examples of such suboptimum utility.

The scattered settlement distribution pattern in the island causes high costs in providing and maintaining necessary infrastructure such as roads, service networks, etc. Lack of a futuristic and holistic vision for the development of physical environment and incremental investments in urban development and related infrastructure in inappropriate locations enhances the prevalent scattered development.

The second is the cost of opportunities. On one hand there is a large number of National, Sub-national and Local Level plans, projects and programmes available with different development agencies, but they are mostly disintegrated and disjointed. This situation is caused in the absence of effective coordination among the agencies. The non-coordinated implementation of projects results in conflicts between different projects, implementation processes and the development agencies, and finally costs to the economy.

On the other hand, the strategic location that Sri Lanka is positioned geographically and the highly trainable workforce, both providing enormous opportunities to Sri Lanka with the currently evolving technological advances such as the globally embraced 'disruptive innovative technologies', and the international geo-political affairs such as China's One Route – One Belt policy', are largely neglected within the present day development scenarios. Such inattention will lead Sri Lanka to miss the timely dividends that such opportunities otherwise could provide to boost the development of the nation.

The third is the cost of degradation. Degradation is a result of both overuse and incompatible use. The use of some of the fragile natural environmental systems over and above their carrying capacities is common in examples such as river sand mining, earth excavations and deforestation, as well as in some environmental settings such as beach fronts, hill-country attractions, etc. Incompatible uses are mostly seen in the context of urban development, plantations and industrial locations. Both incur irreversible costs to the physical environment and thereby, to the society and the economy as a whole.

The fourth problem is the non-compliance. Non-compliance to the available plans and unplanned developments at the local level has already caused several disasters over the last few years, causing much life and property damage. It has also caused inefficiency, congestion and other externalities, especially in urban areas, chaos, pollution and public nuisance have become an integrated part of ongoing development. These also affect the quality of life of inhabitants, both in urban and non-urban areas, parallel to the deterioration of the unique environments in them.

The noncompliance also causes several other problems. On one hand, since the plans are prepared expecting the best opportunities through the most effective means of implementation, deviations from such plans often delay the achievement of timely targets, thereby losing the best opportunities targeted by the plans. On the other hand, since the plans were intended to achieve equity and balanced development, deviations usually affect the society at large by depriving opportunities for all to share benefits. In addition to costs, the present process of development may also cause frustration and loss of confidence in the state amongst the public.

Abby0427 Yoga / Unsplash

2.10 The Expectations of the National Physical Plan

The National Physical Planning Policy and the Plan are intended to address the following expectations of the Nation:

1. *Guiding future physical developments of the country in a desirable direction with due considerations on the scarce land, water, human and other resources, invaluable natural and cultural heritage, and strategic global positioning.*

2. *Making a physical environment that is attractive for local and foreign investments in highly productive sectors of the economy aiming to generate more employment opportunities for the upcoming generations.*

3. *Directing future government investments on infrastructure into most appropriate and strategic locations in the most economical manner ensuring their optimum utility.*

4. *Attraction of the slowly growing, but rapidly urbanizing future populations into better serviceable areas of the island which are free from hazards and less vulnerable to disasters and climate change effects*

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2.11 The Updating Process

The process that need to be followed for the preparation of a National Physical Plan is set out in the Town & Country Planning Ordinance No. 13 of 1946 and the amendment to the Ordinance by Act No. 49 of 2000. Accordingly, the following aspects shall be considered in reviewing this document:

2.11.1. The Sequence of Activities

In a summary, the process followed for the formulation of the Policy and the preparation of the Plan can be indicated as given below (Figure: 2.11).The process, up to the presentation to the National Physical Planning Council, was carried out for eighteen months, commencing from June 2016.

2.11.2. The Working Team

In order to carryout various tasks involved in the updating process an in-house team of Town Planners, Architects, Engineers and Development Assistants was appointed. The list of the members of the Working Team is given in Appendix 2.11.2. The Team has been working under the close supervision of the Director General of the National Physical Planning Department.

Since the National Physical Planning Department did not have in-house expertise from all sectors, the needy inputs were obtained from the expertise available in relevant state sector agencies, who are vested with powers and mandated by relevant statutes to provide such inputs to a National level project of this nature. The inputs were obtained in the form of written queries, individual consultations as well as though 'focus group' discussions.

2.11.3. The Technical Advisory Committee

As per the Section 5C of the said Amended Act to Town & Country Planning Ordinance, a Technical Advisory Committee has been appointed by the Secretary to the Ministry of Megapolis and Western Development on 2016.10.01. The role of this Committee is:

> *Advise the Director General of the National Physical Planning Department in the formulation of the national physical planning policy and on the preparation of the national physical plan;*
>
> *Advise the Director General on the national physical planning strategy*
>
> *Advise the Director General on any other matter relating to national and regional physical planning that may be referred to the Advisory Committee by the Director General*

The Committee has met on three occasions before the preparation of the Draft Policy and the Plan. The list of the members of the Technical Advisory Committee is given in Appendix 2.11.3.

2.11.4. The Inter-Ministerial Co-ordination Committee

As per the provisions in Section 4A of the same Act an Inter-Ministerial Coordination Committee has been appointed. Under the current administrative situation, the Committee consisted of 40 members and the list of the members is given in Appendix 2.11.4.

2.11.5. The National Physical Planning Council

As per the provisions in Section 3 (1) of the Town & Country Planning Ordinance (Amended Act of 2000), the National Physical Planning Council (NPPC) has been in effect with the chairmanship of His Excellency the President of the Democratic Socialist Republic of Sri Lanka. As indicated in the provision, the current administrative arrangement necessitates the Council to be constituted of the 35 ex-officio members given in Appendix 2.11.5.

At the final step of the process, upon the request made by the NPPD, His Excellency the President summoned the members of the Council to the same meeting of the 'National Economic Council' held on 16th January 2018. At the meeting the Director General of the NPPD requested permission from His Excellency the President to consider the meeting as the first sitting of the National Physical Planning Council. Upon the permission, the updated Draft National Physical Planning Policy and the Plan–2050 was presented to the members for comments.

After the presentation, the NPPD was informed to distribute copies of the Draft National Physical Planning Policy and the Plan – 2050 to the members of the Council to study and provide detail comments. Therefore, the NPPD distributed copies of the said Draft document to all members of the NPPC by 30th January 2018 and requested comments by 28th April 2018. Subsequently, a few members requested time till 30th May, which was accommodated.

Accordingly, the NPPD received comments from the members of the Council. The Policy and the Plan has been subjected to minor modifications based on the valid comments. The comments received from the Members and the NPPD's responses to those comments are given in the Appendix 2.11.5a.

2.11.6. The Focus Groups

In addition to the general stakeholder consultations, focus group discussions were organized by the Working team. The focus groups and the members of those focus groups are given in Appendix 2.11.6.

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Figure 2.11 : The Process followed for the preparation of the National Physical Planning Policy and the Plan

Review of the Existing Plan + TAC Consultation

↓

Preliminary Investigation and the Analysis of the Context

↓

Conceptualization

↓

Vision Formulation

↓

Preliminary Planning and Policy Framework + TAC Consultation

↓

Stakeholder Consultation + Focus Group Discussions

↓

Detail Surveys and Analysis

↓

Detail Draft Plan + TAC Consultation

↓

Stakeholder Consultation and Review

↓

Presentation to Inter-Ministerial Coordination Committee

↓

Final National Physical Planning Policy and the Plan
(Presentation to the National Physical Planning Council for Approval)

Chapter 03

The Vision & Goals

03

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3.1 Time Horizons

The updating of the National Physical Planning Policy followed the process set out by the Town & Country Planning Ordinance No.13 of 1946, Amended by Act No.49 of 2000. It has been complimented with a series of preliminary studies and consultations of the experts, development agencies, stakeholders and interest groups. This chapter outlines the approach adopted for the updating of the National Physical Planning Policy and the Vision and the Goals formulated for the National Physical Plan 2050.

The time horizons are set for the Plan in the following manner:

1. *Short term horizon· Five-year period (2020-25), whose state of the affairs is within the most foreseeable limits of the planning team. The current development trends, the policies adopted by the present government and the likely outcomes of them, and the development projects that are already in progress which will have a major impact on the physical and social environment of the island are the key factors considered within this horizon.*

2. *Medium term horizon· Ten to fifteen-year period (2030-35), the situation of which can be foreseen with some level of certainty by the planning team. The improving quality of life and the social status, the changing state of political affairs both locally and globally, and the fast evolving technology that changes the entire development scenario of the country and the likely consequences of such changes, are the considerations within this horizon.*

3. *Long term horizon· Twenty-five to thirty-year period (2050), the state of which is mostly beyond the sight of the present day planning thoughts. Yet the core values those need to be preserved, expectations those will remain unchanged and the objectives those need to be achieved at any cost are the considerations for the work at this phase.*

3.2 The Vision Statement

සුනිත සුබල සුහුරු දැයක් - සුසැදි සුරැකි සොඳුරු බිමක්

நிர்வகிக்கப்பட்ட, கியர் மற்றும் ஸ்மார்ட் நேஷன்
ஒரு திட்டமிடப்பட்ட, நிலையான மற்றும் போற்றப்பட்ட நிலத்தில்

Mannered, Geared and Smart Nation
in a Planned, Sustained and Adored Land

1. Planned (a Built Environment that will facilitate an uncompromised growth in the economy, continuous improvements to social well-being, and the optimum utility of the physical, social, economic and environmental resources)
2. Sustained (a Development that will ensure the prolonged use of the land, ocean, water, human, wildlife and other resources of the island)
3. Adored (a Landscape whose unique physical characteristics and the socio-cultural manifestations are retained amidst new developments)
4. Mannered (Providing the ambiance appropriate for Peace and Harmony among people)
5. Geared (Providing opportunities for improved Health, Wealth (Employment), Knowledge(Education), Skills (Training) and Power (Equity))
6. Smart (Pave the way for innovative, progressive and embraced State-of-the Art Technology and good practices).

3.3 The Broad Objective

As the overall objective the proposed plan intends to provide a guide towards developing a physical environment that will facilitate Sri Lanka to become a smart nation and a competitive economy of the world within the next decade and remain thereafter; ensuring the optimum and sustainable use of the available and unexplored resources of its land, its inhabitants and the ocean; exploiting the opportunities provided by the ongoing economic, political and technological advances around the globe; and harnessing the potentials attributed by its strategic geographic location in the Indian Ocean.

3.4 Goals

3.4.1. Short Term Goals (2020-2025)

These are goals those need to be achieved within the forthcoming five to ten year period, in order to facilitate the medium and long term goals.

a. Spatial structure that facilitates unhindered **growth** in the economy, more employment and business opportunities for Sri Lankans within the island and attract local and foreign investments for development.

b. Development directives that promote the best **utility** and the efficient use of the available land and infrastructure, and built into the unique landscape of the island.

c. Regulatory framework that ensures the long **sustainability** of land, water, and other resources, natural eco-systems, cultural landscapes and traditions of the inhabitants.

3.4.2. Medium Term Goals (2025-2030)

These goals can have a longer range and expected to be fully achieved within the next ten to fifteen-year period.

a. Space that facilitates the **transformation** of the national economy from conventional industries to high-tech and innovation based industries and increased international trade.

b. Developments that promote the **exploration** of new opportunities and untapped resources in land, ocean locations and in inhabitants.

c. Physical environment that supports the increased **attraction** for investments and trade.

3.4.3. Long Term Goals (2050)

These can be regarded as all-time goals whose validity remains from today to a period even beyond the horizons of this Plan.

a. **Sustainable** Use of land, water, ocean and other resources of the Island, preserving agriculture, traditional industries, cultural landscapes and the practices.

b. **Responsiveness** to the effects of climate change and natural hazards

c. **Balanced** development across the Island that provides for equity, equal opportunities and accessibility to resources for all.

3.5 Guiding Policies

In order to achieve the above goals in the desired development scenarios, and based on the findings of the preliminary studies carried out on the existing and the foreseeable future situations, the following guiding policies have been formulated to prepare the National Physical Plan 2050.

3.5.1. Conservation of the 'Critical' and the 'Unique'

As an economical means of providing necessary supportive systems demanded by future physical developments throughout the island, Sri Lanka can depend largely on its natural eco systems, water resources and unique landscapes. Provision of alternative engineering solutions will add heavy costs for such developments. Therefore, the strategic conservation and improvement of the existing environmental systems and physical settings is crucial for a physically as well as economically sustainable development.

At the same time, the upcoming and predicted effects of the climate change as well as the unforeseen disaster situations caused by human activities pose severe constraints for both economic and physical development of Sri Lanka unless necessary precautionary measures will be adopted at the earliest. Some critical environments such as the coastal areas and the fragile central hills are highly sensitive in this regard.

In yet another face, many of the unique and attractive landscapes of the island are the bases of the economy of such places and act as the icons of the culture and the traditions of the nation. They are increasingly subject to degradation due to neglect, over exploitation and vandalizing. The protections of the essences of such settings are important for a sustainable economic and socio-cultural development. Thus, the mandatory conservation of the critical ecosystems, fragile areas and the unique landscapes are proposed as a guiding policy for the planning of future physical developments in Sri Lanka. Similarly, cultural landscapes too should be considered as a mandatory requirement for conservation.

3.5.2. Promotion of the 'Livability' for Human

The long sustained development of a country can be expected only with a healthy nation, who enjoys a high quality of life associated with many indicators as set out by the United Nations. The quality of the physical environment that promotes 'livability' is an important factor in this regard.

A livable physical environment can be achieved through several means, but the available geographic and weather conditions contribute towards most economic ways towards such. Out of many conditions conducive for human habitats, the atmospheric temperature, humidity levels, rainfall and the lands free from natural disasters and wild animal attacks can be considered as the most critical. The convenient access to land and water along with readily available physical infrastructure such as roads, transportation facilities, etc., and the social infrastructure such as schools and hospitals are also regarded as conditions necessary for livability.

The livable physical environment is also meant to include the cohabitation with the natural (Flora and Fauna) which is included in consideration of cultural traits of the people.

Selection of the areas those encompass the above conditions of livability for future human settlement development is proposed as a policy for the planning of future physical developments in Sri Lanka.

3.5.3. Optimization of the Utility of the 'Available'

According to the available information, owing to the debt servicing requirements and the immediate improvements required in priority sectors within ten years, Sri Lanka will have to lead its future development with many constraints. Heavy investments on large scale infrastructure may not be healthy, unless there are compelling reasons.

In addition to such constraints, the UN Sustainable Development Goals envisages the sustainable use of infrastructure and natural resources.

In that context, the best use of the available resources and the existing physical and social infrastructure, rather than investing on new infrastructure with an additional burden on the economy, and prioritization of the development needs, have become necessities.

However, future investments shall be directed more towards improving the quality of what is available by means of making them more productive, efficient and state of the art, rather than increasing the quantity, unless there is a real need for such. For that the emerging technology around the globe can be well embraced by Sri Lanka while adequate investments shall be allocated to promote innovations locally.

On these grounds, compulsory optimization of the utility of the available resources and the existing infrastructure in the planning of future physical developments is proposed as a guiding policy in planning.

3.5.4. Exploration of the 'Potentials', 'Opportunities' and the 'Enhancement' of the Use

It is clear that, most of the potential resources in Sri Lanka have yet to be tapped for their full strength. One such resource is the ocean space declared as Exclusive Economic Zone that extends to more than 250,000 square kilometers into Indian Ocean. Except for fishing and a few minerals the rest of the resources embodied in it remain intact. There are many other resources associated with the ocean space such as the winds, ocean waves, likely petroleum and gas deposits, etc. those have not been adequately explored yet.The inland locations which have high potentials to attract tourists need to be promoted in a planned manner. Other than the popularly visited locations a vast variety of spaces still remain little known to many.

Human Resource, specially the youth in the labour force, with various skills and education levels is another resource that Sri Lanka shall consider for a sustainable development. According to demographers, if not put into effective use within the period that it yields 'population dividend' Sri Lanka will miss another opportunity to gain the competitive advantage that it possesses in the region. Future developments shall be supportive of such explorations.

The ever advancing technological innovations have to be incorporated to be in par with the international competitors.

In this context, in the planning of future physical developments, providing maximum opportunities for the exploration and the enhancement of potentials and untapped resources is proposed as a policy.

Chapter 04

Detail Analysis & Findings

04

4.1 Introduction

Based on the four guiding policies a detail study was carried out by the Team. The study included a survey of information on physical, social and economic aspects and several consultations with relevant agencies during the period January – May 2017. The forthcoming sections presents the methodologies adopted by the Team and the summary findings of the detail study.

4.2 The Method of Study

It should be noted that a majority of the information have been obtained from reliable secondary sources, such as the published and unpublished reports by agencies responsible for the maintenance of such records as well as the academic institutions and individuals. In a few areas where sufficient information was not readily available, such information was collected through the consultation of the representatives of relevant agencies, experts in the respective field and the tabulations on survey data.

The information base included evaluations on the existing situations on different sectors of the economy, projects and programs that are being implemented, projects to be implemented within next ten years, and proposals that are being considered by different agencies.

For spatial analysis, the entire land extent of the island has been divided into 10 kilometer x 10 kilometer cells. The size of the unit was decided upon the availability of information, the level of precision expected in a plan of this scale and the amount of work that could be handled within the set time targets and the limited resources that could be made available for this work.

The land represented by each cell was evaluated in relation to several attributes, these are relevant to the four guiding policies set out in Chapter 03, in terms of the relative importance of that land for its contribution to the said attribute.

In the final evaluation all attributes are ranked in the order of relative, critical importance of their contribution to the achievement of the short term, medium term and the long term objectives set out in Chapter 3.

The evaluation process followed brainstorming within the Team, supported by expert opinions obtained through consultations. Arc GIS 10.1 Version was used to analysis the maps in the report.

4.3 The Study and the Findings

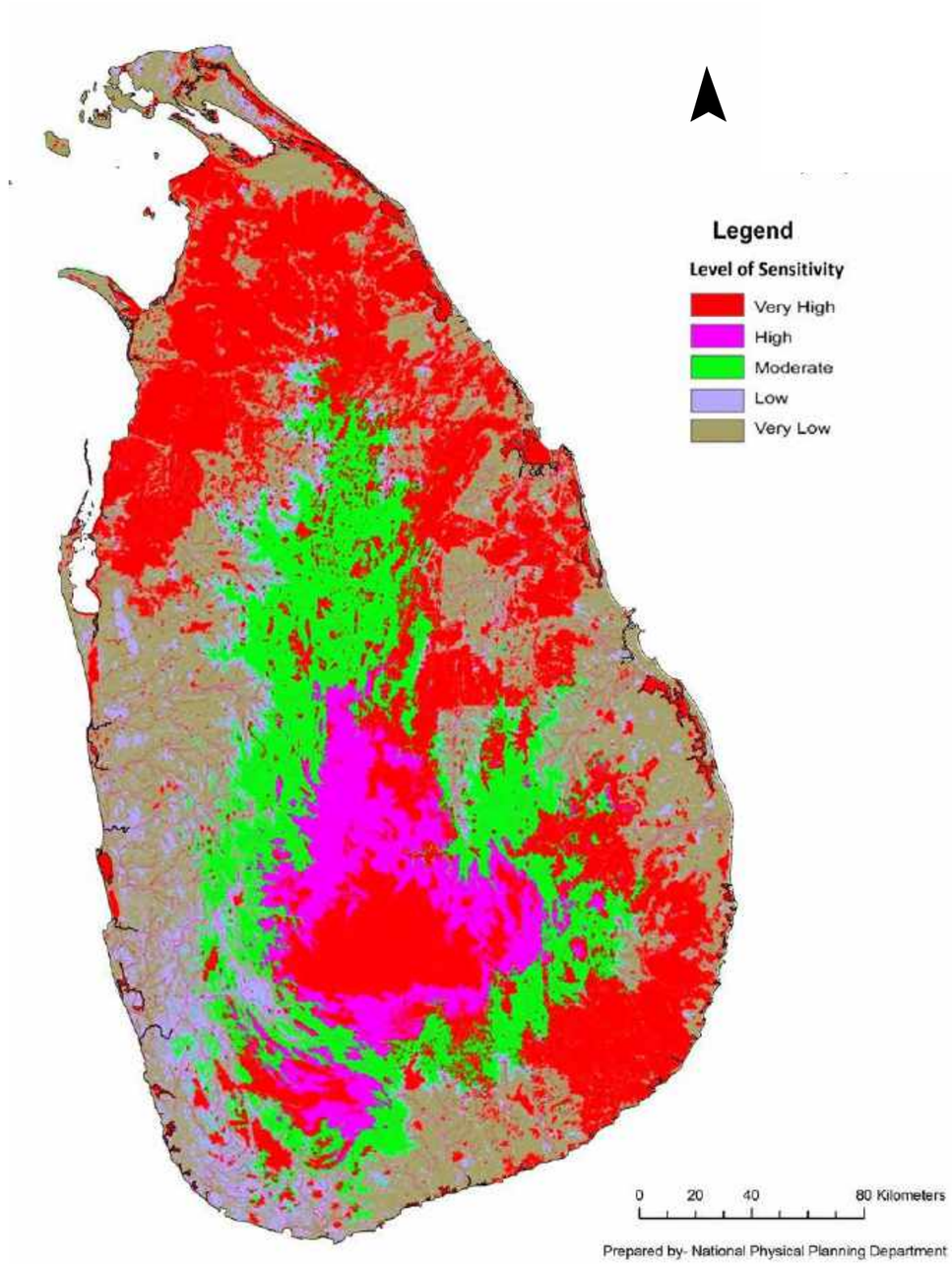
4.3.1. The Conservation Space

This study serves the guiding policy, indicated under 3.5.1: **Conservation of the 'Critical' and the 'Unique'.** The objective of this study is to identify the lands those need different degree of attention in terms of conservation as against the lands those can be made available to developments with varying constraints.

The geographic entities were evaluated in terms of their fragility and environmental sensitivity as against the present level of use for development activities. The importance of the attributes was evaluated in terms of their contribution to the economy, social well-being.

Attribute	Criteria for evaluation	Rank in the order of Relative Importance	Source of Information
Water resources	The level of influence on the catchments of the major rivers, tanks and reservoirs and the quantity of flows.	1	Appendix 4.3.1.a
Wildlife and bio-diversity	The support provided for the sustenance of wildlife habitats and the bio-diversity and the extents of lands.	2	Appendix 4.3.1.b
Forest, flora and fauna	The type and the extent of ground cover provided and the variety added to the overall landscape.	2	Appendix 4.3.1.c
Ecosystems	The level of contribution to coastal and riverine ecosystems and the traditional livelihood of communities	3	Appendix 4.3.1.d
Archeological areas	The archeological value and the association with the history of the island.	4	Appendix 4.3.1.e
Unique landscapes	The level of attraction by the tourists and the contribution to the image.	4	Appendix 4.3.1.f
Agricultural uses	The level of productivity of the lands in terms of conventional agricultural uses.	5	Appendix 4.3.1.g

Figure: 4.3.1 : The Conservation Space (Areas need to be conserved due to sensitivity)



As the outcome of the study three geographic entities and land uses have been highlighted as the most critical and important lands those need to be conserved for the envisaged sustainable development.

1. *The Central Highland Area (lands above 300 meters from MSL) with its present forest cover, which is important to be conserved for its contribution to all major sources of water and for the conservation of soil. The conservation of this area is critical because of the increasing degradation of the fragile settings and increasing threats of landslides owing to large scale developments within the upper catchments of major rivers. The existing settlements in this areas are growing at a relatively higher rate.*

2. *Coastal Fragile Zone (area declared as Coast Conservation Zone by CCDSL) along with the riverine environments associated with it, which is important because of the enormous contribution that it provides to the bio diversity as well as for the economic activities associated with it such as tourism, fisheries. Conservation of this zone is critical because of the fast expansion of the existing settlements and other developments in this area and the less regulated tourism related developments, etc, which makes a remarkable impact on the said fragile environments.*

3. *Existing forests, wildlife reserves, sanctuaries, catchments of internal water bodies, etc. which are important for the bio diversity, livelihoods of the communities associated with them and the economic activities integrated with them. They are critical because of the ongoing depletion and the encroachments, and deliberate physical developments those have not been planned with adequate sensitivity towards such settings.*

4.3.2. The Livable Space

This study serves the guiding policy, indicated under 3.5.2: **Promotion of the 'Livability' for human.** The objective of this is to identify the areas those provide the most conducive environments for human habitation in the island in terms of the climatic conditions, facilities, amenities and services required for comfortable living maintaining the required quality of life standards.

The Economist Intelligence Unit (2017) studied the 'Livability' of cities around the globe assigning them with a rating of relative comfort for over 30 qualitative and quantitative factors from five broad categories: stability; healthcare; culture and environment; education and infrastructure. A majority of the factors considered in this rating are not directly relevant to the physical environment and need to be addressed by other National Level Policies. This study adopted the most relevant factors out of them and added a few more factors those contribute to the livability in Sri Lankan context.

Accordingly, the geographic entities were evaluated in terms of their locations closer to fragile and sensitive environmental systems, the degree of exposure to disasters, climatic conditions conducive for living, likely impacts of climate change effects on them and the scarcity of basic requirements such as drinking water, access roads, health and education facilities, urban service centres, etc. The importance of the attributes was evaluated in terms of their contribution to ensure livable conditions required in a human settlement.

The following is the criteria adopted:

Attribute	Criteria for evaluation	Rank in the order of Relative Importance	Source of Information
Availability of developable land	Extents of lands free from agricultural uses, conservation, not prone to landslides, less exposed to floods, cyclones and other disaster situations.	1	Appendix 4.3.2.a
Availability of safe drinking water and water for other needs	Present and future availability of water the respective river basin.	2	Appendix 4.3.2.b
Proximity to urban centres	Distance to a second or third order town.	3	Appendix 4.3.2.c
Access to electricity	Distance to the national grid	4	Appendix 4.3.2.d
Impact of major infrastructure developments	Distance from the existing or proposed expressways, highways, water supply schemes, etc.	4	Appendix 4.3.2.e
Average day time temperature	Variation from the mean 20-25 Degree Celsius	5	Appendix 4.3.2.f
Annual Rainfall	Variation from the mean 2000 - 3000 mm	6	Appendix 4.3.2.g

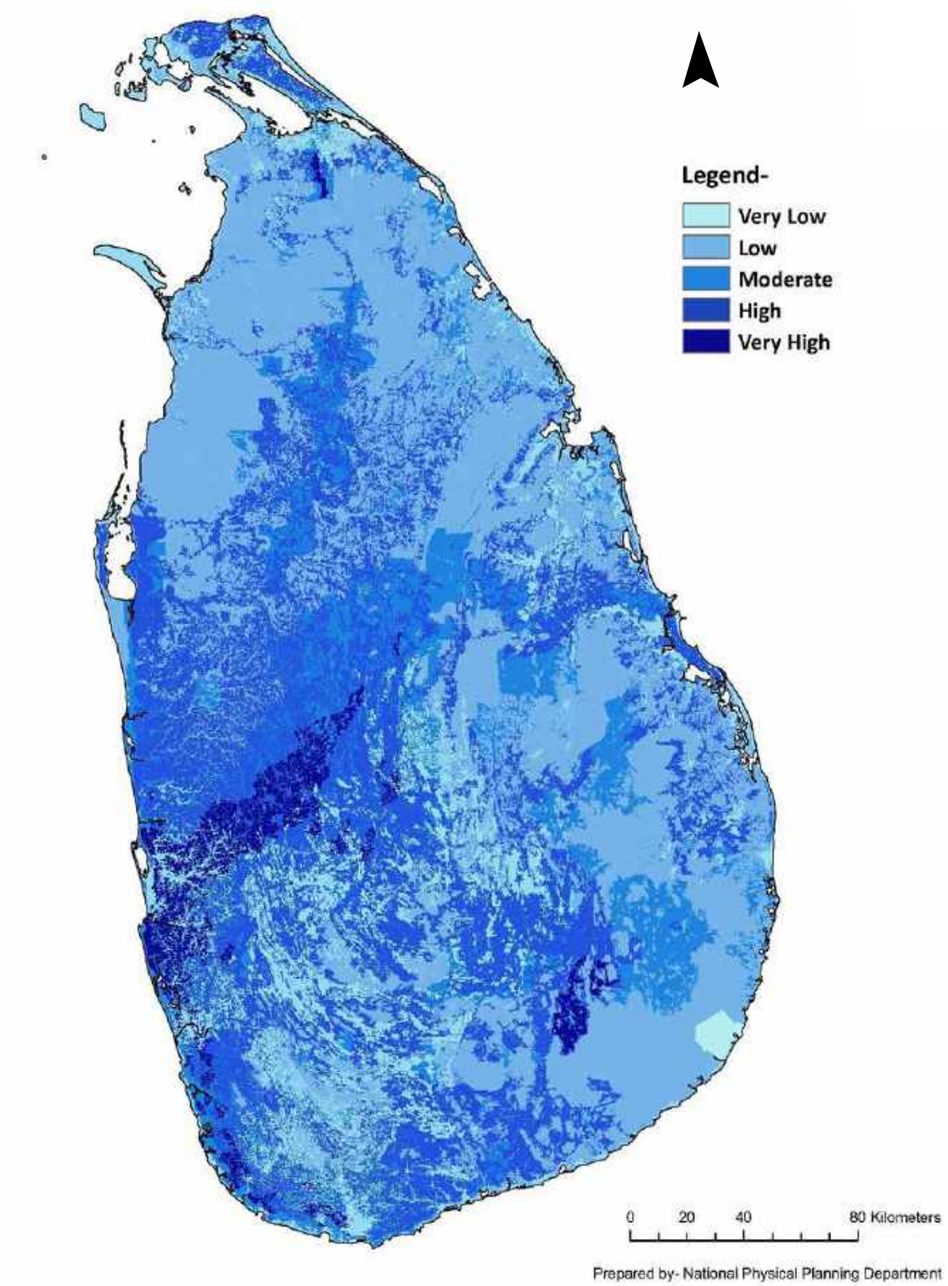
As the outcome of the study the following findings can be highlighted as important in order to ensure livable settlement development projects:

1. *The lands in mid plains of the West, North West, South East and the South are the most desirable locations for human habitants under the present state of development and the prevalent climatic conditions.*

2. *Out of nearly 66,000 square kilometers of land available within the island, only one quarter is free from effects of landslides, frequent floods and other natural disasters, and geographically suitable for development. Out of that extent a large area still does not have basic infrastructure required for a conducive living environment.*

3. *Even though there is a higher concentration of infrastructure in the Western region of the island, many parts of it are prone to floods, consist of fragile eco systems and may need heavy investments for disaster migratory measures.*

Figure 4.3.2 : The Livable Space (The areas with environments conducive for living)



4.3.3. The optimized and best utilized space

This study serves the guiding policy, indicated under 4.3.3: **Optimization of the Utility of the 'Available'.** The objective of this is to identify the areas those would provide the economical and functional utility of the lands.

The geographic entities were evaluated in terms of their present uses, proximity to road, electricity and other physical infrastructure, falling within an area of influence of the major infrastructure development projects, availability of human resources and the availability of major employment generating facilities such as ports, industrial establishments, tourism, etc. The importance of the attributes was evaluated in terms their contribution to achieve an economical, functional and efficient land use.

The following is the criteria adopted:

Attribute	Criteria for evaluation	Rank in the order of Relative Importance	Source of Information
Efficient use of the land	Distance from existing high population density areas	1	Appendix 4.3.3.a
Effective use of major investments on infrastructure	Distance from existing and proposed highways, expressways, railways, ports, airports, etc.	2	Appendix 4.3.3.b
Convenience of accessibility	A and B Class Road Density	3	Appendix4.3.3.c
Effective use of water resources	Capacity of existing and proposed water supply projects	4	Appendix 4.3.3.d
Effective use of social infrastructure	Distance to Second or Third order urban center	5	Appendix 4.3.3.e
Use of Human Resources	Locations of populations with higher education attainment	5	Appendix 4.3.3.f
Use of the opportunities	Distance to ports, industrial estates, and other major employment generating establishments.	6	Appendix 4.3.3.g

As the outcome of the study three elements are highlighted as important consideration of the desired development scenario for ensuring the optimum utility of the available resources.

1. It could be observed that relatively larger extents of lands are available in many parts of the island. Yet, the remoteness of the locations of those lands away from basic infrastructure and the cost of providing necessary infrastructure and other services in to those locations, indicates further that expansion of future developments in to additional lands essentially is not the best scenario.

   At the same time, the present relatively lower level of utility of lands in more urbanized areas, show that optimize the utility can be achieved only through intensification of developments in already developed lands.

2. In the recent past the Government of Sri Lanka has been investing heavily in large scale infrastructure developments such as expressways and highways, railway improvements, water supply schemes, electricity generation and distribution projects, etc.

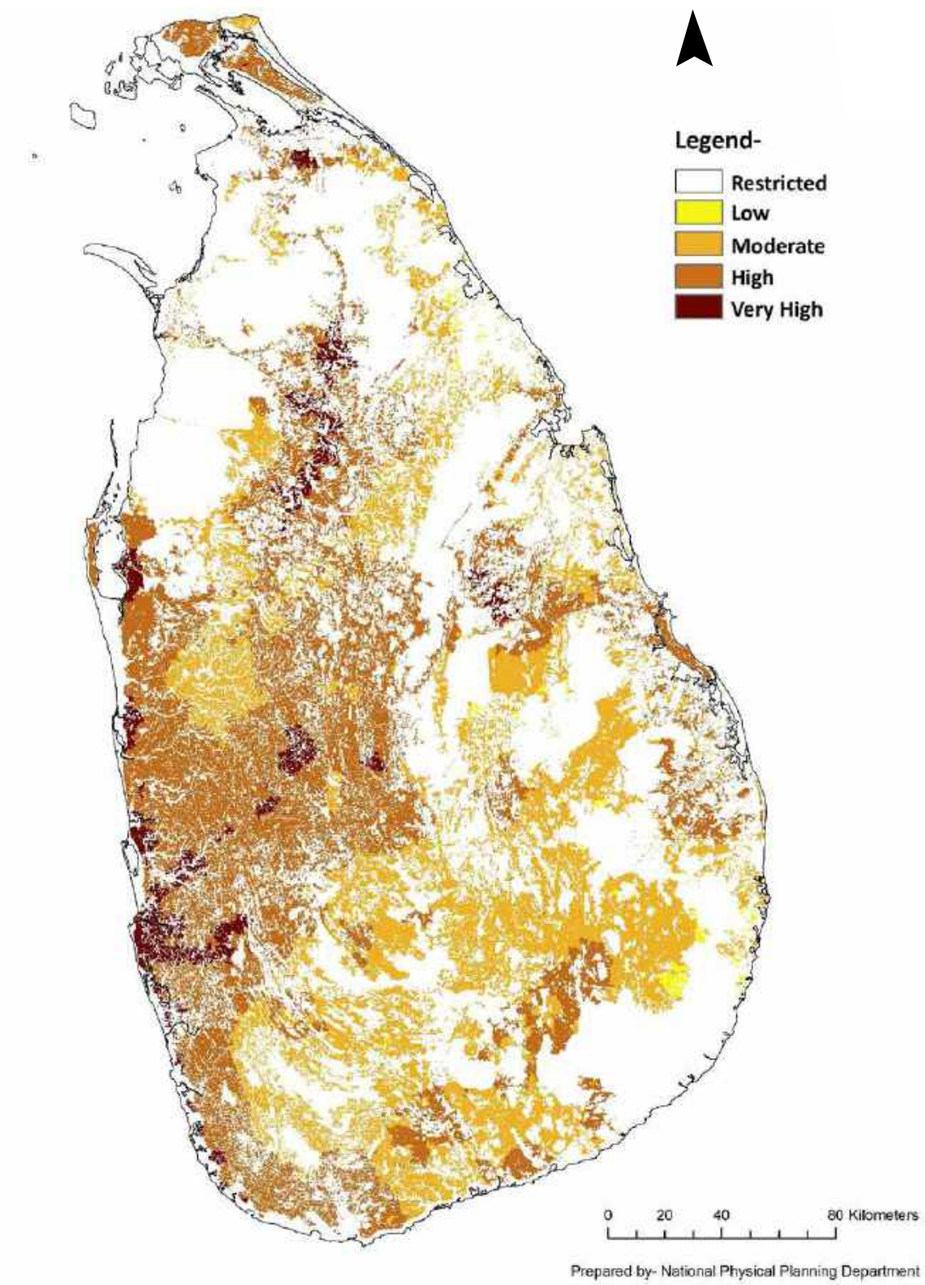
   A majority of these investments are made through borrowings from international donor agencies and they have been adding additional burden on debt servicing and finally have a destabilizing impact on the economy of the nation. Most of their payback periods vary from 20-30 years, which is the time horizon set for this National Physical Plan.

   Therefore, rather than requiring new investments the optimum use of the available and proposed highways, expressways, railways, water supply and drainage infrastructure etc. is crucial for an effective development.

3. In terms of the utility of land and infrastructure, and also in terms of conservation, the use of used lands (brown fields) rather than fresh lands (green fields) is advocated by UN and all international development guides for sustainable developments. In this regard, the existing settlement locations those have possibilities towards the intensification of the development along with the augmentation of space, facilities and amenities is considered as an appropriate strategy.

   Therefore, future urban settlements and related developments of the island shall contain into a manageable limited area and need to be discouraged from sprawling into vast land extents.

Figure 4.3.3 : The Optimized and Best Utilized Space (Areas with Development Potentials)



4.3.4. The explorative space

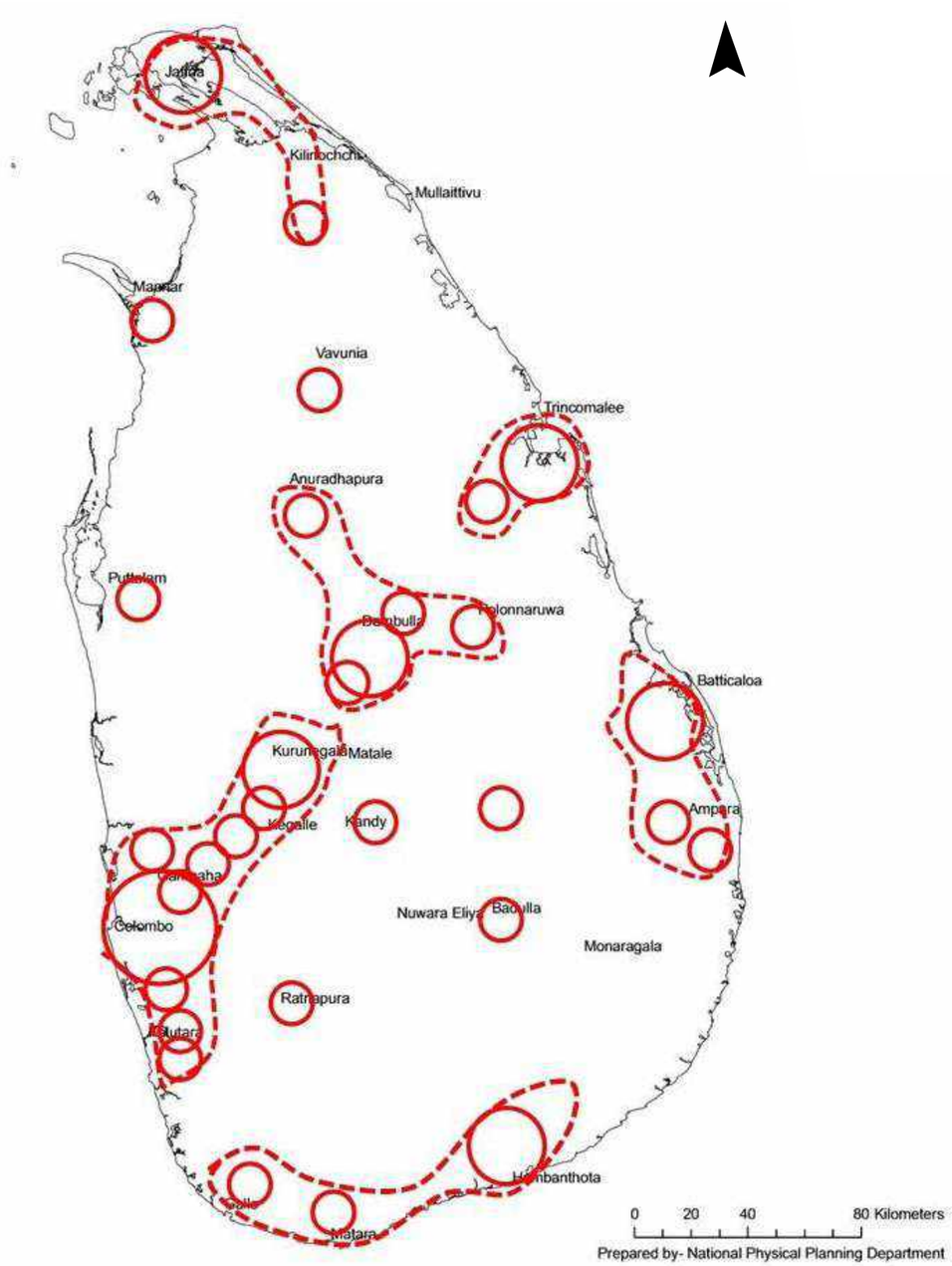
This study serves the guiding policy, indicated under 3.5.4: **Exploration of the 'Potentials' and the 'Enhancement' of the use.** The objective of this study is to identify the locations and the directions for developments, by which Sri Lanka will be able to gain more benefits out of the opportunities made available from the present local and global scenarios of development, and to capitalize upon its own resource locations, without compromising the long term sustainability of such resources.

The geographic entities were evaluated in terms of their locations amenable to the influence of the available and potential contacts with international trade routes, explored and identified petroleum and other mineral resources, presently used and potential attractions for tourists, etc. The importance of the attributes was evaluated in terms of the impact that each one of them can have upon the national economy and the sustainable physical development in the island.

The following is the criteria adopted:

Attribute	Criteria for evaluation	Rank in the order of Relative Importance	Source of Information
Possibility of linking with international trade routes.	Distance from existing sea ports, airports, and potential internal and international ground links.	1	Appendix 4.3.4.a
Impact on a balanced physical development	Level of influence on shifting the 'population center of mass', as studied.	2	Figure 2.7.3 and 2.7.4
Level of internal connectivity	Level of relative connectivity as studied	3	Appendix 4.3.4.c
Accessibility to untapped resources	Distance to available and identified developable attractions and facilities.	4	Appendix 4.3.4.d

Figure 4.3.4 : The Explorative Space
(Areas those provide opportunities to explore and enhance)



Chapter 05

The National Physical Plan 2050

05

5.1 The Spatial Structure

5.1.1. The Objective

The Objective underlying the proposed spatial structure is to provide (the Government of) Sri Lanka with a strategic development trajectory which will enable to achieve a well-planned and sustainably developed physical environment, pleasing and adored both by its citizens and the outsiders alike. The trajectory is formulated adhering to the four guiding policies set out in Section 1.4, and with a view towards geographically and sectorally balanced development.

5.1.2. The Proposed Spatial Structure

The proposed spatial structure is given in figure 5.1.2. The spatial structure presents the most preferred scenario, among many other possibilities considered, to promote, regulate and to coordinate future physical developments, executed by different state and private sector organizations and individuals indistinct spatial entities over the three time horizons set out in the Section 1.2 above.

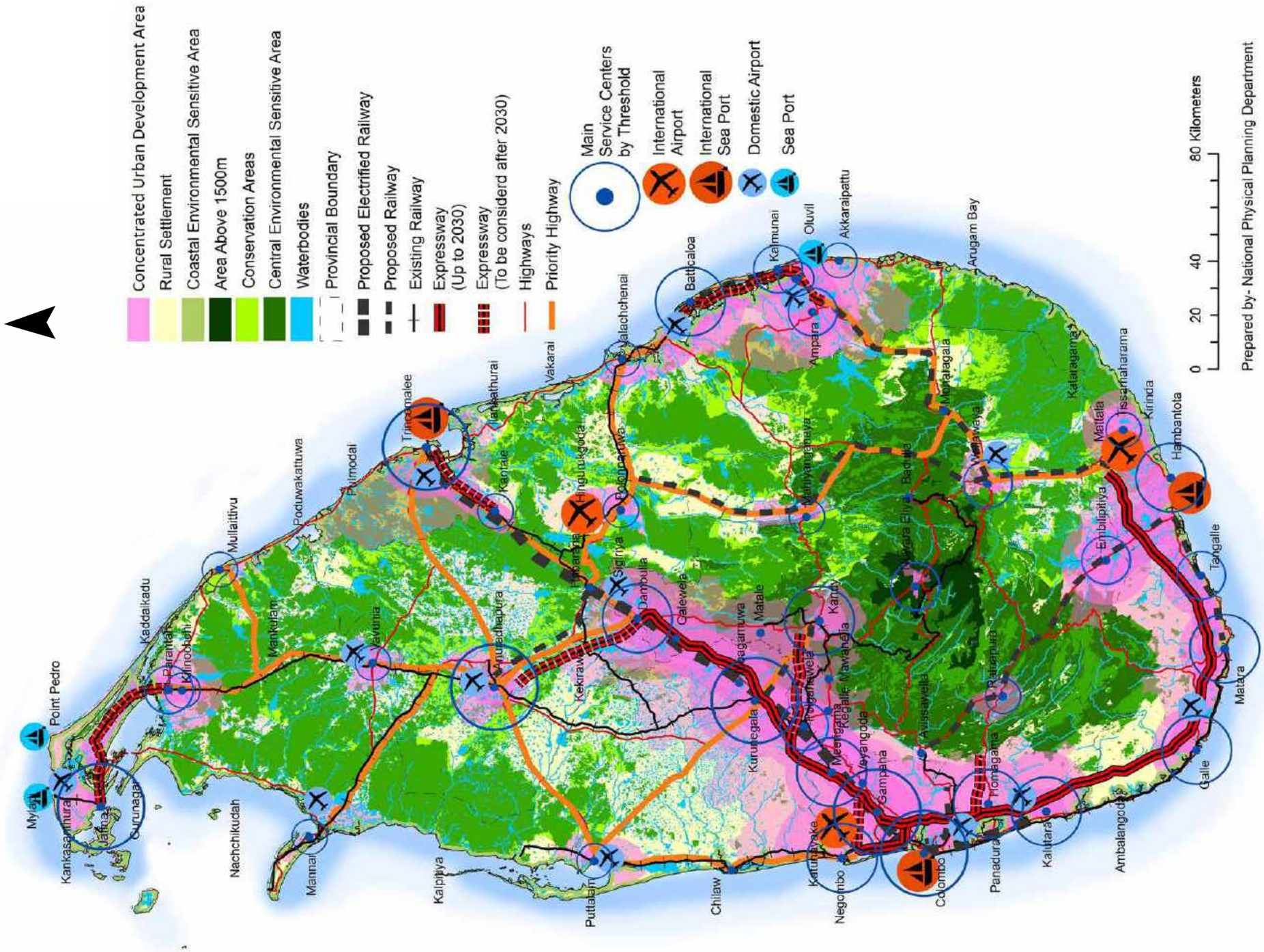
The overall land use pattern in the island is expected to transform into the state shown in the figure by 2050. The configuration is based on the findings of the detailed studies and in line with the guiding policies indicated in Section 1.4.Therefore, the structure proposed herein, shall be viewed as a live image of a spatial process, evolving through the effectuation of the four guiding policies in responding to the emerging demands and needs of ongoing economic and social developments, rather than a static end-state, conventionally understood by a plan of this nature

The spatial structure is combined with sector specific strategies, mentioned in the forthcoming sub-sections. Each strategy highlights strategic development interventions in specific spatial entities that would support the envisaged pattern of growth, making the best use of the existing potentials, while demoting physical developments in locations where such developments are inappropriate due to sensitivity, safety and the need for conservation.

In the proposed scenario, a major share of physical developments is expected to be concentrated into four 'Development Corridors', two 'Metro Regions' and nine 'Main Cities', which have been identified as the most strategic locations for key investments expecting to deliver accrued benefits.

The Central Fragile Area, the Coast Conservation Zone, and Agricultural, Eco and Forest Reserves which cover nearly a third of the land area, shall receive equal attention for conservation, and will be devoid of large scale physical development interventions. In addition to those, it also proposes the locations, most appropriate and advantageous in terms of reaching the development goals of the Government of Sri Lanka, mentioned in Section 1.4 above, for major residential developments, industrial establishments, commercial and other urban land uses.

Figure 5.1.2 : The Proposed Spatial Structure - 2050



5.1.3. The 'Central Fragile Area'

The 'Central Fragile Area' shown in the figure 5.1.3, is the geographic entity that consists of the lands with sensitive natural ecosystems, highly vulnerable to landslides and play a crucial role in sustaining water resources. A major portion of these areas are located above 300 meters from mean sea level and cover the upper catchments of all major rivers of the island. The identified areas fall within the current administrative districts of Kandy, Nuwara Eliya, Kegalle (all areas) and Matale, Ratnapura, Monaragala, Galle, Matara, Kalutara and Colombo (identified DS Divisions). The list of Divisional Secretariat Divisions is given in the annexure 01.

The physical developments in these lands shall be guided with stringent regulations and comprehensive guidelines, enforced and monitored by the agencies responsible for the development and conservation of these areas. The National Building Research Organization (NBRO) has already declared this area under the title 'Landslide Prone' districts, and guidelines are being developed for the construction activities carried out in this area. This will partially support the conservation of geological profiles, hydro systems and the development density.

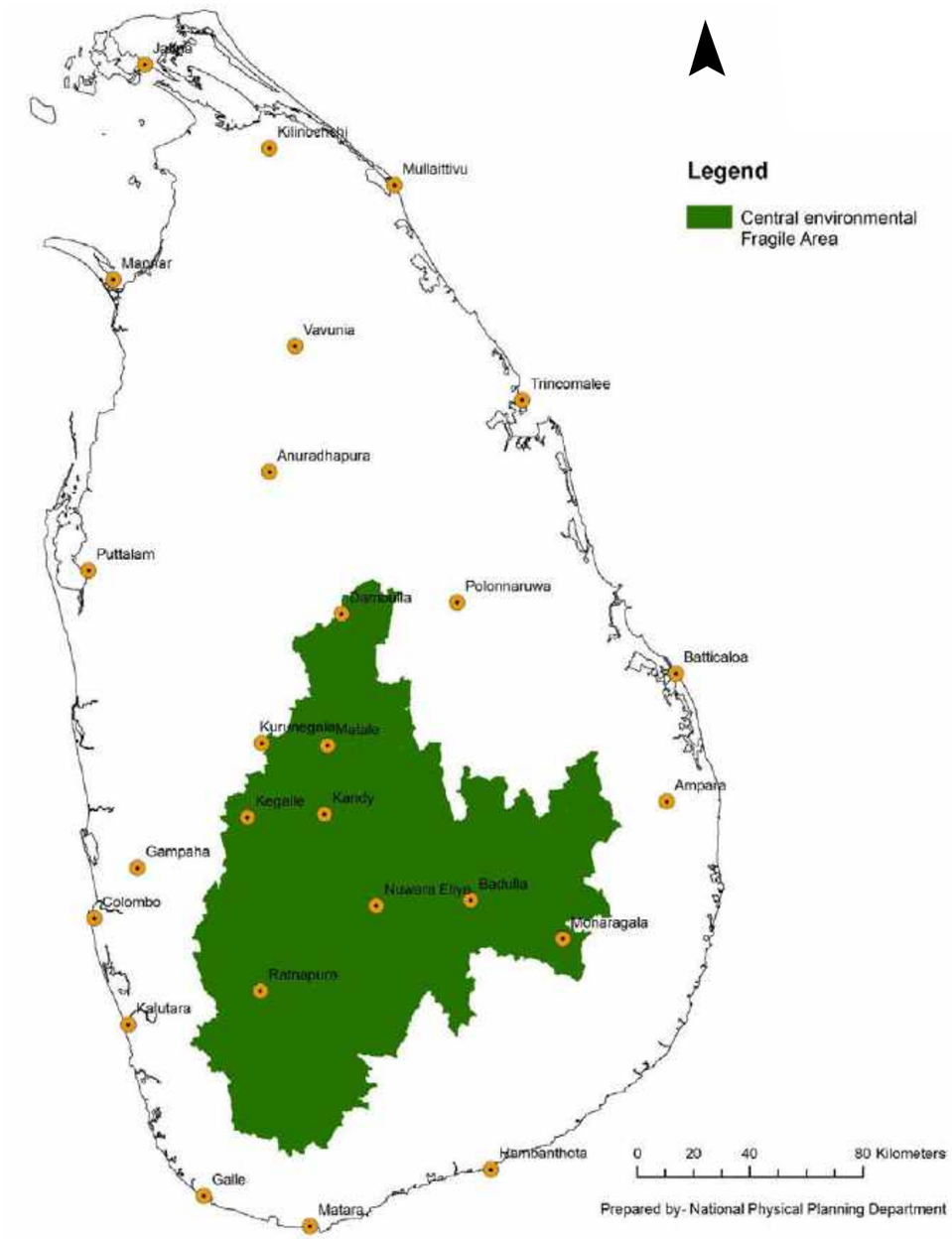
Since a major portion of the physical developments are associated with increasing urbanization trends, 'planned urban development' is not an option, but a necessity for all localities in this area. This is possible through the integrated Urban Development Plans prepared and implemented for all existing and emerging urban areas, declared under the provisions of the Urban Development Authority Law of 1978.

The conservation of critical land resources in these zones shall also be supported by a depopulation strategy. A larger share from the next generations (2020-2050) of the populations of these areas shall be attracted into the proposed economic development zones by means of more attractive employment opportunities, affordable housing and more beneficial and vibrant living environments.

In addition to the conservation of lands a well-organized and coordinated tree planting/ re-foresting program is essential for a long term conservation of the water resources in the area. The implementation of the REDD+ Sri Lanka National REDD+ Investment Framework and Action Plan (2017) will provide adequate support for this purpose.

Shaani Sewwandi / Pexels

Figure 5.1.3 : Central Environmental Fragile Area



Oliver Sjöström / Pixabay

5.1.4. The 'Coast Conservation Zone'

The 'Coast Conservation Zone', shown in figure 5.1.4, includes the area for which boundaries have been delineated by the Coast Conservation Department under the provisions of the Coast Conservation Act No. 57 of 1981. Even though a large quantum of physical developments of Sri Lanka has been taking place in this zone, conservation of the lagoons, estuaries, swamps, riverine environments and other sensitive environments is important because of the eco services that they provide, the attractions they have and the economic activities associated with them. The list of Divisional Secretariat Divisions which encompasses these areas are given in the annexure 02.

The Coast Conservation Department is adequately equipped with powers to carryout conservation functions in these areas, and a national level Coast Conservation Plan is already being developed. In addition to that the Geological Surveys and Mines Bureau plays a role in controlling mining activities and the Central

Environmental Authority is empowered to regulate activities that impact the costal environmental systems, while integrated urban development plans will support to have least destructive physical developments for tourism, fisheries, recreation and port related activities. However, the existing enactments by the Coast Conservation Department, Central Environmental Authority and the Urban Development Authority shall be strictly enforced in these areas.

Figure 5.1.4 : Coastal Conservation Zone

gadventures.com

ynotpics.com

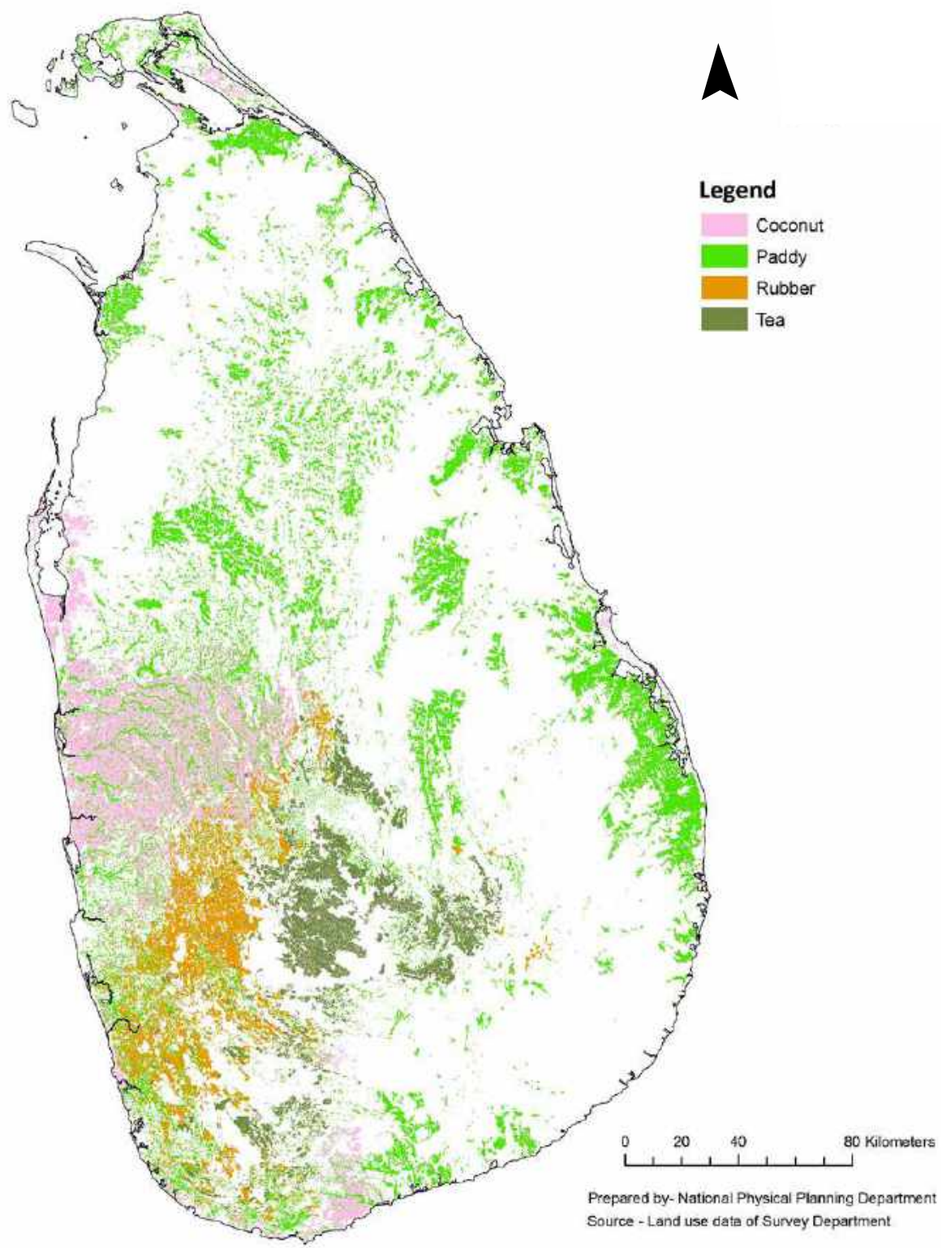
5.1.5. An 'Agro Conservation Zone'

An 'Agro Conservation Zone', shown in figure 5.1.5, is the geographic entity with lands that are predominantly used for agricultural purposes, as defined by the Agrarian Services Act No. 58 of 1979 and Rubber, Coconut and any other type of Plantations which are situated away from the main urban concentrations proposed in this report.

The most important DSD division in terms of % of total land extent of different agricultural crops are shown in annexure 03. In addition, the list of enactments related to the agro conservation zone is depicted in annexure 04.

Andreas Krappweis / fotocommunity.com

Figure 5.1.5 : Agro Conservation Zone



Nilupul Adhikari / Picture.lk

5.1.6. The 'Water Conservation Zones'

The 'Water Conservation Zones' shown in figure 5.1.6, include the areas those can have an impact on the long existing water cascading system, which includes Large tanks, supplementary tanks, sedimentation tanks and small scale village tanks along with their watersheds and the feeding canals, located mainly within the dry zone of the island. Even though almost all areas have these water systems, the administrative districts given in annexure 05 are of critical importance with this regard. The list of enactments related to the Water Conservation Zone are shown annexure 06

The physical developments associated with these water bodies and their water catchment areas shall be strictly regulated by the respective Divisional Secretaries, in coordination with the relevant Local Authorities.

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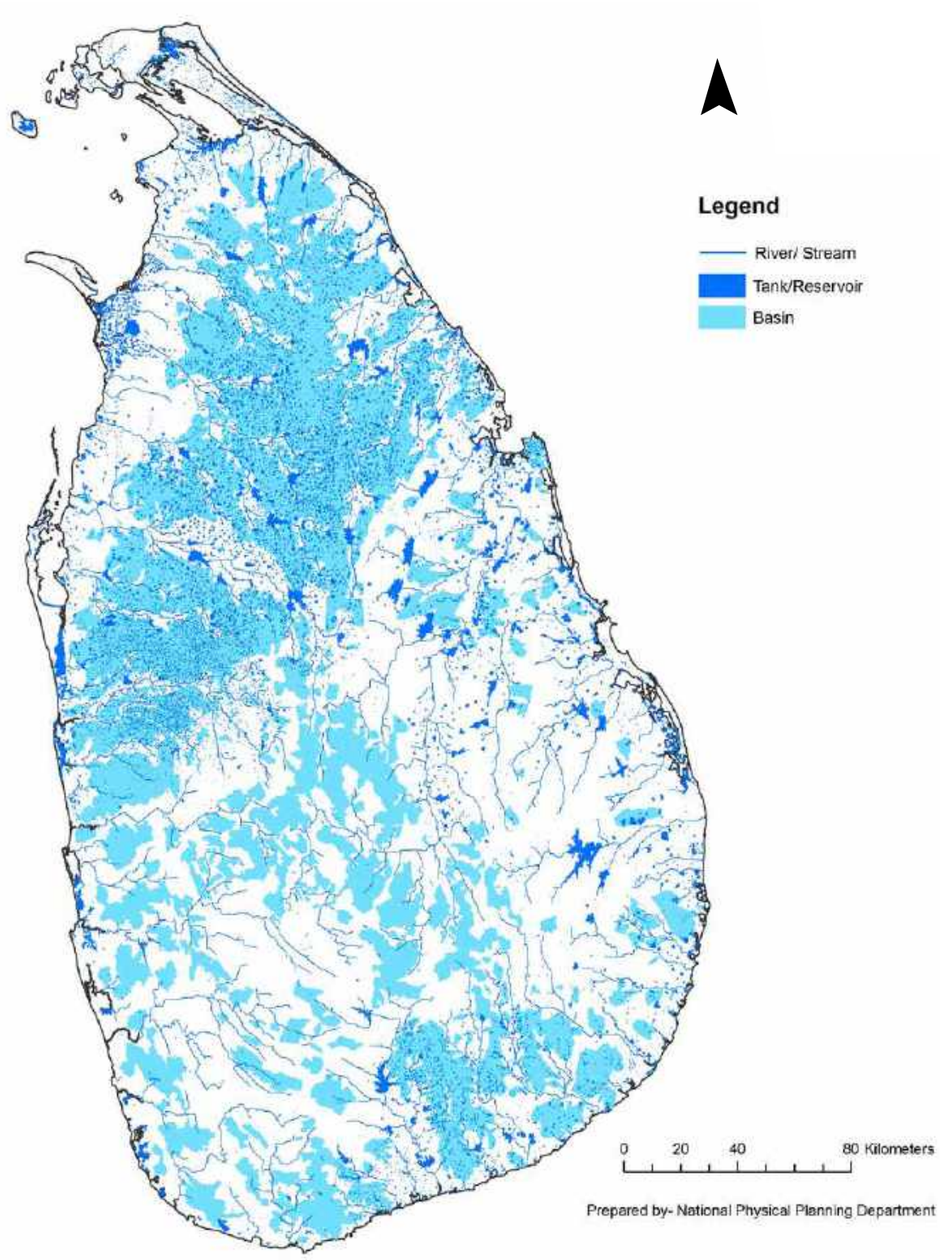
Figure 5.1.6 : Water Conservation Zone

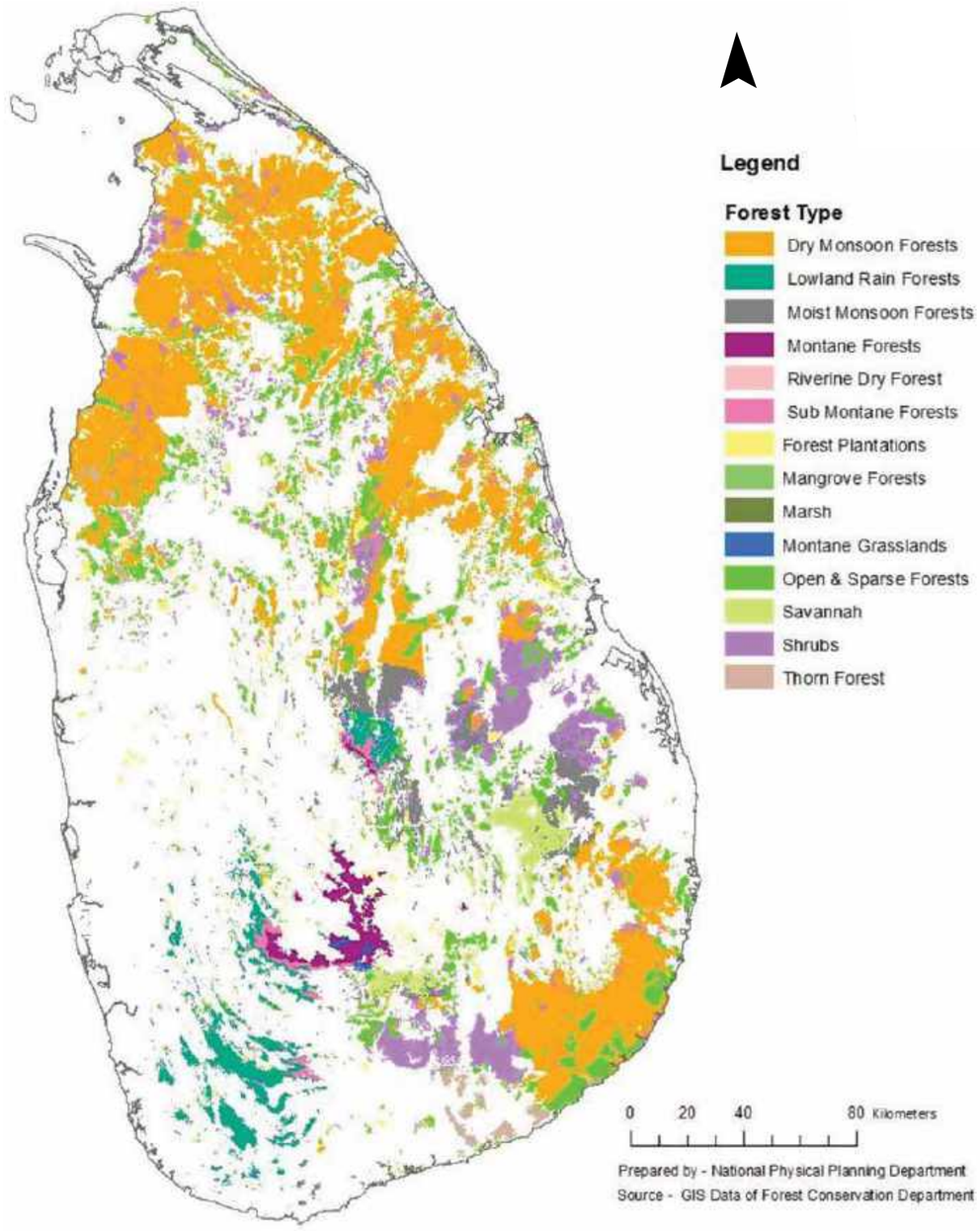


5.1.7. The 'Eco Conservation Zone'

The 'Eco Conservation Zone' given in figure 5.1.7, is an entity with wetlands, catchments of irrigation tanks, streams and reservoirs, and the sanctuaries declared by the Wildlife Conservation Department, under the provisions of the Fauna and Flora Protection Ordinance, No 2 of 1937, and subsequent amendments. A 'Forest Conservation Zone' includes any area declared as a reserved forest by the Forest Conservation Department, under the provisions of the Forest Ordinance No 16 of 1907 and its amendments. The Available Laws and Policies related to the Eco Conservation Zone are shown annexure 06

rainforest-ecolodge.com

Figure 5.1.7 : Eco Conservation Zone/ Forest Conservation Zones



5.1.8. A 'Development Corridor'

A 'Development Corridor' is a contiguous linear geographic entity, which connects a series of major and minor agglomerations of economic activities, a variety of secondary and tertiary sector industrial developments that mutually support the sustenance of each other through forward and backward links, clusters of urban facilities that support a relatively large concentrations of people who live, work and patronize the facilities within, and benefited by interconnected networks of physical, economic and social infrastructure.

The Development Corridors given in figure 5.1.8 are expected to make the largest contribution to the National Economy, mainly by means of value addition to both local commodities as well as import-export based global supply chains, capitalizing upon the three international ports in Colombo, Trincomalee and Hambanthota and the small ports in Oluwil and Jaffna, international airports in Katunayake, Mattala and Hingurakgoda (to be developed), the expressways and improved high speed railway links. They thus, shall be the main sources to attract investments and to provide employment opportunities.

Out of the total population in Sri Lanka in 2050, at least sixty percent (60%) is expected to be concentrated within these Development Corridors, identified within the proposed spatial structure. Such concentration is mandatory to meet the thresholds of viability for the investments on specific infrastructure and high-end urban facilities and to have the critical mass required for their sustainability.

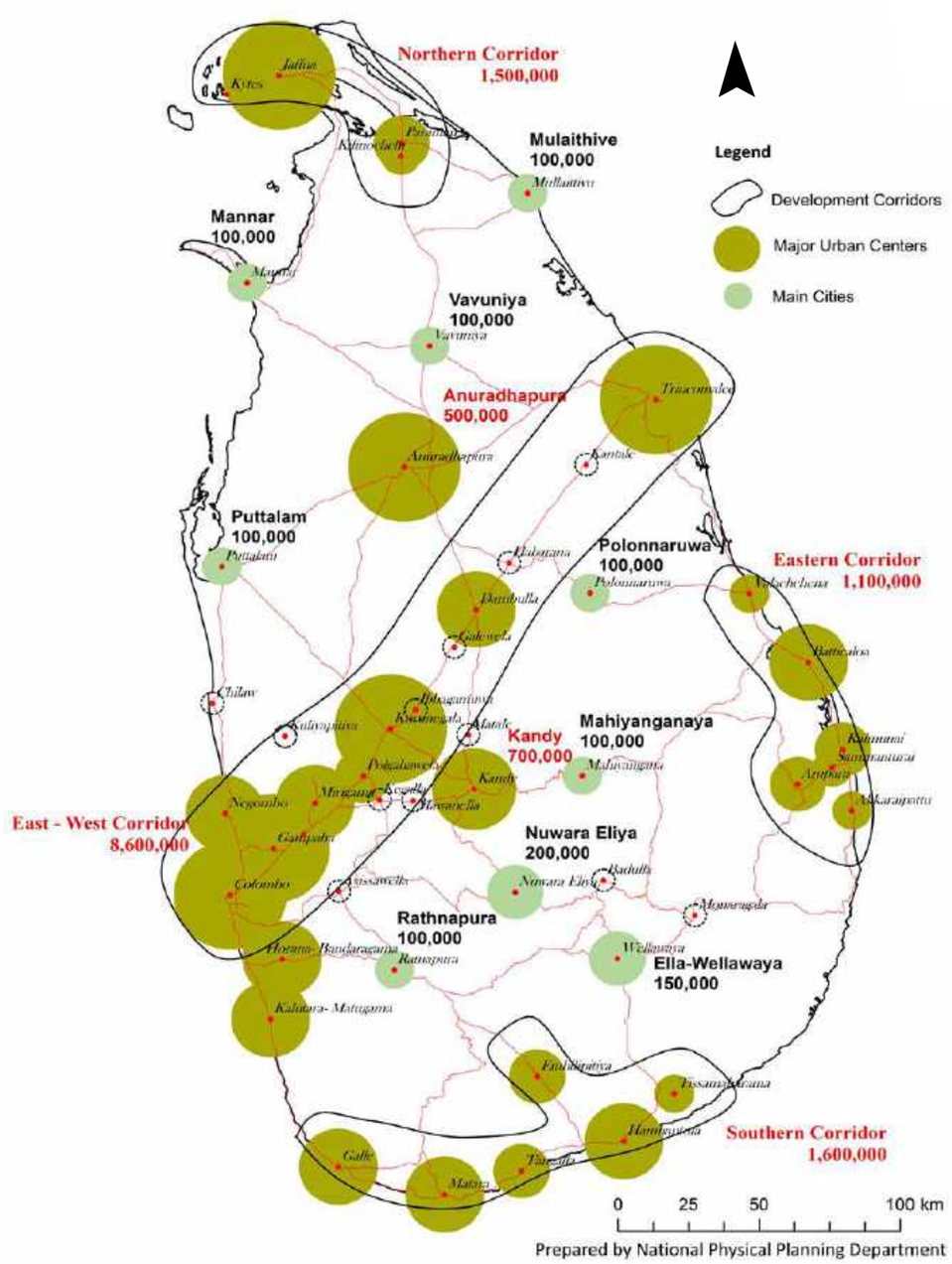
5.1.9. The East-West Development Corridor

The East-West Development Corridor, is proposed between the Colombo and Tricomalee districts. In order to capitalize upon the advantages of the two major ports in Colombo and Trincomalee, the transport infrastructure and the favorable living conditions, a reasonably higher share of the future population (approximately 35-40%) of Sri Lanka shall be settled in lands that fall within the proposed East-West Development Corridor. The spatial extent of this corridor is defined approximately as the area within the first 10 kilometers (highest concentration), and 10-20 kilometers (medium concentration) and 20-30 kilometers (moderate concentration) from the proposed expressways and highways.

In this Development Corridor, the Colombo Metro region, which is the conurbation of several urban areas around Colombo, will be the largest concentration of settlements and expected to be home for around three and a half million (3,500,000) residents. The other major concentrations are proposed in five Metro Regions centering Negombo (600,000), Gampaha (700,000) Kurunegala (1,000,000), Dambulla (500,000) and Trincomalee (1,000,000), along with a series of 'Cities' in Beruwala, Kalutara-Matugama, Panadura-Horana, Mirigama-Warakapola, Polgahawela, Alawwa, Ibbagamuwa, Galewela and Kantale., whose resident populations may vary between 100,000-200,000 and 'Small Towns' which will have relatively smaller concentrations (Table 02).

The area earmarked for this Corridor is constituted of 71 Divisional Secretary Divisions (Table 01) and 12.3% (8069 km2) of the total land extent of the country.

Figure 5.1.8 : Proposed Urban Agglomeration Pattern - 2050



5.1.10. The Northern Development Corridor

The Northern Development Corridor, is expected to accommodate a residential population of more than a million (1,200,000). The low population growth rate experienced by this region can be increased to a moderate annual average growth rate of 1.2 percent to result in this number by 2050 (Table 02).

Jaffna Metro Region and Kilinochchi are expected to be the epicenters of the agglomeration of this corridor. With the available restrictive environmental conditions and the possibility of providing infrastructure, Kilinochchi is expected to have a higher growth than the other areas in this corridor. This Corridor consists with 15 Divisional Secretary Divisions (Table 01) and 2.9% (1925 km2) of the total land extent of the country.

5.1.11. The Southern Development Corridor

The Southern Development Corridor, with the prevailing annual average rate of growth of 1.0 percent is expected to reach a residential population of more than one and a half million (1,700,000) (Table 02).

The corridor will be developed centering on the Metro Regions at Galle, Matara and Hambantota, Main Cities at Tangalle, Embilipitiya and Tissmaharama, and 'Small Towns' which will have relatively smaller populations. The existing rate of growth shall continue to reach the numbers by 2050.

The Southern Corridor consists with 32 Divisional Secretary Divisions (Table 01) and 3.4% (2221 km2) of the total land extent of the country (Table 02).

5.1.12. The Eastern Development Corridor

The Eastern Development Corridor, is expected to have a residential population of more than one million (1,200,000), which can be achieved with a little increase of its present rate of growth to 1.0 percent (Table 02).

Batticaloa is proposed to be developed as a Metro Region with a population of 300,000, and Valachahenai, Kalmunei, Ampara, and Akkareipattu are proposed to be the Cities with populations varying between 250,000 to 100,000, along with a set of 'Small Towns' which will have relatively smaller concentrations. This included 29 Divisional Secretary Divisions (Table 01) and 4.6% (3021 km2) of the total land extent of the country (Table 02).

5.1.13. A 'Metro Region'

A 'Metro Region' is a geographic entity with a relatively larger agglomeration of economic activities, secondary and tertiary sector employment and a population around an urban area, characterized either by a single node or several nodes of urban facilities. Within this policy, a 'Metro Region' shall be an indication of an area with a minimum population of 500,000, and a net residential population density between 1000 - 5,000 persons per square kilometer.

Kandy Metro Region is proposed to facilitate a population of seven hundred thousand (1,000,000) (Table 02).The area identified for proposed Metro Region in Kandy presently accommodates a population of 680,000, but this is likely to grow beyond the expected number, if additional measures will not be taken to attract its future populations in to other areas.

The Kandy Metro Region consists with 8 Divisional Secretary Divisions (Table 01) and 0.7% (430 km2) of the total land extent of the country (Table 02).

Anuradhapura Metro Region is expected to facilitate a population of five hundred thousand (500,000) within the respective areas of its direct influence. The present population in the area identified for Anuradhapura Metro Region is 311,000, which is expected to grow at an increased annual average growth rate of 1.6% to achieve the targeted numbers (Table 02).

The Anuradhapura Metro Region consists with 8 Divisional Secretary Divisions (Table 01) and 2.5% (1670 km2) of the total land extent of the country (Table 02).

Ongchangwei / Dreamstime

concreteplayground.com

5.1.14. A 'Main City'

A 'Main City' is a relatively larger concentration of economic activities, urban facilities and residential population, and serves as the higher order service Centre to a reasonably larger land area. Within this policy, a 'Main City' shall be defined as an area with a minimum population of 100,000, and a net residential population density between 100 - 500 persons per square kilometer.

The following locations are proposed to be developed as independent medium scale urban facility locations with populations varying between one and two hundred thousand (100,000-200,000) (Table 02):

1. Mannar,
2. Mulaitivu,
3. Vauniya,
4. Puttalam,
5. Polonnaruwa,
6. NuwaraEliya,
7. Ratnapura,
8. Mahiyanganaya
9. Wellawaya,

These **'Main Cities'**, shown in figure 5.1.8, are expected to contain a larger share of the future urban growth excluded from the Development Corridors and the two Metro Regions, which otherwise will be scattered all over the island within the next 20 years. They shall collectively accommodate up to 2.6-2.7 million residents within their areas of influence. However, out of them Nuwara Eliya and Ratnapura may need to divert their excess populations into elsewhere in future due to their fragile environmental conditions.

5.1.15. ATertiary Agglomerations

Tertiary Agglomerations of around two hundred medium and small scale towns in both designated and non-designated urban areas, are expected to have less than 50,000 people in each of them, and to support the basic needs of settlements scattered in the rest of the island.

5.1.16. The Implementation

The Implementation of the spatial structure shall be assured by the following actions taken by the relevant agencies:

a. *Investment on strategic projects that will generate more attractive employment and business opportunities (mainly in the manufacturing and service sector) for the next generation entering the labor force, at locations proposed by this plan.*

b. *Increasing the availability of land/houses and urban infrastructure (especially water supply and public transportation) at affordable prices at locations identified for residential developments within the proposed urban agglomerations.*

c. *Providing high performing social infrastructure (especially primary and secondary schools, high quality health services and recreation facilities) associated with the main urban areas proposed in this plan.*

5.2 The Urban Development Strategy

5.2.1. The Objective

The urban development strategy is to regulate and promote the urban areas with comprehensive development guidelines. The urban development plans prepared by the Urban Development Authority and other development agencies shall strictly take the following aspects in to consideration.

5.2.1.1. Attractive and Livable Conditions

The conditions within the urban areas must be conducive for living, working and entertainment. The tropical climate conditions prevailing within most of the urban areas shall be handled with adequate sensitivity. Positive characteristics such as the bright day light, constant temperature and humidity conditions, etc, as well as the harsh sunny and heavy rainy weather conditions shall be responded with appropriate measures of planning and urban design in order to provide appealing and livable atmosphere.

5.2.1.2. Safe and Secure Localities

The safety from external forces such as the floods, landslides, sea erosion as well as internal issues such as the frequent road accidents, public nuisance, wide spreading epidemics, etc, shall be addressed at the planning of urban areas. Safe environments also include special attention paid to children, disabled and senior citizens. Security from theft, burglary, crimes and terrorist attacks shall be provided through both physical and non-physical measures.

5.2.1.3. Smart and Convenient Facilities

The ease of access to various information related to day to day operations, reliability of public services provided by various institutions, and the convenience of using urban facilities makes an urban area 'smart'. The advancements in information technology may assist to provide fast and reliable information through smart devices, but the delivery depends largely upon the persons and the systems in place. Even though a major contribution for such systems shall be non-physical, the physical environments shall be planned and designed to enable the commendable use of such systems, when provided with the required versatility.

5.2.1.4. Green and Sustainable Environments

The selection of the most appropriate lands, safe and reliable construction methods, saving of water both in construction and in operations, effective use of renewable energy, use of appropriate materials in optimum quantities, response to thermal conditions, use of efficient devices, etc, shall be made compulsory for all constructions in order to assure environmentally sustainable and 'Green' developments.

5.2.2. Improved Public Transport modes

Improved Public Transport modes that assures efficient, affordable and reliable service shall be identified as a key factor for the improvement of livability in urban areas. Therefore, strategic investment program in reorganizing mode-integration and systematizing the operations along with the state-of the-art passenger services for the improvement of public transportation throughout the island with a special emphasis on the urban agglomerations proposed in section 5.1.15 shall be implemented by 2025.

Since the residential populations within most of the Metro Regions and Cities, except Colombo Metro Region, will not exceed a million, heavy investments on high tech transportation solutions for local passenger transportation may not be economically viable. In most of the urban areas, local passenger transportation needs can be best catered by improving the existing bus services until 2030. However, the operations need to be heavily regulated, buses and the waiting facilities must provide the required comfort, and smart services such as e-ticketing and information display need to be provided to make the services more efficient, cost effective and attractive to passengers.

In the proposed Development Corridors, the railway shall be given priority because it is the most economically viable and environmentally sustainable inter-city mode for both passenger and goods transportation.

5.2.3. High Quality Utilities

High Quality Utilities shall be provided in order to boost urban development, strategic investments. To this end the augmentation of the existing water supply projects, improvement of drainage, introduction of underground sewer, enhancement of the electricity network, and the introduction of fire services, shall be provided as priorities within the period 2020-2030 for the areas identified for the development of Metro Regions and Cities of the Development corridors, the two independent Metro Regions and the Nine Main Cities, on priority basis.

Throughout the proposed Development Corridors, improved inter-connected water supply, gas and electricity distribution networks, fed by multiple sources located at different points, shall be implemented in order to maintain an uninterrupted, consistent and regulated supply for all activities within them.

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5.2.4. Augmented Social Infrastructure

Augmented Social Infrastructure is essential in order to enhance the attraction of the future generations of the population to those selected urban areas for residential and employment purposes the provision of high quality education, health, communication and recreation facilities is proposed.

It is observed that almost all areas, identified to be promoted as Metro Regions and Main Cities, already have adequate education and health facilities. The immediate requirement is to invest on the improvement of the quality and the capacities of the existing facilities, rather than the establishment of new facilities. Yet, in some urban areas, the schools and hospitals located within core areas shall be relocated to alternative locations within close proximities, in order to avoid issues related to crowding, traffic congestion, user safety, etc., with adequate considerations on the appropriateness of their existing locations for such facilities.

5.2.5. Improved Pedestrian Spaces

Improved Pedestrian Spaces shall be given priority in all urban development programs to make the urban areas more attractive. Strategic interventions such as the improvement and regulation of their pedestrian environments shall be proposed in all development plans. Walking can be regarded as the best solution for most of the issues presently apparent in Sri Lankan urban areas such as traffic congestion, unauthorized parking, accidents, etc. As a priority measure, pedestrian friendliness shall be considered as the main objective of future urban plans, instead of the present dominance given to vehicular movement. The pedestrian areas shall be suitable for the tropical weather conditions available and appropriate designs shall be devised accordingly.

5.2.6. Increased and Improved Recreation Facilities

Increased and Improved Recreation Facilities at the local level, shall be provided to cater the increasing rate of urbanizing lifestyles of the inhabitants. This is a necessity for a healthy nation and to reduce heavy costs on providing health services.

The general standard is to have one hectare of open space for 1000 persons, which is hardly met in present urban development schemes. Nevertheless, provision of large extents of lands for open spaces for public recreation facilities is a challenge amidst the scarcity of land and the pressure for developments in urban areas. Yet, innovative approaches such as the opening of canal reservations, river banks, marshy areas and beach fronts along with reasonable facilities and maintenance of them will enable to overcome the difficulties in providing public open spaces. Parallel to that providing wider road spaces at neighborhood levels to be used as makeshift children play areas and gathering spaces will work as an alternative way of providing public open spaces and also to strengthen 'neighborhood' or 'lane' communities.

5.2.7. More Space for Physical Developments

More Space for Physical Developments shall be made available in order to support the intense developments in selected urban areas by means of more appropriate Floor Area Ratios (FAR), higher densities and mix developments, yet, regulated within comprehensive development guide plan required instead of the currently adopted activity based zoning, The Development Plans prepared by the Urban Development Authority for the identified Urban Areas of the said Development Corridors, Metro Regions and the Main Cities, shall consider appropriate methods based in densities and the floor area ratios demanded by the economic activities appropriate urban forms, environmental learning capacities, infrastructure availability and the populations envisaged in those locations.

5.2.8. A wider Choice of Employment Opportunities

A wider Choice of Employment Opportunities shall be provided as a measure to generate increased number of direct and indirect employment opportunities in such locations providing lands and other infrastructure required for appropriate type of industries.

5.2.9. Smart Facilities

Smart Facilities is a requirement for the improved connectivity of people and locations both locally and internationally in all urban areas. To this end high quality communication infrastructure is a requirement. The ongoing concept of Smart Cities is a progressive initiative in this regard. Owing to the rapid advancements in information technology and digital infrastructure, in near future the relative costs of providing smart facilities will be justifiable in the light of benefits such as the convenient access to information, automated pubic services, more transparency in governance, etc., that they can provide.

In that context, fully fledged smart environ-ments are proposed to be established along all four economic corridors, metro regions and the main cities during the period 2020-2025. This can be extended into other areas thereafter.

5.2.10. Green Built Environments

Green Built Environments shall be the theme of all physical developments. In order to ensure environmentally sustainable development within urban areas, the green building practices are proposed to be made essential for all physical developments, including buildings, roads, recreation facilities, etc. by 2020.

As general policies the following are proposed to be adopted as strategic projects in the planning and implementation of all urban developments:

1. *Establishment of urban scale collective rain water harvesting facilities such as open ponds, under-ground reservoirs, etc at identified strategic locations, implemented by the National Water Supply and Drainage Board in coordination with Urban Development Authority and the Local Authorities.*

2. *Solar fields installed in the appropriately built roof tops in selected localities, implemented by the Sustainable Energy Authority and the Ceylon Electricity Board.*

3. *Community based waste management initiative that includes source management, sorting, collection and recycling in all condominium and neighborhood developments, implemented by the Provincial Waster Management Authorities, in coordination with the Local Authorities.*

4. *Minimum un-built open area requirement and space for green cover strictly regulated and maintained within urban areas as specified in respective urban development plans.*

5. *The Green Building certification process implemented by the Urban Development Authority be extended to all categories of developments to facilitate this initiative.*

6. *An island wide programme to shade main streets and major public spaces of all urban areas with trees of endemic species, implemented by the Urban Development Authority.*

7. *Strict implementation of Green Procurement guidelines for all projects, purchase of equipment and devices involved in urban development activities.*

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Green Built Environments shall be the theme of all physical developments. In order to ensure environmentally sustainable development within urban areas, the green building practices are proposed to be made essential for all physical developments, including buildings, roads, recreation facilities, etc. by 2020.

5.3 Transportation Development

5.3.1. The Objective

This is to act as a complimentary element to the National Transport Policy which was approved by the Cabinet of Ministers in 2009 and the same is being updated by the Ministry of Transport and Civil Aviation, the following objectives are proposed by the this plan:

5.3.1.1. Pro-active approaches

Connectivity, accessibility and mobility are among key factors that influence the proposed land use and the settlement distribution pattern. Therefore, transportation planning should work hand in hand with land use planning, in order to expect a healthy land uses as well as sustainable transportation infrastructure development. Sustainable transportation planning which is based on the three pillars, namely: to avoid, to shift and to improve, shall adopt pro-active policy approaches that support not only to turn future land use and the settlement distribution in desired direction, but also support to encourage modal shift from private to public and to improve efficiency and reliability, rather than mere responses to the present demand trends, and ineffective investment on transportation infrastructure.

5.3.1.2. Optimization of the available infrastructure

Both passenger and goods transportation modes and the related infrastructure involves heavy investments, which under the current economic conditions will add to debt burden on Sri Lanka's economy for next twenty to thirty years, and therefore, optimization of the utility of the available transport infrastructure with minimum additions, is the most viable option to provide transport infrastructure.

5.3.1.3. Investment on economically feasible projects

With the fast evolving technology and the changing lifestyles of the people, the travel behavior as well as the modes of passenger and goods transportation are likely to change within the period envisaged in this plan, and therefore, in a transforming situation all investments bear some levels of risks of not providing the best utility and not yielding the expected benefits. Therefore, investment decisions for transportation developments need to follow comprehensive feasibility studies before they are turned into projects.

5.3.1.4. Selection of environmentally sustainable modes

Transportation sector is identified as one of the major contributors to Greenhouse Gas emissions in Sri Lanka. In order to comply with the permitted emission levels and for a sustainable conservation of the environment the minimization of the use of private vehicles and the promotion of the public transportation shall be the policy in future developments. Out of the available modes rail transportation shall be the first in the priority order.

5.3.1.5. Introduction of modern technology for efficiency and comfort

Even though economic viability is a concern, the safety and reliability are important in all modes of transportation. Therefore, the introduction of the state-of-the art technology available to improve the efficiency, such as the automation of vehicles, electronic ticketing, inter-modal integration, etc., and the user comfort shall not be compromised at any cost in the development of both passenger and goods transportation.

5.3.1.6. Equality and Equity in investments

There shall be equal consideration on the inter-regional connectivity as well as the first and last-mile connectivity. Heavy investments on large scale infrastructure at inter-regional level transportation infrastructure, with no due regard for local and city level transportation development will not bring in the required benefits to the nation. At the same time, due consideration shall be there for the order of priority: The Pedestrian, The Cyclist and the Motor Vehicles. It is unfortunate to note that the current road development projects pay less attention to the pedestrian and the cyclist, despite the emphasis given in the transportation policy.

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5.3.2. Rail Transportation

Out of the all transportation modes available, the rail transportation was studied to be the most economical for inter-regional goods and passenger transportation as well as for urban mass transportation. Most of the areas identified for future urban agglomerations are already accomplished with railway connections and the related facilities. Therefore, in the four Urban Corridors, railways are expected to be the most attractive among all modes in future. In order to meet such expectation, a remarkable improvement in the available rail network is essential.

The electrification of the rail between Aluthgama and Veyangoda, and Colombo and Negombo by 2025, are already proposed by the current Railway Improvement Master Plan. These projects will complement the proposed East-West Development Corridor. In order to move further, this electrified railway is proposed to be extended up to Kurunegala before 2030. The current Railway Improvement Master Plan also proposes a rail link between Kurunegala and Habarana, via Dambulla. This proposal is highly commendable in the light of the proposed corridor development scenario. This length, along with the available rail link from Habarana to Trincomalee shall be improved by 2030 with an electrified, high speed train service to enhance the connectivity among locations within the proposed East-West Development corridor.

In order to facilitate the developments in the Southern Development Corridor the existing rail services from Aluthgama to Matara need to be improved. As per the available proposal this service can be extended from Matara to Hambantota by 2030.

In the Northern Urban Corridor rail services shall be intensified between Kilinochchi and Kankasanthurei by 2025. If the said new connection between Kurunegala and Habarana can be supplemented with an additional connection between Habarana and Anuradhapura the existing connection with Polgahawela via Mahawa will be sufficient to cater to the demand until 2030 and thereafter.

In the Eastern Corridor, rail services between Valachchenai and Baticalloa need to be improved, while the existing connection with Habarana will be able to meet travel demands until 2030. In order to improve connectivity within this corridor, an extension of the same line up to Ampara via Kalmunei is proposed to be established by 2025.

The other sections of the available network and the services in them shall also be improved in order to facilitate inter-regional transportation needs. In addition to the available network, new railways are proposed: between Kurunegala and Kandy (by 2025), between Hambantota and Polonnaruwa, via Wellawaya and Mahiyangana (by 2030), with a possible link to existing line at Badulla; between Colombo and Hambantota via Rathnapura and Embilipitiya (by 2030); between Ampara and Wellawaya (after 2030). However, the electrification of these lines may not be an immediate requirement, owing to the heavy investments involved and the level of services expected out of them.

In addition to the above developments, an augmentation of the available railway infras-tructure, such as the additional lines to the existing lengths and improvements to the existing lines are essential to improve the efficiency of the railway transportation. A few projects are already under the consideration by the Department of Railways, which includes adding lines between Colombo and Ragama, Colombo and Homagama, Colombo and Moratuwa, etc.

Another area that needs immediate attention of the authorities is the improvements to the passenger services. This includes the modernization of the facilities in railway stations with comfortable facilities, better waiting areas, smart environments in them, etc, while, the modernization of the services in for commuters such as e-ticketing, on-line reservation, personalized services, train tracking possibilities, etc. Such improvements, along with the improved efficiency of the services, are likely to make a dramatic shift of passengers from road based modes to railway.

Out of the all transportation modes available, the rail transportation was studied to be the most economical for inter-regional goods and passenger transportation as well as for urban mass transportation.

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5.3.3. Road Infrastructure

It is observed that the public road length maintained by the Government, both at Central and Provincial level exceed 30,000 kilometers. In terms of road density Sri Lanka is at a reasonably higher position compared to other nations in the region. Yet, the necessary improvements and timely maintenance of these roads, specially the provincial roads, has not been at a satisfactory level. In spite of the facts that road transportation serves for more than 90% of the transportation demand, and it is the most convenient and most flexible option specially for the first and the last mile connections, maintenance of the increasing extents of road infrastructure has throughout been a costly affair to the economy. Under such circumstance, prioritization of the road infrastructure developments and the optimization of the utility of the available infrastructure are essential for an economical and sustainable road transportation strategy.

Expressways are relatively more expensive developments, but can facilitate fast communication between locations. The Southern Expressway, Colombo–Katunayake Express-way, Outer Circular Highway, and the ongoing projects those connect Matara to Hambantota, and Colombo to Dambulla via Kurunegala will facilitate the connectivity and the speedy movements between the locations within the proposed Development Corridors.

The movement patterns and the projections expected within the future urban development, settlement distribution, industrial locations, tourism promotion and the other related developments, scenarios proposed in this Plan, indicates that the already available set of expressways and the currently implemented expressway projects, namely the Colombo-Hambantota and the Colombo-Dambulla and the last phase of the Colombo Outer Circular Highway, will be adequate to meet the large scale road infrastructure requirements until 2030. The need for further extensions to the expressways shall be assessed based on the demand patterns likely to arise after 2030. Instead, rapid improvements to railway services, as indicated in the previous section, along with highly integrated, connected and improved local bus services, and the upgrading of the existing inter-regional highway facilities will be able to adequately serve for travel demands and goods transportation until 2030, and in turn to support the proposed physical development pattern.

However, in order to improve inter-regional connectivity and to facilitate speedy access, the existing highways that connect the proposed metro regions and the main cities shall be improved and maintained on priority basis. The identified 'priority highways' are Hambantota-Wellawaya-Batticaloa (A2), Negombo-Puttalam (A3), Dambulla-Trincomalee (A6), Dambulla-Jaffna (A9), Kandy–Puttalam (A10), Habarana –Polonnaruwa-Batticaloa (A11), Trincomalee-Puttalam (A12), Medawachchiya-Mannar (A14) and Mankulam-Mullaitivu (A34). In these connections (and the other highways) a main problem frequently noted is the bottle-necks formed in the urban areas that they run through. The ribbon developments taking place along the highway, that becomes the 'Main Street' at the locations of these urban areas, often result in congestion and slowdown in main flows. This problem cannot be addressed only through road development or traffic engineering, but has to be addressed through comprehensive integrated urban development plans and pro-active urban development strategies implemented at the local level.

At the Provincial and Local levels, the upgrading, timely maintenance and the optimum use of available road spaces rather than the construction of new roads, except for compelling reasons, shall be policy for road development.

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5.3.4. Aviation

The National Civil Aviation Policy for Sri Lanka (2016) highlights 'the future direction and positioning of Sri Lanka as a leading aviation and transport hub in the South Asian Region, transforming the country into a superior air service provider while connecting to the wider world aviation network. It also identifies that timely modernizing Air Traffic Management (ATM) and upgrading and expansion of Airport Infrastructure are critical to cater for growth in traffic and to ensure efficient use of airspace and airports.

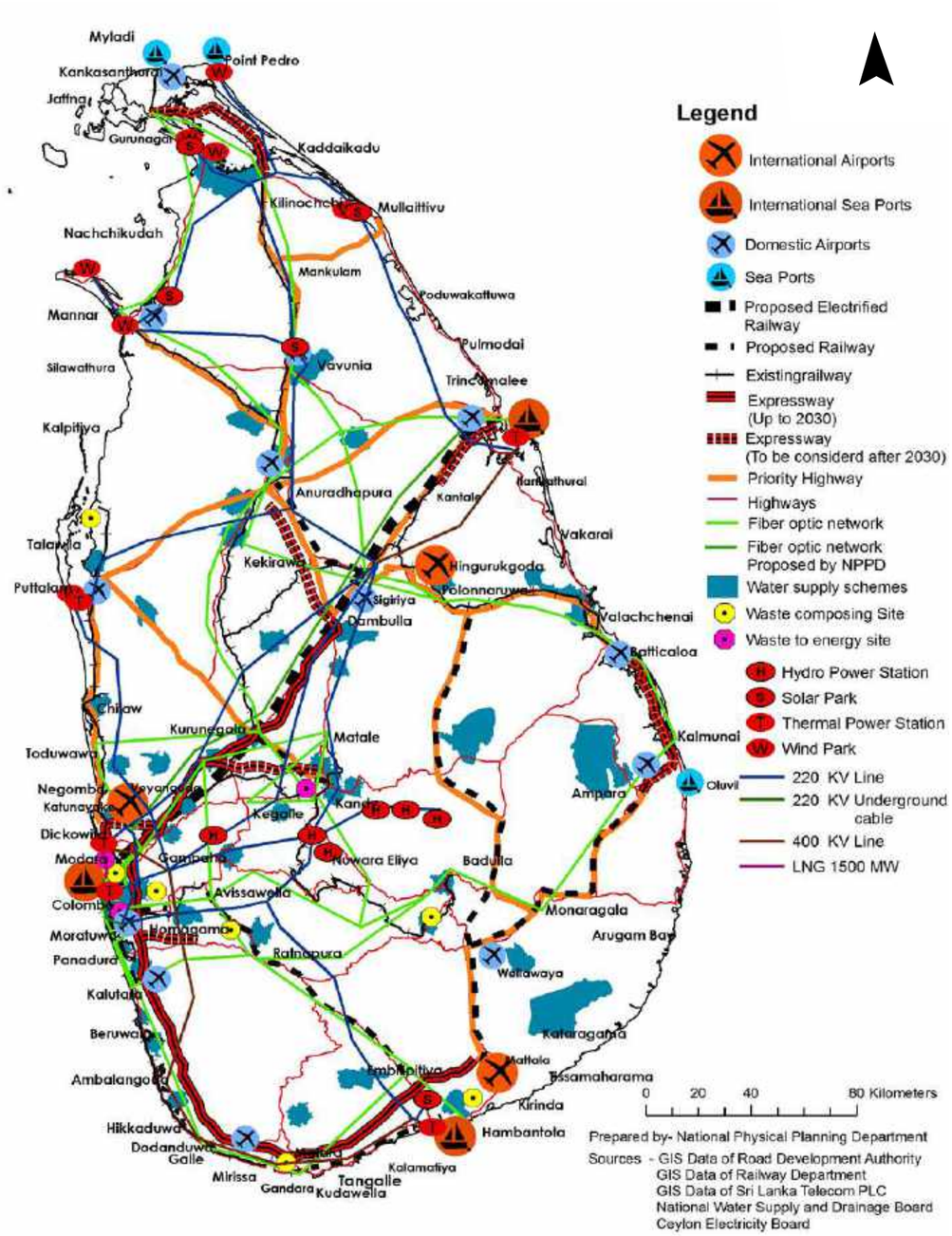
With the increasing affluence of the Sri Lankan society, improved business environment and the development of tourism industry, there will be an upward demand for airport and aviation facilities. It is already predicted that with the increasing air traffic and passenger volumes, the carrying capacity of the existing Bandaranayake International Airport (BIA) at Katunayake will reach maximum within a short period. Therefore, plans are already underway for the expansion of landing facilities, passenger terminals and cargo handling facilities. In order to internalize the positive impacts of the increased use of the BIA, the area surrounding Katunayake airport is proposed to be developed with all facilities required for a modern Aero-City. This may be the catalyst for the proposed Negombo – Katunayake Metro Region within the East-West Development Corridor.

In addition, the Mahinda Rajapakshe International Airport (MRIA) at Mattala is a facility that cannot be neglected because of the heavy investments made on it, and the potential that it gains owing to the strategic location that Sri Lanka is positioned within the international air traffic routes. In order to get any benefit and to avoid deterioration it needs to start operations at the earliest.

These two airports will be able to support the international travel requirements in near future. Yet, if the prevalent business development trends continue more air travel demand can be expected within next ten years and a need for a third international airport will arise. In such context, complying with the envisaged pattern of the physical developments, and optimizing the available resources, out of all options available, Hingurakgoda air strip will be the best candidate to get the upgrading to an international airport. Since it is located within a close proximity to the main infrastructure proposed within the main East-West Development Corridor, Hingurakgoda airport will be able to serve all needy areas with appropriate connections.

The National Civil Aviation Policy identifies that the development of aerodromes in underserved or remote regions brings job creation, economic activity, greater connectivity and social integration to national economy. Accordingly, parallel to the development of BIA and the MRIA, the demand for domestic air travel too can be expected to increase. In order to cater to the demand, the existing domestic airports at Ratmalana, Ampara, Trincomalee, Puttalam, Palali and Anuradhapura are proposed to be developed with necessary passenger and cargo handling facilities. However, these developments need to follow comprehensive travel demand analyses and feasibility studies. The proposed infrastructure configurations - 2050 are shown in Figure 5.3.4.

Figure 5.3.4 : Proposed Infrastructure Configuration – 2050



5.4 Physical Infrastructure Provision

5.4.1. The Objective

The utilities and services are critical for a planned development of human settlements, comfortable living and efficient functioning of economic activities. The physical infrastructure such as the pipe borne water supply, storm water drainage networks, public sewer, liquid and solid waste collection and disposal systems, etc., required to provide such utilities are therefore, plays a major role in realization of the envisaged pattern of development. With that in view, the following objectives are set forth in support of the proposed spatial and settlement strategies.

5.4.1.1. Convenience to the Users and Service Providers

The level of accessibility to the user to the utilities as well as the ability to reach them by the service provider are critical in successful provision of respective services. The settlement pattern makes a direct implication with this regard.

5.4.1.2. Strategic and Viable Investments

It is observed that electricity supply and road infrastructure have reached more than 95% of the populations of the island. The consistency in supply, operations and regular maintenance, augmentation of facilities are the main issues associated with them. Currently, the water supply and drainage services are fast improving in many areas. It is also noted that the new installations and augmentations of the existing infrastructure involves heavy costs and therefore, in order to best utilize the available finances, strategic projects those will bring in the best outcomes need to be identified for investments.

5.4.1.3. Optimum Utility and Environmental Sustainability

In the provision of the utilities, the service providers shall assess the priorities in terms of the threshold demands by the populations and other activities to sustain the project.

At the same time, the utilities can be a tool to guide developments into desirable directions. The environmentally sensitive areas and reserves can be best protected through non-provision of utilities.

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5.4.2. Water Supply and Drainage

The water is a critical commodity for three purposes: the domestic and industrial uses, agriculture and irrigation, and sustainability of natural ecosystems.

The domestic and industrial demands in urban areas are presently catered by the National Water Supply and Drainage Board. A number of water supply and drainage projects are already being implemented by the National Water Supply and Drainage Board aiming to cater to targets of 2020 horizon, but most of them are at the local and regional scale. In addition to them, a National Level Water Resource Management project is essential to provide safe, sufficient and sustainable water supply for future physical developments. In such a project the following features shall be integrated:

As stated earlier, in order to assure optimum utility and the appropriate use of resources, as well as to support the proposed settlement pattern, the best option would be the networks of interconnected water supply schemes in the proposed Development Corridors. Such networking facility will support a long range service through a trans-basin diversion of water into the demand areas and thereby overcome the supply issues emerging from source inadequacy, source tapping difficulties and the seasonal fluctuations of flows at the sources. Even though reduction in rainfall is predicted, it is observed that the prudent management of the available water resources in the rivers will enable to meet the demands projected up to 2030 (and beyond) in the given development scenario with a few alternative sources.

Out of the main water sources available, Mahaweli River, Kalu Ganga River and Kelani River will be able to provide the quantity of water that is required to meet the demand generating from the main Development Corridor between Colombo and Trincomalee until 2030, with the support of an inter-connected trans-basin service network as proposed above. The demand emerging from the Southern Corridor needs to be catered to with the water available in Gin Ganaga and Nilwala Ganga Rivers in a similar trans-basin networked service.

However, new sources will have to be explored for the Northern and the Eastern urban corridors as the rivers in those areas may have scarcities to provide water to meet demands throughout. The proposed 'River for Jaffna', (Arumugam Proposal, 1965) which is under consideration by the Government of Sri Lanka, has high potential to provide the Northern Development Corridor to flourish with innumerable benefits as well as to support agro based developments in the North.

The water for agricultural purposes are managed by the Irrigation Department. It is recorded that the lands cultivated with water from major and minor irrigation schemes are over one million hectares, and out of the total food production of Sri Lanka, more than sixty-five (65%) is from these lands. In order to ensure food security, preservation of the traditional agriculture and to conserve the ecosystems associated with them, the said National Water Resource Management project shall include measures towards demand management and guiding the optimum use of water for irrigation and other agriculture related activities.

The sewerage disposal needs will have to be addressed on local basis. As per the numbers, projected in the proposed settlement distribution strategy given in Section 5.2, new underground sewers with other ancillary installations will be necessary by 2030 for main agglomerations in areas such as Sri Jayawardanepura, Kaduwela, Peliyagoda, Wattala, Kolonnawa, Maharagama, within Colombo Metro Region, and the identified

core areas of Negombo, Ragama, Gampaha, Mirigama, Kurunegala, Dambulla, Trincomalee, Kinniya, Muttur, Galle, Hikkaduwa, Matara, Jaffna, Batticaloa, Kalmunei, Kandy, Anuradhapura and Nuwara Eliya. Depending upon the future development pattern beyond 2030, further installations can be considered in Hambantota, Ampara, Puttalama, Mannar, Kilinochchi, Eravur, Rathnapura, and the areas within proposed main urban agglomerations. Such installations will enable to increase the carrying capacities of those locations, conserving sensitive natural eco-systems.

For surface water drainage multiple measures will be required both at local level and regional level. As a general policy the installation of rainwater harvesting facilities in individual developments as well as in urban neighborhoods with relatively larger scale developments shall be promoted in all built up areas, and specially in urban areas. This strategy is important because it will partially compliment the water demand, contribute to prevent flash floods caused by reduced ground assimilation in built up areas and it will enable to recharge ground water sources.

The construction of bunds at appropriate locations and forming small to medium scale cascading ponds, managed by community organizations or the respective local authorities in all river basins will be a viable solution for the management of water in the less densely built areas. The surroundings of such ponds can also be used as sites for public recreation.

5.4.3. Energy

The exiting plans pertaining to this sector such as the Long Term Generation Expansion Plan-2018-2037 (Draft) by Ceylon Electricity Board, Electricity Supply 2020 And Beyond Challenges And Recommendations published by the Public Utilities Commission of Sri Lanka, and Towards an Energy Secure Sri Lanka', Sustainable Energy Programmes 2015 – 2025, published by the Sri Lanka Sustainable Energy Authority, The Energy Sector Development Plan For A Knowledge-Based Economy 2015 - 2025 published by the Ministry of Power & Energy Sri Lanka, the Petroleum Exploration Development Plan (2017) by the Petroleum Resources Development Secretariat; , Petroleum Resources Act No. 26 of 2003; show that adequate attention has already been received by the energy sector. In conformity with the aims and objectives mentioned therein, and to meet the physical development targets of this Plan, the following spatial strategies are proposed.

The said report on 'Electricity Supply 2020 and Beyond: Challenges and Recommendation' recommends short-term, medium-term and long-term solutions to ensure long-term energy security in a sustainable manner. According to the report, the Sri Lankan power system had total installed capacity of approximately 4054 MW by end of year 2016 with a total dispatching capacity of 3538 MW. The maximum demand recorded in 2016 was 2453 MW and total generation was 14250 GWh. Generation expansion planning is a part of the process of achieving the above objectives. In order to meet the increasing demand for electrical energy and to replace the thermal plants due for decommissioning, new generating stations need to be installed as and when necessary.

Petroleum Resources Development Secretariat (PRDS) plans to move forward with a strategic oil and gas exploration and development plan prioritizing with a list of short, medium and long term Foreign Direct Investment (FDI) projects taking into consideration the emerging business models, newly introduced procurement methods, market potential and national benefits provisions, etc. with the purpose of adding extra value to the economy through capacity building of national human resources and technological advancement of the country through the participation of international Contractors/ Operators in upstream petroleum operations in Sri Lanka.

Petroleum Resources Act No. 26 of 2003 is the governing legislation for petroleum exploration and development in Sri Lanka. The Petroleum Resources Development Committee (PRDC) established under this Act is responsible for implementing the provisions of this Act, and the Petroleum Resources Development Secretariat (PRDS) is responsible for the administration and regulation of all exploration and production activities in Sri Lanka.

The larger share of the demand for both electricity and petro-based fuels will also be from the Development Corridors. With the settlement pattern, industrial developments and transportation infrastructure, proposed in the Spatial Strategy indicated in the Section 5.1 above, it can be expected that more than half (50%) of the future national demand will be concentrated to the East-West Development Corridor.

In that context, the looped continuous service network along the East-West Development Corridor, similar to what is proposed for water supply, is proposed to ensure a regular and non-interrupted provision of electricity, petroleum and gas supply which are critical for the promotion of these main development areas. In addition to the augmentation of the existing systems, new Petroleum and LNG terminals, and power generation plants at Trincomalee, and within close proximity to Colombo (Kerawalapitiya), will support the

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UthuruJanani Power Plant / Itl.lk

Pawandanavi Wind Power Plant / Itl.lk

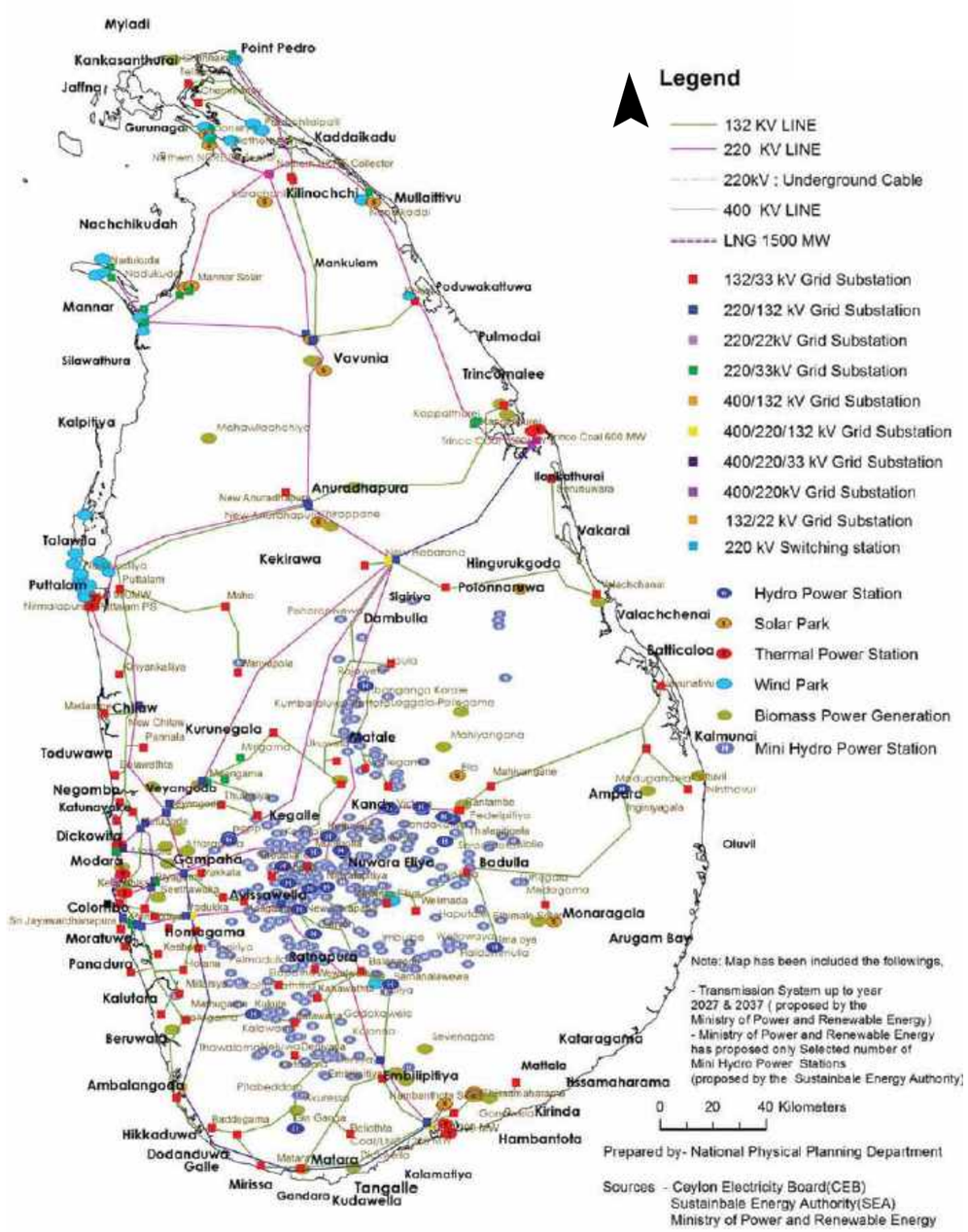
electricity, liquid fuel and gas supplies to the entire island through a continuous channel. Similar establishments at appropriate locations in the other Development Corridors shall be considered towards 2030, in order to provide necessary utilities. To accommodate these installations, the traces of proposed expressways and railways in the main Development Corridors, shall also be considered as 'Utility Corridors'.

Sri Lanka Sustainable Energy Authority 's (SLSEA) Energy Management Action Plan (2016-2020) is to achieve 20 % energy generation from renewable sources by 2020 and this is an achievable target. This may be increased to 30-40% by 2050, but whether the entire energy demand can be met with renewable sources by 2050 is debatable. Yet, since Sri Lanka has determined to meet the emission targets set out by international agreements and protocols, and also to ensure clean energy provision, roof top solar fields are proposed to be mandatory by urban development regulations in all residential, commercial and institutional developments targeting to meet minimum of 20% of the energy demanded by respective urban areas. Ground area solar fields are also proposed within close proximities to all Metropolitan areas and Main Cities.

However, a comprehensive programme is essential to be developed now to manage the waste likely to be generated from the solar uses in the near future. The promotion of ClGn installing shall be pat with side programme.

A few large scale hydro-power generation stations are proposed by the Ceylon Electricity Board in Seethawaka (Kithulgala), Broadlands (Hatton), and Malwala (Ratnapura), all within the Central Fragile Area, identified by this Plan. Since this Plan suggests a depopulation strategy for these sensitive areas, these projects can be well accommodated, subject to comprehensive studies on the impacts that they will have upon the natural environmental assets.

Figure 5.4.3 : Proposed Energy Configuration – 2050



5.4.4. Waste Management

Efficient solid waste management schemes are essential to support the envisaged physical and economic development scenario. The areas with proposed urban agglomerations are expected to accommodate industrial, commercial, health and other service facilities, in addition to the large residential populations expected in them.

The projects that are being implemented such as the Waste-to-Energy plants in Kerawalapitiya, Boralesgamuwa and Kandy, the Large Scale Sanitary Land Fills at Aruwakkalu will be taking most of the waste generated within next decade, once they will commence their operations in 2020. In that context, a centrally managed system that includes collection, transportation and disposal, supported by modern technological interventions, operated through a National Level Waste Management Authority is proposed to be established for the areas that fall within the four Development Corridors, Metro Regions and the Main Cities, by 2020.

Owing to the relatively lower volumes of solid waste expected to be generated with the ongoing promotional programmes and the lower populations expected in them, the other areas will be able to manage with the conventional recycling, composting and sanitary landfilling.

With the increasing awareness programmes on Reduction, Reduce and Reuse (3R), the generation and quantities coming into disposal may decrease, but the current socio-economic developments indicate the need to have effective policies, instruments and methodologies to handle non-conventional waste such as electronic waste, clinical waste, etc. The proposal for disposal of such categories of waste is beyond the scope of this Plan, but when well researched and effective disposal methods are developed, appropriate locations for facilities required to accommodate them could be identified within the spatial framework provided by this Plan.

Alex Fu / Pexels

5.5 Social Infrastructure Provision

5.5.1. The Objective

Provision of Social Infrastructure is a critical requirement for human settlement development and related economic development. Among different types of social infrastructure required for the successful implementation of the envisaged human settlement development pattern, education, health and administrative services are the most crucial for which successive governments have been paying special attention. The recent policy developments in these sectors such as 'the 'Nearest School - The Best school' (Langama Pasela – Hondama Pasela), 'Compulsory Secondary Education', 'Tertiary Education for all', 'Prevention of Non Communicative Diseases through Physically Active Nation', Decentralized Administration, E-Governance, etc., have direct implications on the physical development of the island.

In that background, the following common objectives are set forth for the provision of education, health and administrative infrastructure.

5.5.1.1. Convenience to the Public

Similar to the physical infrastructure, the convenience to the users as well as the service providers is an important factor that needs to be considered in the selection of the locations for installation of social infrastructure facilities such as schools, hospitals, administrative offices, etc. In every occasion these facilities shall be planned as close as possible to main access roads, urban centres and within close proximity to each other.

5.5.1.2. Strategic Investments for Optimum Utility

It can be observed that education, health and administrative infrastructure are well distributed throughout the island. Even though the demand on education and health are concentrated to specific facilities and locations, future investment on social infrastructure shall ensure the improvement and augmentation of the existing facilities, rather than establishment of new facilities. In planning for investments, the maximum utility of the facility shall be ensured through comprehensive feasibility analysis.

5.5.1.3. Economical Operations and Sustainable Use

It is frequently stated that most of the investments in social infrastructure do not bring in credible returns to the economy. A well-organized hierarchy of the service, the locations and the coverage of communities at different levels, usually minimize the waste and enable to optimize the cost and the use. At the same time, the upcoming automated service provisions, e-learning, e-consultancy, etc., can be used to provide more efficient and less costly services.

Currently, the primary education facilities are well located covering the entire island, and within the reach of maximum 02 km even in rural areas. The same facilities in those locations can well serve the expected settlement distribution pattern with minimum additions and augmentation. Yet, the qualities of those facilities are not commendable in all locations. A vast disparity is observed between the 'popular' schools and the other schools.

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5.5.2. Education

A radical change in the education policy is necessary to overcome the current regional disparities observable in Primary and Secondary education.

Currently, the primary education facilities are well located covering the entire island, and within the reach of maximum 02 km even in rural areas. The same facilities in those locations can well serve the expected settlement distribution pattern with minimum additions and augmentation. Yet, the qualities of those facilities are not commendable in all locations. A vast disparity is observed between the 'popular' schools and the other schools. If the Government's 'the nearest school' policy is to become a reality, a remarkable investment on primary education infrastructure is essential within next ten years. This may include the reorganizing of school buildings, spaces for curricular and co-curricular activities, sanitary facilities, teacher accommodation facilities and utilities. In order to relieve the undue pressure built upon 'popular schools' the primary schools may have to be separated from the secondary schools at any cost.

The Government's 'Compulsory Secondary Education' policy will be able to be effectuated with the wide spread of Secondary Schools available within close proximities to the main urban areas. It is noted that the current locations of the secondary schools are within a range of maximum fifteen (15) kilometers from all reasonably densely populated areas and thus, cover the entire island, with a satisfactory mobility of the students. Similar to the primary schools, the disparities noticeable among 'urban' and 'non-urban' schools shall be eradicated within next ten years for a better educated future generation and a fair distribution of education facilities among all schools is essential towards that end. The currently evident undue interferences from various parties into schools' matters may lead into a more sustainable use of Secondary Education.

The tertiary education is increasingly in demand. The available state universities and the non-government degree awarding institutions may need to increase their capacities to cater to the emerging demand. For the establishment of new universities and other institutions as well as for the expansion of the existing ones, the agglomerations identified within this plan are proposed. Most of the major urban areas do have universities and other tertiary education facilities, but for future establishments and extensions the location within close proximities to Mirigama, Dambulla, Mahiyangana, Wellawaya and Puttalam shall be considered, both as means to create positive externalities and thereby to boost local economies, and to get those educational institutions to be served by the readily proposed infrastructure.

Vocational training will be high in demand, provided the existence of the need for technically qualified labour force to engage in future employment opportunities. It is observed that all Metro Regions and Main Cities identified in the Section 5.2 of this report, already have Technical and Vocational Training Institutes. The facilities in those locations shall be improved to provide state-of the art vocational training for the emerging labour force.

nhsl.health.gov.lk

5.5.3. Health

Similar to the education infrastructure, the health sector facilities too is well covered through the entire island by maintaining a hierarchical structure and appropriately located within reasonable range of reach from all areas of the island. The quality and the state of infrastructure needs improvements for better services.

Deviating from the current administrative district based distribution, Dambulla, Embilipitiya, Mahiyangana and Wellawaya hospitals shall be upgraded to higher grade facilities (equal to General Hospital) in order to serve the envisaged settlement distribution pattern. At the same time, in addition to Colombo, four National level health establishments are proposed at Trincomalee, Anuradhapura, Matara, Ampara and Kilinochchi.

5.5.3. Administration

Administration services play a significant role in attracting people and activating urban areas. The current administrative divisions and the hierarchy can be observed as descending from the British Introduced administration structure. This may need a change within next ten years for the betterment of the proposed settlement development strategy. This Plan proposes to shift the current District Administrative functions from Matale to Dambulla, from Badulla to Wellawaya and from Jaffna to Kilinochchi respectively, in near future, in order to discourage further agglomerations in the current locations because of their low carrying capacities, and to promote attractions in the new locations.

5.6 Industrial Developments

5.6.1. The Objective

Development of manufacturing sector has been at the focus of many consecutive governments in Sri Lanka, and Industrial Development Policies have been formulated on several occasions in the past. Several institutions, Industrial Estates, Exclusive Export Processing Zones and Industrial Clusters have been formulated and are in operation. Still, under the current situation, most of them operate in isolation and a comprehensive policy to guide industrial developments is yet to be formulated. Therefore, as guiding principles to address the physical development concerns in a future industrial development policy, the following objectives are suggested:

5.6.1.1. More leverage on Knowledge Base and Value Adding

It is widely accepted that the knowledge and innovation based industries and value adding industries will be the thrust areas of future economic development in Sri Lanka. Capitalizing upon the educated high quality labour force along with the strategic geographic positioning of the island, and exploiting the opportunities provided by the technological advancements and the emerging geo-political affairs, industries associated with Information Technology, Nano Technology, Genetic Technology, Aero Technology, Bio- Medical Technology, etc., and innovative value additions shall be given high priority.

5.6.1.2. Promoting Non-polluting industries

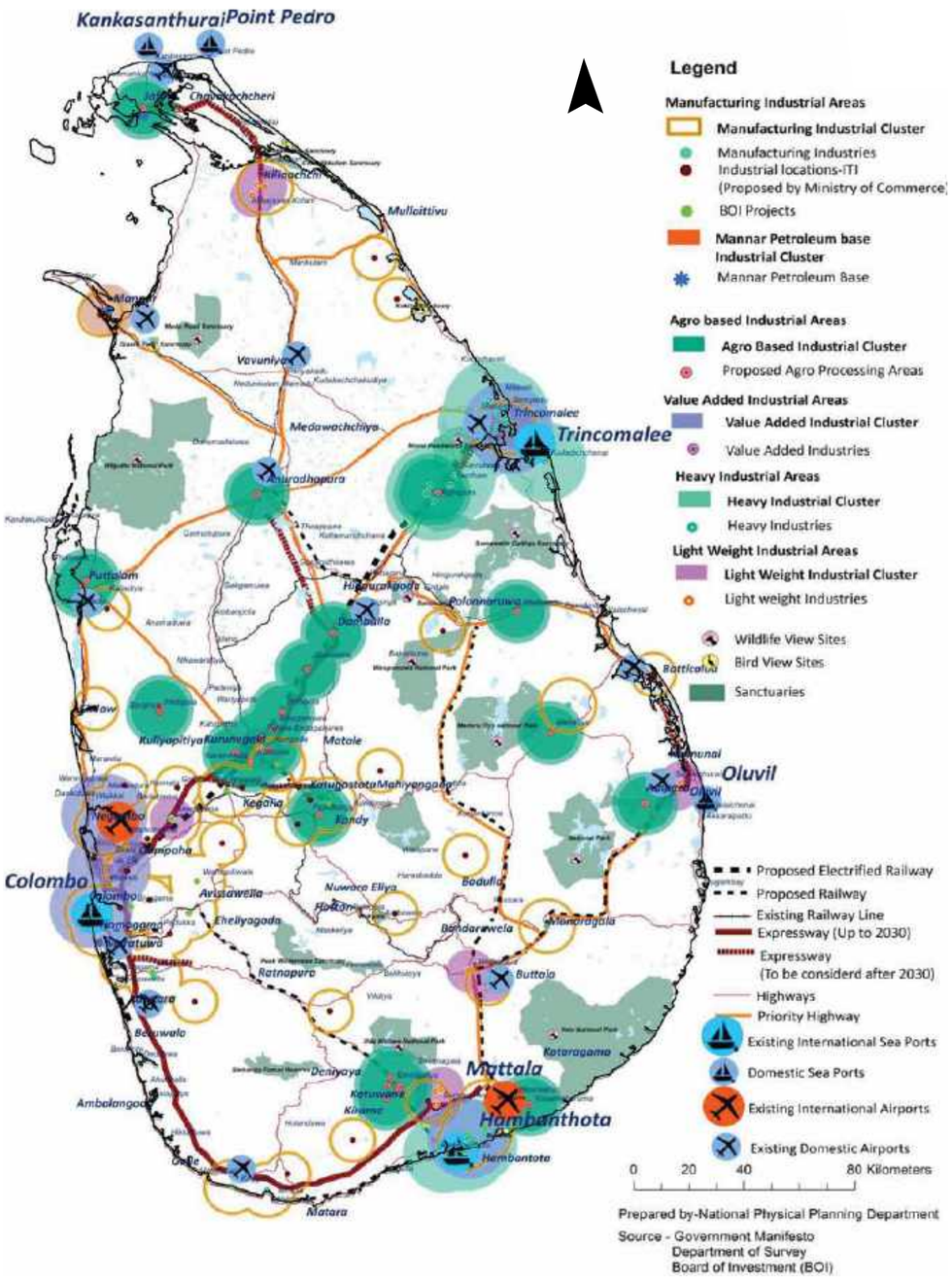
Manufacturing Industries contribute the largest share to Greenhouse gas emissions. The modern innovation based industries can lead to 'Zero Emission' status, by adopting efficient housekeeping and automation strategies.

However, Sri Lanka will not be able to totally free from heavy and lightweight manufacturing industries until 2050. Therefore, such industries shall still remain maintaining the permitted emission levels, adopting non-polluting technologies, standard industrial practices, etc. The manufacturing industries shall be promoted to adopt emerging concepts such as the 'systems symbiosis', 'Industrial Ecology', 'Eco-industrial parks', etc, in the planning and designing of them.

5.6.1.3. Best use of the available port infrastructure

Industrial locations highly depend upon the availability of infrastructure. The large scale assembling and yard facilities, associated with imports and exports shall gain the advantages of the main sea ports in order to minimize the transportation costs and impacts on the environment. Other large scale industries shall be concentrated into designated areas for the efficient and economical provision of environmental infrastructure, integration of services to the establishments, and to avoid negative externalities resulting from them.

Figure 5.6a : Proposed Industrial Development Areas - 2050
Manufacturing Industries



5.6.1.4. Preserving Traditional Industries

Traditional industries and domestic industries shall be preserved and supported for long term sustenance. They need to be addressed through a separate policy strategy along with the other factors associated with them, notwithstanding the objectives of the National Physical Planning Policy.

5.6.2. Concentration within Development Corridors

In order to ensure the settlement distribution pattern, the main employment generating major industrial developments are proposed to be concentrated within the proposed Development Corridors. The East-West Development Corridor can trigger future economic development in Sri Lanka by exposing it to numerous opportunities provided through the two sea ports located in Colombo and Trincomalee. Making best use of the available transport infrastructure, available land and the human resources, a larger share of industrial activities and thus, a large quantum of future employment opportunities can be generated within this Corridor.

With the available and proposed infrastructure and land availability, the locations identified for Manufacturing Sector industries are Horana, Ragama, Ekala, Biyagama, Katunayake, Mirigama, Alawwa, Kurunegala, Ibbagamuwa, Dambulla, and Trincomalee. These locations already have designated Industrial Estates which can be expanded to accommodate demands for manufacturing industrial establishment up to 2030.

Depending on the availability of water resources, large scale industrial developments are also proposed in other three Development Corridors, mainly associated with the sea port developments at Hambantota, Ampara and Kilinochchi.

Angelo Vlassenrood / Flickr

Figure 5.6b : Proposed Industrial Development Areas – 2050
Service Sector Industries

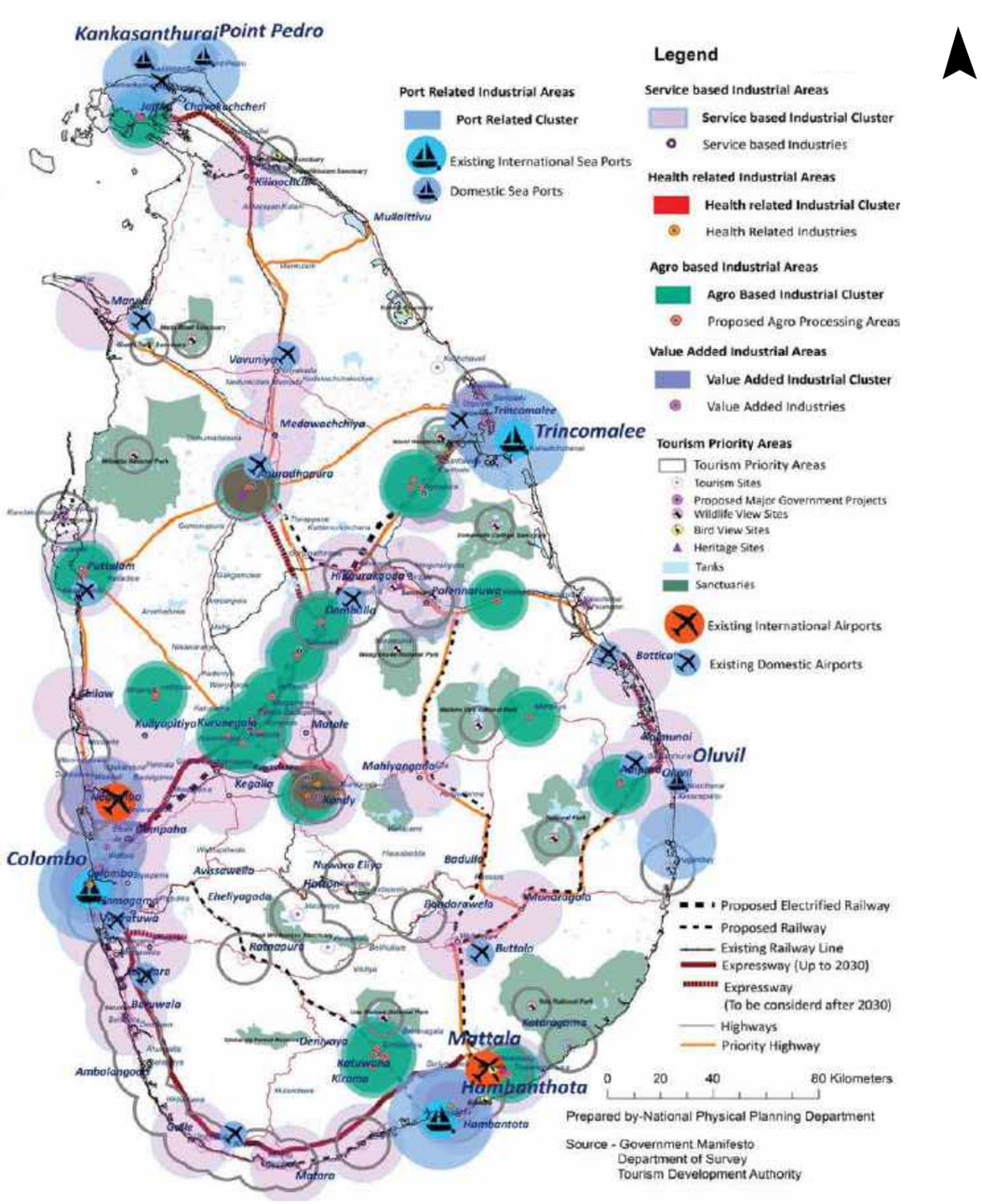


Figure 5.6c : Proposed Industrial Development Areas – 2050
Innovation and Knowledge based Industries

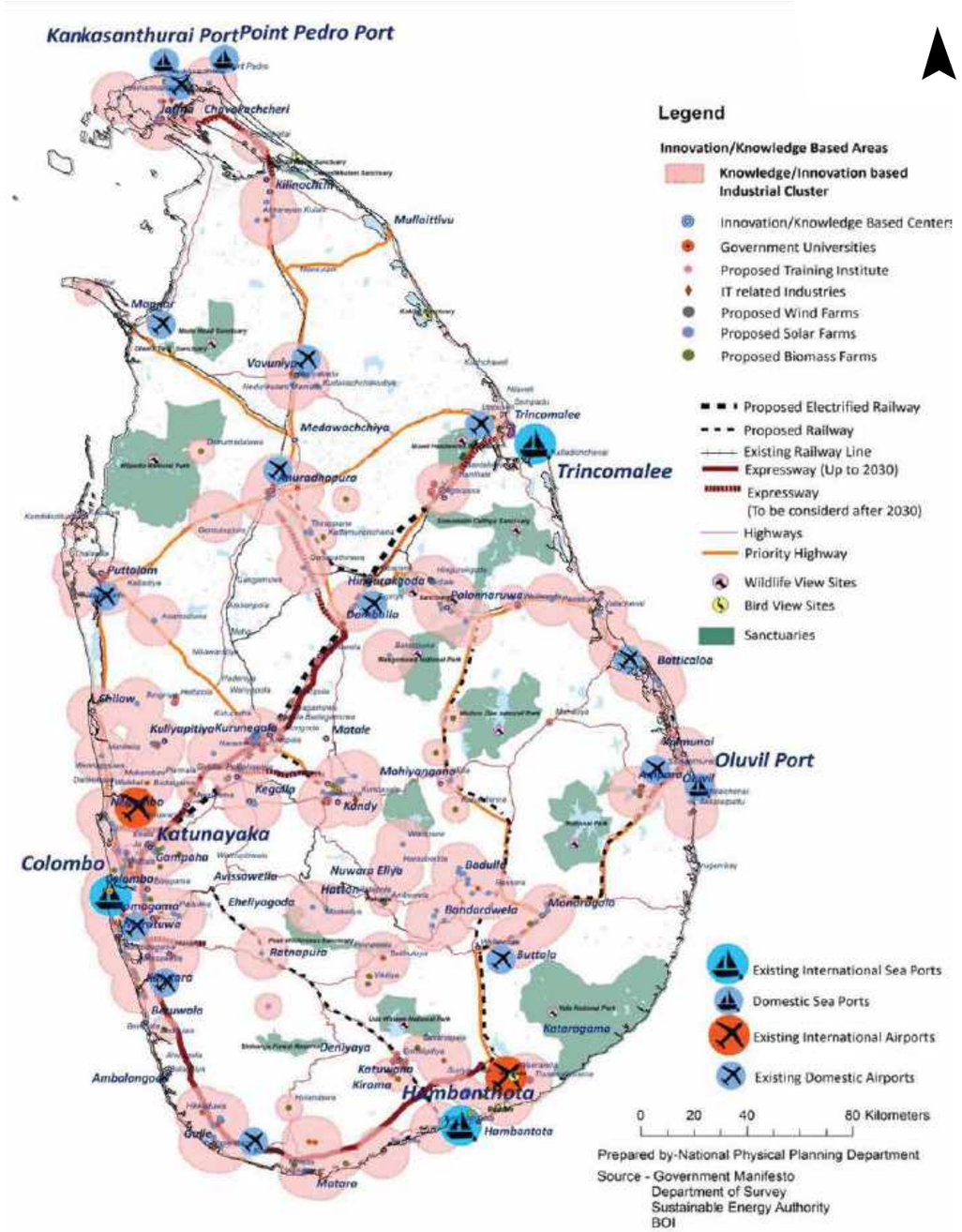
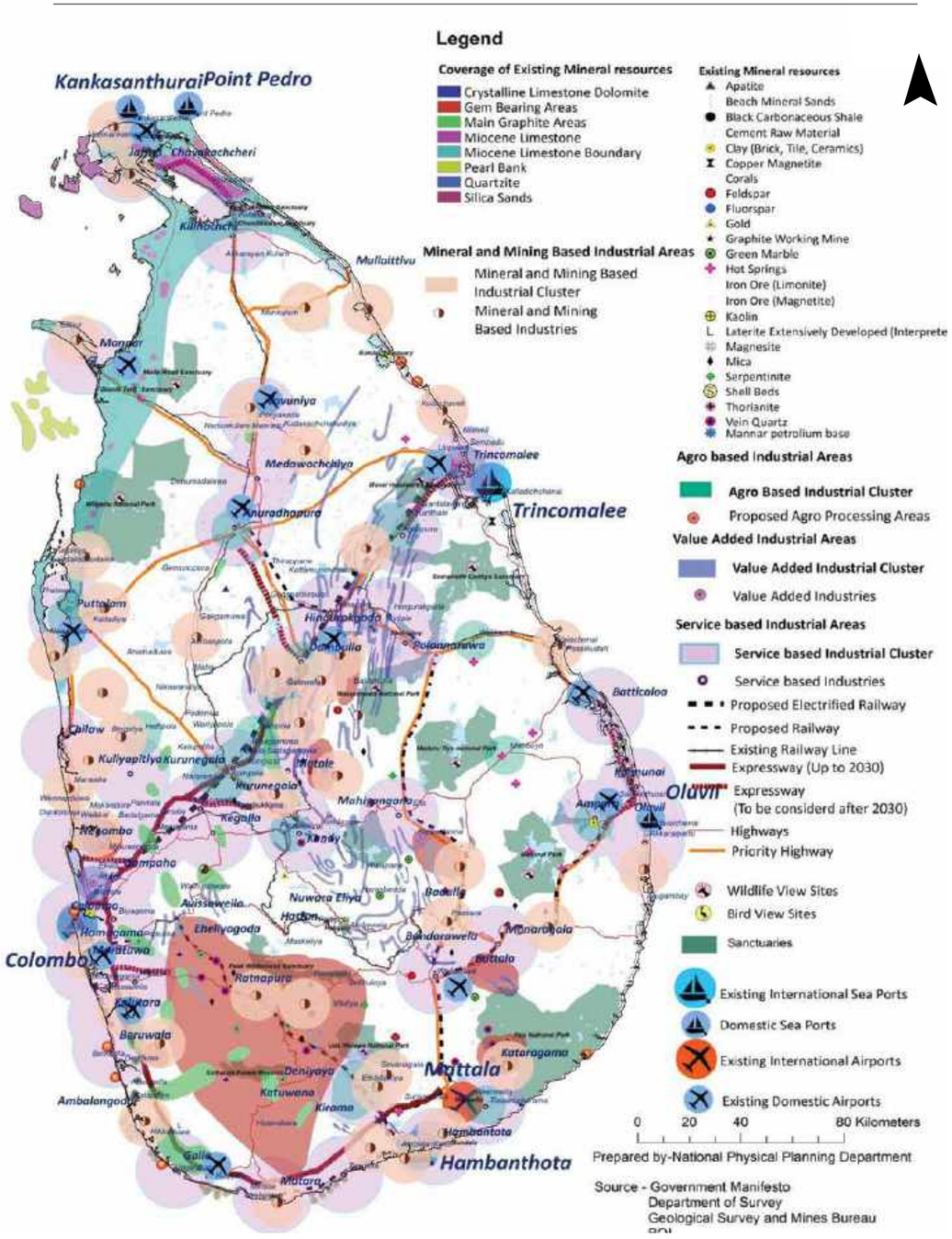


Figure 5.6d : Proposed Industrial Development Areas – 2050
Mineral and Mining Based Industries



5.6.3. Special Zones for Innovation Based Industries

The innovative industries which can be regarded as the booster of the economy of Sri Lanka are proposed to be accommodated within close proximities to the existing Universities for the mutual benefits of research and development. Colombo Tech-city project which is underway can be a catalyst for such developments in the Western region. Similar Techno-Park developments are proposed within close proximities to Kurunegala (associated with the Wayamba University), and Trincomalee (associated with the Eastern University).

5.6.4. Processing and Value Adding Industries

Related to agriculture and non-conventional plantations, farming and fisheries development, large scale value adding industrial developments estates are proposed in Colombo - Negombo area, Mirigama, Kurunegala, Dambulla, and Trincomalee in the Main Development Corridor, Kilinochchi in the Northern Development Corridor, Embilipitiya and Hambantota in the Southern Development Corridor and Ampara in Eastern Development Corridor. In addition to them, Anuradhapura, Vauniya, Mannar, Mahiyangana and Wellawaya will be the other locations those could accommodate large scale agro based processing and value adding industrial developments.

5.6.5. Containing Heavy Industries closer to Ports

For heavy industries and assembling plants the vicinities of Trincomalee and Hambantota sea ports are the best identified locations. Since a majority of the high-tech, large scale industries within the foreseeable future will be based on imported materials, and they will be mostly targeting to be exported to external markets, they will naturally be benefited by locating close to ports. Heavy industries shall not be located at internal locations in order to ensure environmental conservation and to prevent other negative consequences.

Supporting the port-proximity policy, the logistics related industries will be able to thrive at locations between Colombo-Negombo area, Trincomalee - Kanthale area and Hambantota- Suriyawewa area.

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5.7 Agriculture and Plantations

gadventures.com

5.7.1. The Objective

In spite of the relatively lower contribution expected from the agriculture and plantations to the future economic development of Sri Lanka, the important goals of food security, resilience to climate change effects, and the conservation of bio diversity necessitates a due regard for these sectors in the formulation of physical development planning policies. Therefore, the following strategies are proposed with the objectives of self-sufficiency in essential food items, conservation of critical environmental resources, and preserving long lived traditions and their continuity for future generations.

In a National and Sctoral Level Plan prepared for the development of Agriculture and Plantations the following shall be given due consideration:

5.7.2. Low human engagement

In the light of food security and preservation of traditional framing culture, due consideration shall continue on this sector. However, since the population directly engaged in agriculture is expected to reduce from the present thirty percent (30%) to twenty percent (20%) by 2030, rapid modernization and technological interventions, but without compromising the traditional practices, is important. While there is a need for the formation of modern farmer communities, technology improvement, training and service proving programmes implemented by respective authorities, such activities shall be supported as part of the regional extensions of proposed Metro Regions and the Main Cities.

5.7.3. Effective use of land

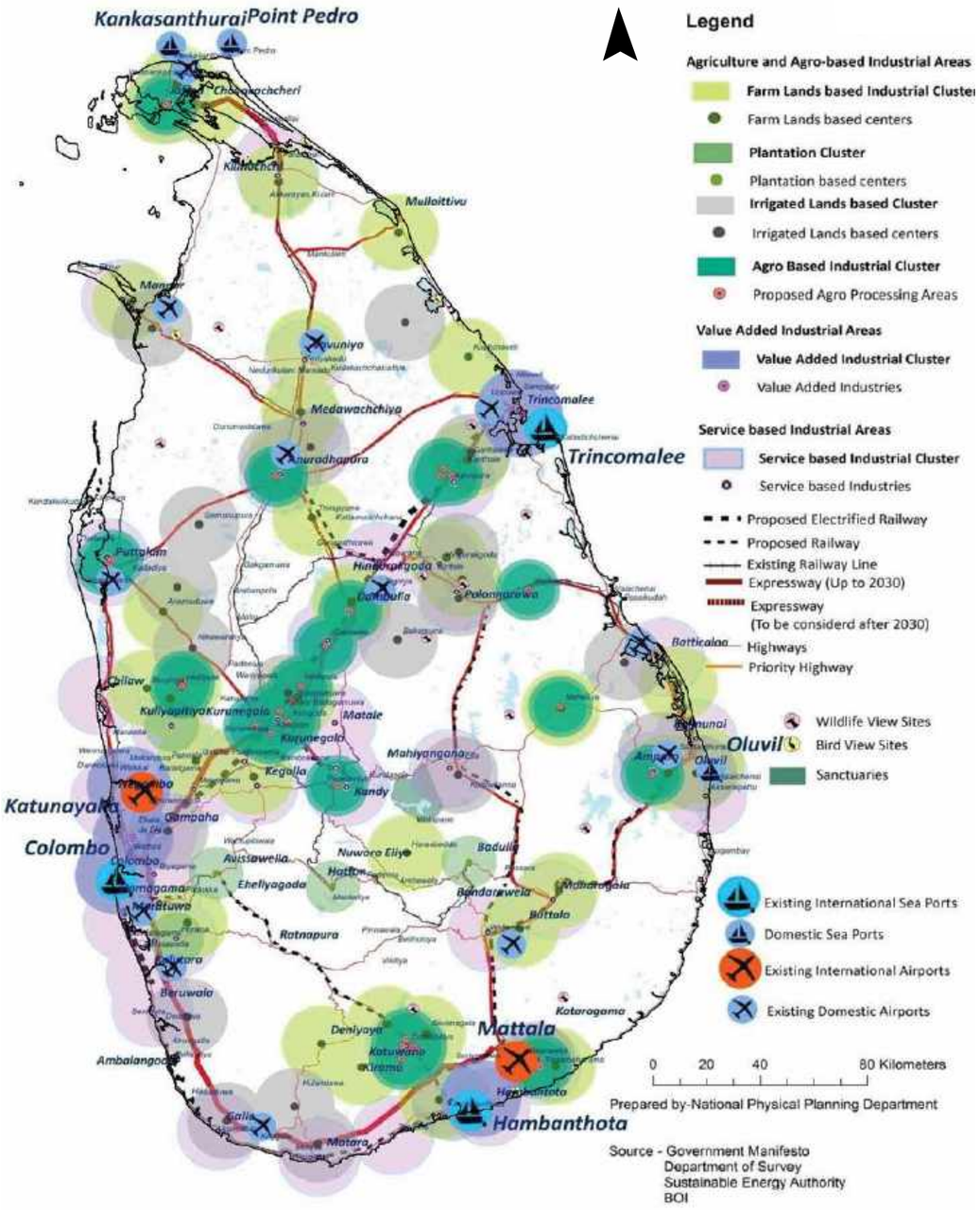
According to statistics, the total land extent under cultivation, both paddy farming and the highland cultivations is around one million seventy thousand (1.7 million Ha), which is close to one quarter (25%) of the total land extent. The statistics also show that cultivated lands have been increased over last decade by about 15%. This figure draws attention to two serious concerns: The first is that the additional land for agriculture is supplied essentially from forest areas and reserves, which is not a positive sign. The second is that the food production within the same period is not proportionate with the increase, and lead to the question of productivity. Therefore, a mechanism for the allocation and close monitoring of agricultural lands, effectuated at the Divisional Secretariat levels, is essential for the benefit of the entire nation.

5.7.4. Conservation of agricultural lands in urban areas

The agricultural lands, including paddy fields and plantations, in urban areas are increasingly demanded for physical developments. Even though agricultural uses are not economically viable in urban settings, the respective Urban Development Plans shall evaluate the non-market based benefits that they provide such as the continuity of the eco-system services, drainage, reduction of urban heat island formation and the maintenance of wind corridors, need for public open spaces, unique natural beauty of the locations, etc.

srilankamirror.com

Figure 5.7 : Proposed Agriculture and Plantation Development Areas - 2050



5.7.5. High quality plantations

Even though the conventional Tea, Rubber and Coconut plantations were the main contributors to foreign earnings, their role is gradually becoming insignificant in the light of other non-conventional exports. The current issues pertaining to Tea and Rubber Plantations such as the shortage of labour, competition emerging from other producers, sinking markets due to alternatives, etc, do not warrant Sri Lanka to continue those plantations in the same traditional phase. Instead, high quality production can only be promoted.

5.7.6. Reforestation of the Central Fragile Area

Due to the environmental issues associated with high elevation Tea plantations, and also due to the need for conservation of the Central Fragile Area, this Plan proposes to transform the non-performing plantations into non-commercial forest plantations and non-conventional export-crops. It is proposed to reduce the extents of land used for Tea Plantations in the elevations above 300 meters to 01% between 2020-2050. The low country plantations may remain, but with stringent regulations to ensure the use of appropriate lands.

5.7.7. Urban forests

The agricultural lands and the rubber plantations within the proposed Development Corridors may be demanded for alternative developments in future. Even though they will not be highly productive, they shall be thoroughly evaluated case by case in terms of their contribution to the sequestration of carbon emissions, reducing atmospheric temperature, and the aesthetically pleasing environments they provide, as against the market value of such lands, and then put into most effective uses through the Development Plan prepared for respective local areas. In general, at least sixty percent (60%) of these lands in urban environments are proposed to be preserved to meet the National Forestry improvement targets as set by the UN REDD Programme (2016).

5.7.8. Preserving Coconut Plantations

ynotpics.com

The coconut plantations will need to be protected to a large extent as the demand is unlikely to sink until 2030. The fragmentation and the conversion of the estates need to be addressed with proper alternative economic measures. The current policy of approving the fragmentation of plantations less than ten acres need to be revisited in this regard.

5.8 Fisheries

Bruce Fryxell / Flickr

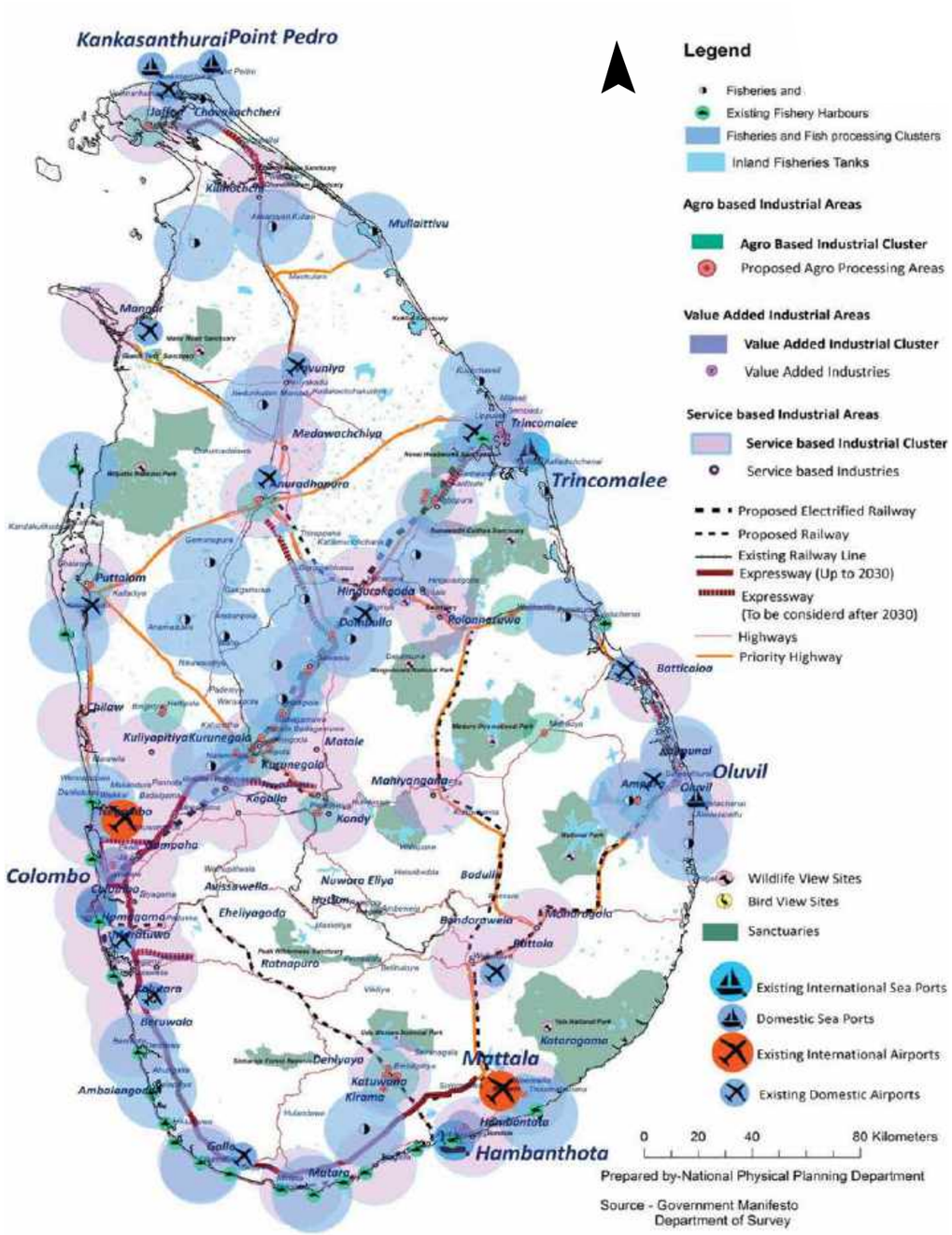
Nazly Ahmed / Flickr

5.8.1. The Objective

The Ten Year Development Policy Framework of the Fisheries and Aquatic Resources Sector 2007 – 2016(2007) is the existing plan for fisheries sector development. It provided strategies and actions needed in support of the following sector policies in order to achieve targets.

- *Improve the nutritional status and food security of the people by increasing the national fish production*
- *Minimize post-harvest losses and improve quality and safety of fish products to acceptable standards*
- *Increase employment opportunities in fisheries and related industries and improve the socio-economic status the fisher community*
- *Increase foreign exchange earnings from fish products*
- *Conserve the coastal and aquatic environment.*

Figure 5.8 : Fisheries, Fish Processing and Value Adding Industries



The National Fisheries Sector Development Strategy 2010-2013 was a short term plan for fishery sector development. The areas focused in the strategy are as follows:

- Increased annual per capita fish consumption of 21.9 kg by 2013;
- Increased local fish production. It has been targeted to double the national fish production of the base year by 2013;
- Established price competiveness by means of promoting marketing;
- Adopt measures for fisheries social development through fisheries development;
- Implementation and management of fisheries sustainably by using novel techniques and responding to international treaties on Law of the Sea.

The period of validity of these plans have already lapsed by now, but an assessment on the accomplishments of the objectives is yet to be reviewed and a new plan is yet to be developed.

In a future plan for the development of the fisheries sector in Sri Lanka, the following items shall be given due consideration:

5.8.2. Improvements to existing infrastructure

The existing coastal and off-shore fishing infrastructure including the main fisheries harbors, boat anchoring points, collection centers storage and the training facilities well covers the entire coastal region of the island. Yet, they shall have immediate and heavy improvements in order to modernize the fisheries sector as well as to uplift the quality of life of the communities engaged in fishing. New establishments can be considered only after 2030.

Aliona Birukova / Dreamstime

5.8.3. Space for post harvesting management, processing and value addition

In order to support efficient management of the fish harvest and, add value to fish harvests, necessary facilities such as the processing plants, packaging units and cold storage facilities shall be provided in major centres such as Colombo, Negombo, Beruwala, Trincomalee, Galle, Matara, Tangalle, Hambantota, Jaffna, Mannar, Mullativu, Batticaloa, Oluvil and Kalpitiya.

5.8.4. Development of the Inland Fishing

Anke Sundermeier / Pixabay

The inland fishing shall be developed with major reservoirs, but the limitations in inland fish breeding activities shall be well considered before selection of such locations.

5.9 Digital Infrastructure

5.9.1. The Objective

At a time that the entire world is transforming into an internet and smart era, Sri Lanka too has to equip its national, regional and local systems of planning, administration, public relations, communications, internal and international affairs with state-of-the art digital infrastructure.

While a few national level initiatives and programmes are already in place, the following are specially noted for their importance for the implementation of the National Physical Planning Policy.

5.9.2. Spatial Data Infrastructure

Spatial information is a fundamental requirement for all levels of planning, implementation monitoring and enforcement. With the advancement of technology, spatial information in digital form is in great demand for fast, reliable, precise and cost-effective applications in all type of work. Currently several state sector organizations use digital spatial information, but unfortunately these databases are designed and maintained for specific purposes by individual organizations. They are not widely shared for reasons such as the authorship, inflexibility, bureaucracy, etc. A national level authority for collection andupdating, verification and cording, dissemination and coordination of spatial information is a timely need of the nation to fast move towards all of its development goals.

Pixel Stories / Stocksy

The National Spatial Data Infrastructure (NSDI), initiated by the Ministry of Digital Infrastructure and implemented through Information and Communication Technology Agency (ICTA) is of great value. The NSDI will be able to provide a digital platform for a variety of spatial information, generated and updated by different institutions, for a wider range of uses for multiple tasks by different agencies, in a standard and custom made formats. It will avoid the duplication, reduce costs, increase the reliability and the uniformity of information, leading to synergy between different development programmes. Therefore, strengthening the NSDI is hereby mentioned as a priority requirement of the day.

5.9.3. Personal Data / Identity Infrastructure

Parallel to spatial information, digital personal information too has become a need of the day to formulate efficient, cost effective and accelerated service delivery to all citizens in all sectors including health, education, social welfare, banking, security, income tax and capacity building.

The current electronic national identity card implemented by the Department of Personal Registration can be regarded as a commendable beginning, but it has to fast advance into 'digital identity process' to better serve both the public interest and the government objectives. The developed 'digital identity' may lead to a biometric data base that will bewidely shared by different agencies with required confidentiality, statutory arrangements and security measures to provide medical and health services, attainment in education, defence related purposes and access to public services. Such data base, instituted, operated and maintained by the Department of Registration. Even though a high capital instrument will be required to install the system, it will drastically reduce the costs annually borne by the Government on public service delivery and increase the efficiency of the agencies.

Michal Jarmoluk / Picabay

At a time that the entire world is transforming into an internet and smart era, Sri Lanka too has to equip its national, regional and local systems of planning, administration, public relations, communications, internal and international affairs with state-of-the art digital infrastructure.

5.10 Other Policies and Plans Available

It is observed that the following National Level Policies and Detail National Level Plans are either published or being prepared. These plans were studied at the formulation of the Guiding Policies and the preparation of this National Physical Development Plan. They are mostly in conformity with the National Physical Planning Policies, set out in the Section 03 of this report. Therefore, the following can be considered as corresponding sector specific policies or plans at the implementation of this Plan.

5.10.1. An action Plan for Air Quality Management - Clean Air Action Plan 2025

Prepared by the Resources Management Centre (AirMAC).

5.10.2. National Biodiversity Strategic Action Plan (NBSAP) 2016-2022

Produced by Biodiversity Secretariat, Ministry of Mahaweli Development and Environment, with Technical Assistance from IUCN, International Union for Conservation of Nature, Sri Lanka Country Office. (May 2016) (Figure 5.10.1.b)

5.10.3. National Climate Change Policy (2012) and National Disaster Management Policy (2010)

Prepared by the National Disaster Management Plan (NDMP) - 2013-2017 by Disaster Management Centre.

5.10.4. National Policy on Elephant Conservation – 2006

Prepared by Ministry of Mahaweli Development and Environment (Appendix 4.3.1.b)

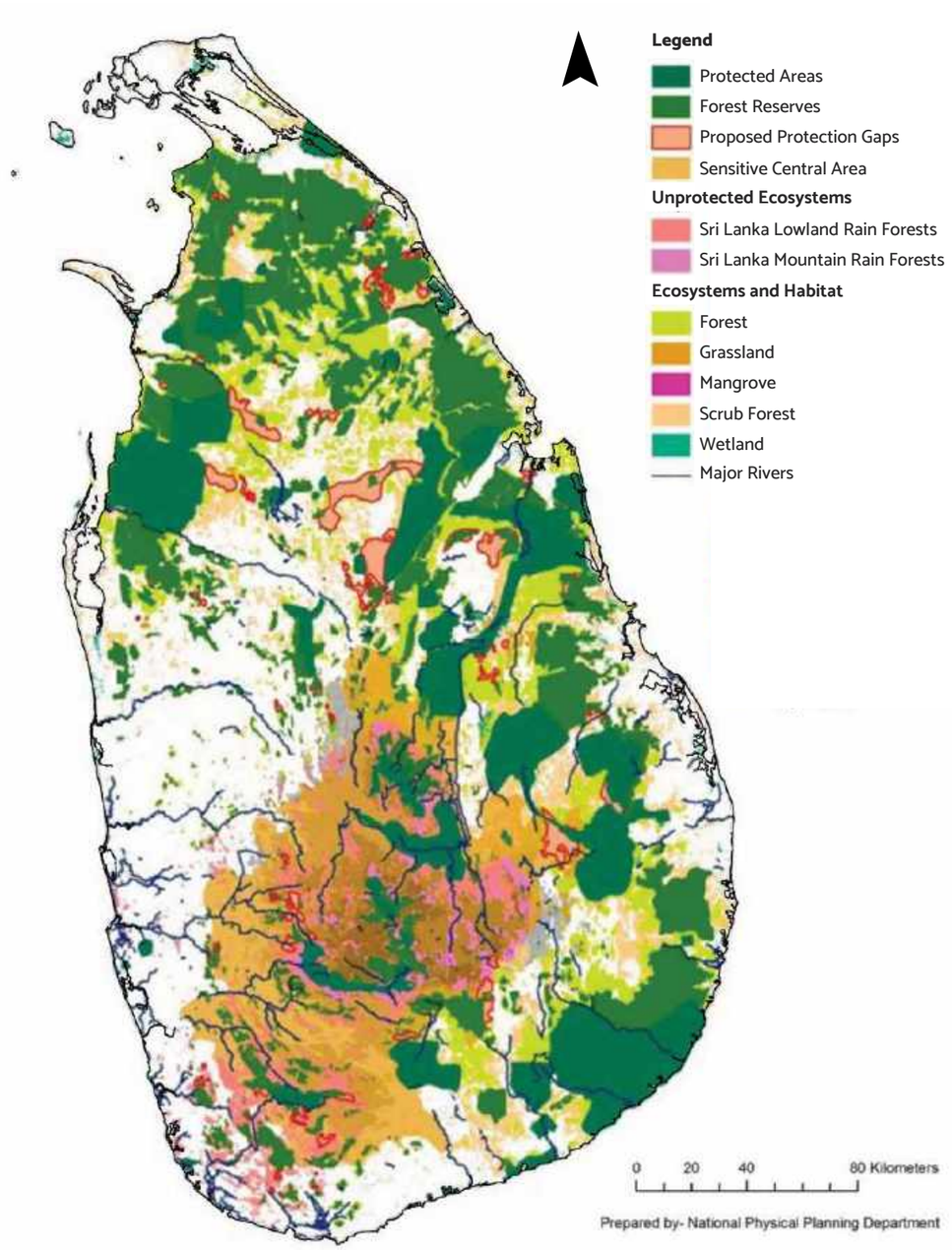
5.10.5. The National Policy on Wild Life Conservation – 2000

Prepared by Ministry of Mahaweli Development and Environment

5.10.6. National REDD+ Investment Framework and Action Plan (NRIFAP) 2017

By REDD+Sri Lanka National REDD+ Investment Framework and Action Plan, 2017, Sri Lanka UN-REDD Programme.

Figure 5.10.2 : National Biodiversity Plan



5.10.7. Sri Lanka Tourism Strategic Plan (2017-2020)

Prepared by Sri Lanka Tourism Development Authority (Figure 5.10.1.g)

5.10.8. National Policy on Mineral Resources

Drafted by the NASTEC with the objectives to manage and strengthen the mineral sector of Sri Lanka for its optimal potential, promote value addition to mineral resources of the country, ensure environmental management within the sustainable development framework of Sri Lanka while balancing the needs for social and economic development.

5.10.9. Telecommunication and Digital Infrastructure

Fiber optic network plan of Sri Lanka Telecom PLC (Figure 5.10.1.i)

5.10.10. The National Housing policy (Revised in January 2019)

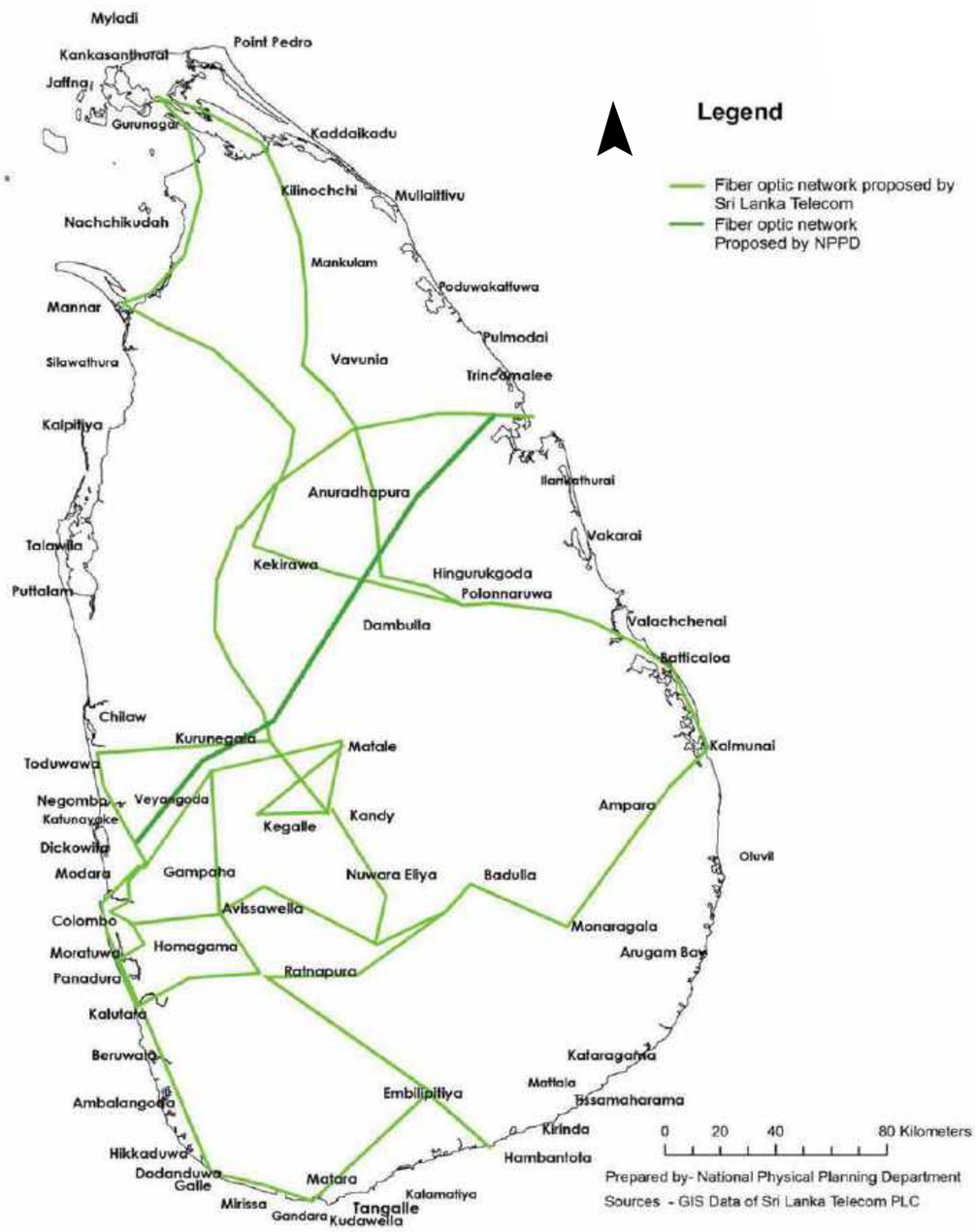
Prepared by the Ministry of Housing, Construction and Cultural Affairs.

In addition to already published National Housing Policy, the intervention of the government agencies to provide affordable housing in suitable areas for low-income and middle-income groups in a competitive manner with the private sector is essential to achieve a good social mix in urban areas.

Unsplash / Pexels / Pixabay

Figure 5.10.7 : Sri Lanka Tourism Strategic Plan
(New Tourism Development for Feasibility and Consideration)

Figure 5.10.9 : Proposed Fiber Optic Network



5.11 Policies and Plans in Need

5.11.1. Ocean Resources Development and Marine Pollution Prevention

It is noted that most of the resources that will benefit Sri Lanka's economic development are in the ocean space and in order to effectively and sustainably use them a National Policy and a Plan is a requirement.

At the same time, their reliability depends upon the long term sustenance of such resources. The marine pollution due to shipping related activities, illegal fishing methods, coastal pollution, disposal of land based waste, mining, etc. is a major threat to their long existence and sustainable use. The need for a Marine Pollution Prevention Policy is highlighted in this context.

Nawartha Nirmal / Unsplash

5.11.2. Labour Resource Development

brandix.com

The human resource is one of the critical components for the National Development of any nation. Yet, it is noted that the use of human resources is not effectively managed. While there is a serious labour shortage in all categories of a few high-paying sectors (eg: Construction, Manufacturing, Electronics, Information Technology, etc), there is an equally serious excess labour in informal activities (eg: Three Wheeler operations, street vending, etc). This clearly shows a timely need for a National Level Human Resource Development Policy and a Plan, integrated with the Education Development Plan.

Chapter 06

The Implementation Strategy

06

6.1 The Objective

As stated in Chapter 01 of this report, the main objective of the National Physical Planning Policy is to provide a broad national level guidance for all development agencies for the planning and execution of development activities, which will have direct impacts upon the physical environment of Sri Lanka and to establish facilities, amenities and service related infrastructure incidental upon the development of the physical environment.

This National Physical Plan is the development framework derived out of the said National Physical Planning Policy. Since what the Plan provides is a broad-brush spatial framework, its implementation needs both technical arrangement as well as procedural arrangement. The following are the strategies proposed under each of them.

6.2 The Technical Arrangement

6.2.1. Detail Regional Development Plans

The main National Physical Plan shall be translated into detail Regional Development Plans those are formulated either for Provinces or Specially Designated Regions, under the provisions of the Town & Country Planning Ordinance(Amended Act 2000). The following are proposed as priority Plans:

1. *The East-West Development Corridor Region Development Plan*
2. *The Northern Development Corridor Region Development Plan*
3. *The Southern Development Corridor Regions Development Plan*
4. *The Eastern Development Corridor Region Development Plan*
5. *The Greater Kandy Region Development Plan*
6. *The Greater Anuradhapura Region Development Plan*
7. *The Nine Main City Regions Development Plans*
8. *The Central Fragile Area and Sensitive Area Conservation Plan*
9. *Forest, Wildlife and Biodiversity Conservation Plan*
10. *The Water Cascading System Rehabilitation Plan*

The above Plans shall be developed either by the National Physical Planning Department or the Urban Development Authority, who are the agencies vested with powers for the purpose and have the capacity to prepare Development Plans, in the present day context. If any other agency undertakes to prepare such plans both the National Physical Planning Department and the Urban Development Authority shall be integrated into the Plan Preparation Process, in order to ensure a smooth flow of work, high level of conformity and minimum deviations.

Since most of the areas earmarked for the above regions cut across different administrative Provinces of Sri Lanka a high level coordination among provincial administrative and political authorities is essential for the preparation and implementation of these plans. The NPPD is hereby proposed to be given the authority to coordinate this activity.

6.2.2. Detail Local Development Plans

The Local Area Development Plans are currently prepared by the Urban Development Authority under the provisions of the Urban Development Authority Law of 1978 and subsequent amendments, or the National Physical Planning Department under the provisions of the Town and Country Planning Ordinance (Amended Act 2000) or the Development Agencies authorized to formulate such plans. The Development Projects are designed and executed by sector specific development agencies as per the provisions of the respective legislations.

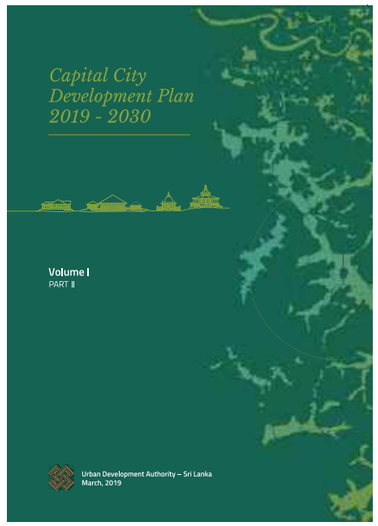
Hereby it is proposed that all of the above mentioned Development Plans and Projects shall strictly adhere to the framework set out by this National Physical Plan, and if there will be any deviation required for compelling reason, such deviation shall be subject to the review by the Inter-Ministerial Coordination Committee (stated in Section 2.3.3 below) and approved by the National Physical Planning Council (stated in Section 6.3.1 below).

6.2.3. Amendments to the Policy and the Plan

A full scale review of the National Physical Planning Policy and the Plan proposed herein is a requirement at the end of ten years (in 2028), in order to assess the level of implementation, its achievements and the needy amendments.

The process involved in the amendment is given in the Section 01 of this report.

The review shall be initiated by the National Physical Planning Department under the guidance of the Technical Advisory Committee, appointed for purpose, and with the collaboration of all stakeholders. In doing that the four main guiding policies mentioned in section 03 of this report in order to guide all physical planning and development activities shall continue as the core elements, while there shall be many timely integrations for the betterment of the policy and the plan.



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6.3 The Procedural Arrangement

6.3.1. Annual Progress Reviews by the National Physical Planning Council chaired by the Head of the State.

Section 3 (1) of the Town & Country Planning Ordinance (Amendment Act 2000), provides for the establishment of the 'National Physical Planning Council' as the supreme body to direct the preparation and the implementation a National Physical Planning Policy and the Plan. By providing the 'Head of the State' to be the Chairman of the Council and nominating the Secretaries of relevant key Ministries and the Chief Ministers of the Provinces to the said Council, the National Physical Planning Policy and the Plan has been provided with the required legitimacy and the supremacy.

The successful implementation and the monitoring of the Plan needs annual (or mere frequent) review of the progress for its achievements by the Inter-Ministerial Coordination Committee (stated in Section 6.3.3), submitted for the approval of the Council. Such reviews and the feedback by the Committee, submitted to the Council and the necessary directives by the Council will enable to initiate corrective measures and the needy regular updates to the Plan by the National Physical Planning Department.

6.3.2. Undertaking by the National Planning Department to prioritize the fund allocation for developments in line with this Plan.

The formulation and the implementation of the National and Regional Level projects depends very much upon the funds received from the Government Treasury. Within the current arrangement, the annual budgetary allocations as well as the foreign aids for projects and programmes are channeled through the approvals of the National Planning Department. In that context, the National Planning Department has the most control upon the effectuation of the National Physical Planning Policy and the implementation of the Plan set out in this report. The National Planning Department is suggested to be a key undertaker of the Plan, with the National Physical Planning Department.

Direct investments by the private contributions are usually reviewed through respective Development Agencies such as the Urban Development Authority, Forest Conservation Department, Local Authorities, Coast Conservation Department, Agrarian Services Department, Lands Commissioners Department, Road Development Authority and the Central Environmental Authority. Therefore, in order to assure compliance of such projects to the National Physical Plan these organizations shall be made key stakeholders of the National Physical Planning Policy.

6.3.3. Annual Meetings of the Inter Ministerial Coordination Committee for Continuity and Consistence.

The establishment of an Inter-Ministerial Coordination Committee, provided in the said Town & Country Planning Ordinance (Amendment Act 2000), with the objective stated in the Section 4 A (1). As per the provision the Annual (or more frequent) meetings of this Committee will be essential to exchange views and comments between development agencies on the upcoming needs and the newly emerging requirements of those agencies, as well as the needy and timely updates to the National Physical Plan.

The recommendations made by this Committee from time to time shall be internally reviewed by the Technical Advisory Committee (TAC, as appointed under the provisions of Section 5 C of the said Act of 2000) and presented for the approval by the National Physical Planning Council.

6.3.4. Development of the Capacities of the Implementation Units of the Provincial Councils and the Local Authorities

As stated earlier, the implementation of the National Physical Plan has to be implemented through the National, Regional and Local Level Plans, prepared by different agencies. While the National level organizations such as the Urban Development Authority, Central Environmental Authority and the Road Development Authority possess the required technical capabilities and financial capacities to undertake such implementations, the Provincial Councils and the Local Authorities currently do not have such capabilities. This is crucial because most of the 'un-coordinated', 'unplanned' and 'ad-hoc' developments are presently taking place all over the island, threatening to the environmental sustainability, leading to the questions of economic feasibility and against wider social acceptability, either with the blessings of the Provincial Councils and the Local Authority Councils or without their knowledge.

The main reason behind this disjointed implementation is the absence of planning environments and the technically qualified staff to engage in them, in the agencies at those levels to read, comprehend and to convince the administrative and political authorities in them on the planning policies and the plans.

In order to overcome this obstacle and strengthen these two levels, it is proposed to appoint qualified 'Town Planners' at the Provincial Councils and the Local Authorities, assigned with the task of translating the National Level Planning Policies into Local level Projects and Programs as well as to integrate the Local Level requirements into National Level Plans and Policies. The Local Authorities and the Provincial Councils may assess the requirements to establish enabling planning environments in them with the support of the relevant Ministry.

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6.3.5. Establishment of the caretaker and whistle-blower group to ensure consistency

In addition to the formal procedural measures stated above, a 'Caretaker Group' of the National Physical Plan is proposed with the objective of providing community engagement for the implementation of the Plan. The Group may be established through formal means, but act as an open informal association of the interested parties including Non-Governmental Organizations, Student Associations, Media Organizations and other Volunteers.

The Caretakers will have frequent dialogues with the National Physical Planning Department, National Planning Department and other relevant organizations on any observations and objections on deviations and improvements to the Policy and the Plan. The Group shall be empowered to blow whistles at any occasion when they observe major deviations from the Plan and anything inconsistent with the Policy.

Tables

Table 01 : Divisional Secretary Divisions (DSD) coming under the Proposed Development Corridors

Development Corridor / Metro Regions / Main C		DS Divisions	
		DSD falls within the immediate zone of the Corridor (within 10 Km)	**DSD falls within the Periphery zone of the Corridor (within 10 -20 Km)**
	East West Corridor		
1	Colombo Metro Region	Colombo, Thimbirigasyaya, Sri Jayawardhanapura Kotte, Dehiwala, Maharagama, Kolonna, Kelaniya, Ratnmalana, Moratuwa, Kesbewa, Biyagama, Mahara,	Homagama, Wattala, Ja – Ela, Kaduwela,
2	NegomboKatunayaka Metro Region	Katana, Negombo , Wennappuwa	
3	Gampaha Metro Region	Gampaha,	Minuwangoda, Divulapitiya, Attanagalla, Dompe
4	Mirigama - Warakapola	Meerigama, Warakapola, Narammala	Ruwanwella, Galigamuwa, Pannala
5	Kurunegala Metro Region	Kurunegala, Mallawapitiya, Mawathagama, Maspotha, Weerambugedara, Ibbagamuwa, Rideegamuwa	Bamunakotuwa, Ganewatta, Pallepola, Yatwatta, Matale,
6	Polgahawela - Alawwa	Polgahawela, Alawwa	Narammala, Rabukkana, Kuliyapitiya East, Kegalle
7	Dambulla Metro Region	Dambulla, Galewela, Palugaswewa,	Polpithigama, Kekirawa, Palagala,
8			Hingurakgoda, Medirigiriya
9	Trincomalle Metro Region	Kanthale, Kinniya, Thambalagamuwa, Trincomalee Town & Gravets,	Kuchchaveli, Morawewa, Muttur,
10	Kalutara - Beruwala	Kalutara, Beruwala	Mathugama, Dodangoda, Millaniya
11	Panadura - Horana	Panadura, Bandaragama,	Horana
	Northern Corridor		
12	Jaffna Metro region	Jaffna, Nallur, Thenmaradchi, Pachchilaipalli,	Valikamam North, Valikamam South, Valikamam South-West, Valikamam West, Island South, Karainagar, Karaveddy, Kayts, Kopay Vadamaradchy East, Vadamaradchy North,
13	Paranthan	Kandavalai	
14	Killinochchi	Karachchi	Part of Oddusudan DSD
	Southern Corridor		
15	Galle Metro Region	Akmeemana, Galle Four Gravets, Habaraduwa, Weligama, Imaduwa, Bope-Poddala,	Hikkaduwa, Yakkalamulla
16	Matara Metro Region	Devinuwara, Dickwella, Matara Four Gravets, Welipitiya, Malimbada, Thihagoda	Part of Akuresa, Athuraliya, Kamburupitiya, Kirinnda-Phulwella
17	Tangalle - Beliatta	Beliatta, Tangalle	Hakmana, Weeraketiya, Okewela
18	Embilipitiya metro Region	Embilipitiya	Sewanagala
19	Hambanthota Metro Region	Ambalantota, Hambantota, Sooriyawewa	Agunukolapeles, Lunugamvehera
20	Thissamaharama - Kataragama	Part of Katharagama and Tissamaharama	
	Eastern Corridor		
22	Batticaloa Metro Region	Eravur Town, Kattankudy, Manmunai North, Manmunai P. (Araipattai),	Manmunai West, EravurPattu,
23	Kalmunei Metro Region	Kalmunai Muslim, Kalmunai Tamil, Karaitheevu, Manmunai S. and Eruvilpattu, Sainthamarathu	Navithanveli, Porativu Pattu,
24	Ampara Metro Region	Ampara,	Part of Uhana
25	Samanthurei	Ninthavur, Samanthurai	
26	Akkareipattu	Addalachchenai , Akkareipattu	
27	Valachchena	Koralai Pattu (Valach.),Korale Pattu West	Koralai Pattu Central, Koralai Pattu South
28	Other areas	Eragama, Manmunai.S,	Alayadiwembu, Thirukkovil
	Metro Regions		
29	Kandy	Kandy, Kundasale , Harispattuwa, Pathadumbara	Udunuwara , Yatinuwara , Akurana, Part of Pahathahewaheta
30	Anuradhapura	Nuwaragampalatha East, part of Mininthale & Nuwaragampalatha Central , Nochchadoowa	Rambewewa, Thalawa, Thirappane, part of Mininthale & Nuwaragampalatha Central
	Main Cities		
31	Mahiyanganaya	Part of Mahiyanganaya DS & Minipe DS	
32	Mulaithive	Maritimepattu	Welioya
33	Mannar	Mannar	

Development Corridor / Metro Regions / Main C		DS Divisions	
		DSD falls within the immediate zone of the Corridor (within 10 Km)	DSD falls within the Periphery zone of the Corridor (within 10 -20 Km)
34	NuwaraEliya	Part of Nuwara Eliya DS (including MC area)	
35	Polonnaruwa	Part of Thamankaduwa DS	
36	Puttalam	Puttalam	
37	Rathnapura	Part of Rathnapura DS & Elapatha DS	
38	Vavuniya	Part of Vavuniya DS &Vavuniya South DS	
39	Wellawaya	Ella, part of Wellawaya DS	

Table 02 : Proposed Urban Agglomeration Pattern - 2050

	Metro Region/City/Town	Approx. Area (Sq.km)	Present Population -(2012)	Present Annual Growth Rate	Expected Population (2050)	Expected Annual Growth Rate
	East West Corridor					
1	Colombo Metro Region	740	3,039,917	0.5	3,500,000	0.4
2	Negombo-Katunayaka Metro Region	180	445,538	0.2	600,000	0.6
3	Gampaha- Weyangoda Metro Region	230	375,998	1.7	600,000	2.0
4	Kurunegala-Metro Region	1,163	517,271	1.4	1,000,000	2.5
5	Dambulla-Metro Region	1,873	326,663	1.4	500,000	1.4
6	Trincomalle Metro Region	2,595	371,882	1.7	700,000	2.3
7	Kalutara - Beruwala	149	323,732	1.3	500,000	1.4
8	Panadura - Horana	218	403,054	1.8	500,000	0.6
9	Mirigama - Warakapola	390	277,163	1.1	400,000	1.2
10	Polgahawela - Alawwa	231	128,823	1.0	200,000	1.5
11	Other Areas	300	180,000	2.0	200,000	0.3
		8069	**6,390,041**		**8,700,000**	

	Metro Region/City/Town	Approx. Area (Sq.km)	Present Population -(2012)	Present Annual Growth Rate	Expected Population (2050)	Expected Annual Growth Rate
	Northern Corridor					
1	Jaffna Metro region	1,152	619,000		1,000,000	1.6
2	Paranthan	250	27,170		50,000	2.2
3	Killinochchi	523	71,359		150,000	2.9
		1925	**717,529**		**1,200,000**	
	Southern Corridor					
1	Galle Metro Region	141	241,305	0.6	300,000	0.6
2	Matara Metro Region	261	282,501	0.7	400,000	1.1
3	Hambanthota Metro Region	749	173,309	1.8	300,000	1.9
4	Embilipitiya metro Region	383	133,600	1.3	200,000	1.3
5	Tangalle - Beliatta	258	128,499	1.2	200,000	1.5
6	Thissamaharama- Kataragama	295	86,826	1.2	100,000	0.4
7	Other Areas	134	167,264	1.3	200,000	0.5
		2221	**1,213,304**		**1,700,000**	
	Eastern Corridor					
1	Batticaloa Metro Region	977	261,244	0.9	300,000	0.4
2	Kalmunei Metro Region	320	236,422	-1.7	250,000	0.2
3	Ampara Metro Region	497	75,000	0.7	150,000	2.6
4	Samanthurei	138	76,135	0.0	100,000	0.8
5	Akkareipattu	62	70,959	0.0	100,000	1.1
6	Valachchena	453	78,634	-4.9	100,000	0.3
7	Other Areas	574	82,397	-3.3	100,000	0.6
		3021	**880,791**		**1,100,000**	
	Metro Regions					
1	Kandy	430	758,863	0.9	1,000,000	0.8
2	Anuradhapura	1,670	311,798	1.4	500,000	1.6
	Main Cities					
1	Mahiyanganaya	297	70,025	0.5	100,000	1.1

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	Metro Region/City/Town	Approx. Area (Sq.km)	Present Population -(2012)	Present Annual Growth Rate	Expected Population (2050)	Expected Annual Growth Rate
2	Mulaithive	785	62,000		100,000	1.6
3	Mannar	220	68,184		100,000	1.2
4	NuwaraEliya	163	92695	0.2	100,000	0.2
5	Polonnaruwa	229	80,448	0.6	100,000	0.6
6	Puttalam	182	82,443	1.6	100,000	0.6
7	Rathnapura	131	106,861	0.8	100,000	-0.2
8	Vavuniya	300	75,000		100,000	0.9
9	Wellawaya	271	71,563	1.0	100,000	1.2
10	Other Towns	5918	2540736	1.3	3,000,000	0.5
	Total				**18,100,000**	**1.0**

Appendix 01 : The list of Divisional Secretariat Divisions coming under the Central Fragile Area

	PROVINCE	DISTRICT	DSD	LAND EXTENT (km2)
1	Uva	Badulla	Badulla	49.29
2			Bandarawela	70.06
3			Ella	109.37
4			Haldummulla	415
5			Hali Ela	170.14
6			Haputhale	70.33
7			Kandaketiya	152.62
8			Lunugala	141.81
9			Meegahakiwula	108.72
10			Passara	137.28
11			Rideemaliyadda	135.92
12			Soranathota	438.28
13			Uva Paranagama	80.89
14			Welimada	193.9
15		Moneragala	Badalkumbura	235.99
16			Bibile	483.52
17			Madulla	722.52
18			Medagama	241.14
19			Moneragala	292.54
20	Southern	Galle	Neluwa	152.29
21			Thawalama	174.15
22		Matara	Kotapola	179.33
23			Pasgoda	153.94
24			Pitabeddara	136.56
25	Western	Kalutara	Palindanuwara	283.23
26	Central	Kandy	Akurana	30.32
27			Delthota	51.17
28			Doluwa	100.17
29			Ganga Ihala Korale	88.92
30			Kandy Four Gravets & Gangawata Korale	50.07
31			Harispattuwa	64.96
32			Hatharaliyadda	58.69
33			Kundasale	80.82
34			Medadumbara	190.35
35			Minipe	249.28
36			Panwila	91.95
37			Pasbage Korale	121.9
38			Pathadumbara	48.96
39			Pathahewaheta	83.5
40			Poojapitiya	58.34
41			Thumpane	49.93
42			Udadumbara	90.6

	PROVINCE	DISTRICT	DSD	LAND EXTENT (km2)
43			Udapalatha	277.07
44			Udunuwara	67.23
45			Yatinuwara	69.79
46		Matale	Ambanganga Koralaya	55.38
47			Dambulla	455.13
48			Galewela	198.6
49			Laggala - Pallegama	373.84
50			Matale	72.9
51			Naula	285.17
52			Pallepola	81.54
53			Rattota	105.23
54			Ukuwela	77.91
55			Yatawatta	65.62
56		Nuwara Eliya	Ambagamuwa	487.91
57			Hanguranketha	228.62
58			Kothmale	223.72
59			Nuwara Eliya	483.57
60			Walapana	321.52
61	Sabaragamuwa	Kegalle	Aranayaka	124.42
62			Bulathkohupitiya	127.25
63			Dehiowita	193.24
64			Deraniyagala	222.08
65			Galigamuwa	127.5
66			Kegalle	109.06
67			Mawanella	114.9
68			Rambukkana	130.33
69			Yatiyantota	178.07
70		Rathnapura	Ayagama	157.69
71			Balangoda	274.16
72			Ehaliyagoda	141.93

	PROVINCE	DISTRICT	DSD	LAND EXTENT (km2)
73			Elapatha	86.85
74			Godakawela	155.75
75			Imbulpe	255.26
76			Kahawatta	102.68
77			Kalawana	384.75
78			Kiriella	79.57
79			Kolonna	183.03
80			Kuruwita	174.67
81			Nivithigala	157.91
82			Opanayake	75.88
83			Pelmadulla	144.84
84			Ratnapura	326.79
85			Weligepola	203.53
86	North Western	Kurunegala	Mawathagama	109.62
87			Rideegama	222.54

Appendix 02 : The list of Divisional Secretariat Divisions and other information coming under the Coast Conservation Zone

District	DS Divisions	No. of GNDs	Area within a limit of 300 meters landward
Colombo	Colombo	9	2.89
	Thimbirigasyaya	6	2.01
	Dehiwala - Mount Laviniya	2	0.45
	Moratuwa	15	3.18
	Rathmalana	4	1.49
Gampaha	Negambo	27	11.03
	Wattala	6	5.61
	Katana	10	9.2

Appendices

District	DS Divisions	No. of GNDs	Area within a limit of 300 meters landward
Kalutara	Panadura	13	2.46
	Kalutara	12	3.83
	Beruwala	18	4.08
Galle	Benthota	10	3.24
	Balapitiya	13	3.99
	Hikkaduwa	43	7.45
	Galle	15	3.7
	Habaraduwa	24	6.04
	Ambalangoda	7	0.63
Matara	Devinuwara	16	2.98
	Dikwella	17	4.22
	Weligama	19	5.84
	Matara	10	2.87
Hambanthota	Tissamaharama	3	19.22
	Hambanthota	10	10.31
	Ambalathota	8	3.46
	Tangalle	20	9.3
Mannar	Mantai west	11	11.95
	Mannar	31	28.63
	Nanaddan	7	6.94
	Musali	6	8.98
Puttalam	Vanathavillu	9	20.75
	Kalpitiya	32	45.86
	Puttalam	11	6.47
	Mundala	11	7.35
	Arachchikattuwa	6	4.3
	Chilaw	8	2.92
	Mahawewa	10	3.77
	Nattandiya	6	1.75

District	DS Divisions	No. of GNDs	Area within a limit of 300 meters landward
	Wennappuwa	10	2.9
Jaffna	Pointpedro	17	6.16
	Kopai	11	11.07
	Tellippalai	7	3.95
	Chankanai	9	5.97
	Maruthankerny	16	33.85
	Chavakachcheri	22	23.72
	Nallur	15	6.17
	Kaytes	20	16.88
	Velanai	38	35.18
	Sandilipay	8	3.21
	Delft	6	33.21
Kilinochchi	Pachchilaipallai	3	14.53
	Pooneryn	7	45.35

Appendix 2.3 : The list of Development Projects and Programmes, implemented by other agencies, considered for the National Physical Plan 2050.

Sector	Institution	Project/Program	Remarks
Agriculture, Water, Irrigation	Irrigation Department	Deduru Oya Reservoir, the Large Irrigation Solution for North Western Province	Lift irrigation , domestic water facilities and extension of inland fisheries culture Location :Deduru Oya and the Mee Oya basins Kurunegala District Capacity : 75 million cubic meters Irrigable area :11,000 ha Beneficiaries :15,000 farmer families, Domestic water facilities for 50,000 families
		Uma Oya multi-purpose development project	The Uma Oya multi-purpose project is proposed to divert water to Kirindi Oya basin. (South-east dry zone). This will enhance hydropower generation by 231GWh (annually) and Irrigation and domestic water facilities for dry areas of southern Sri Lanka. Location : Uma Oya Catchment (720km2) Capacity : 145 million cubic meters
		Yan Oya irrigation project	Yan Oya reservoir will provide irrigation facilities for agriculture in Anuradhapura and Trincomalee Districts during both seasons in addition to improving drinking water facilities in the area and providing drinking water and irrigation facilities to Trincomalee town. Annual fish harvest of about 100,000 metric tons is also expected from the project. Location : Anuradhapura and Trincomalee Districts Capacity : 140000 acre feet
		Rambukkan Oya Reservoir Project	Location :Ampara District Capacity : 56 million cubic meters Irrigable area : 1423 ha. Beneficiaries : 2300 farmer families
		Lower Uva Minor/ Medium Irrigation Project (LUMP)	Location : Monaragala District Beneficiaries : 2500 farmer families
	Ministry of Mahaweli Development and Environment	North Canal Project (Extension of Moragahakanda project to Iranamadu Tank)	
	Irrigation Department	Pahala Mawathu Oya Project	
Fishery & Aquaculture	Ministry of Fisheries and Aquatic Resources Development DFAR, NARA, NAQDA, CFHC, CFC	'Wewak Sahitha Gamak' programme	Establish 100 Integrated Inland Fishery Villages for development of the inland fishery industry to yield multiple benefits, including addressing nutritional deficiencies, promotion of industries and creation of employments. (Negombo, Rekawa, Puttlam, Jaffna, Batticaloa, Nandikadal, Nayaru, Chilaw, Mundalam and Andikulama Lagoons)

Appendices

Sector	Institution	Project/Program	Remarks
Fishery & Aquaculture	Ministry of Fisheries and Aquatic Resources Development DFAR, NARA, NAQDA, CFHC, CFC	Projects on uplifting of infrastructure of fishery harbors and anchorages	Upgrade the anchorages and landing sites of fishery harbours Develop Fishery harbour (Gandara) together with a new fishery harbour (Wellamankara) Completion of Infrastructure facilities of the model Aquaculture Industrial Park in Batticaloa and establishnew model Aquaculture Industrial Parks in Mannar and Hambantota Districts
		Beach Replenishment	Mount Lavinia to Ratmalana
		Development of an integrated Coastal Zone Management (ICZM) mechanism	
		Lagoons Cleaning projects	Safeguard unique lagoon eco system in the country, while increasing their carrying capacity and supporting the existing livelihoods of fisherman and Research and Development
		Establishment of Aquaculture Development Centers	Sevanapitiya, Muruthawela, Udawalawe
		Establishment of Genetic Improvement Centre	Dambulla
		Establishment of Freshwater Prawn Hatchery & Sea Cucumber Hatchery	Trincomalee, Mannar
		Projects on improving of fishery villages focusing on housing and livelihood	Hambantota, Batticaloa and Jaffna
		development in 10 coastal districts	
		Project 'Blue'	
Coast Conserva-tion and Coastal Resource Man-agement	Coast Conservation and Management Department	Coastal Zone & Coastal Resource Management Plan 2016	–
		Implementation of Coastal Stabilization Schemes	Prevent coastal erosion while maintaining or improving economic, social and environmental values in the area. (Marawilla to Chilaw coastal stretch, Beruwala to Payagala coastal stretch, Lunawa to Mount Lavinia stretch, Galle to Weligama coastal stretch, Oluvil to Kalmunai coastal stretch)
		Implementation of research and studies in following areas based on priorities	• National sand study. • Study of existing corals in Exclusive Economic Zone (EEZ) in Sri Lanka. • Continuous evaluation and updating of sea water quality levels in the coastal zone. • Introduce techniques to manage, adopt and minimize coastal erosion due to climate changes. • Studies for possible sea level rise impact on Sri Lanka. • Continuous wave measurement and sediment data collection programmes. • Continuous shore profile measurement programme. • Construction of artificial dunes. • Stabilization of existing dunes. • Identification of vulnerable areas for natural disasters and preparation of vulnerability maps. • Research those are proposed by Coastal Zone Management Plan that is updated in every five years period.

Sector	Institution	Project/Program	Remarks
Coast Conserva-tion and Coastal Resource Man-agement	Coast Conservation and Management Department	Management of the Coastal Zone according to Coast Conservation and Coastal Resource Management Act No. 57 of 1981 and amended Acts No. 64 of 1988 and No. 49 of 2011.	• Updating of 'Coastal Zone Management Plan' in every five years • Identification and declaration of affected areas according to the provisions given in Coast Conservation and Coastal Zone Management act. • Identification and implementation of Special Management Areas. • Complete coastal green belt development projects. • Complete the Coastal Access Programme.
Oceanic Resources	Petroleum Resource Development Secretariat (PRDS)	Projects on Petroleum Exploration Development Plan	• Continuation with Joint Study with TOTAL of France off the east coast – Blocks JS5 & JS6. • Commercialize natural gas discoveries in Block M2 of the Mannar Basin. • Acquisition, marketing and licensing of 2D & 3D seismic, gravity and gravity magnetic data on multiclient basis in several offshore locations covering three demarcated sedimentary basins Mannar, Cauvery and Lanka Basins. • Call Expression of Interest to explore few identified blocks in the Cauvery Basin on production sharing contractual terms. • Formulation of a natural gas policy aimed at all sectors with export potential and new business avenues. • Pricing/re-pricing petroleum data as a part of preparations to award remaining offshore acreage of Mannar and Cauvery Basins through approved investment models. • Find partnerships to proceed with remaining joint study areas of the Lanka basin
Forest/ wildlife/ biodiversity	Biodiversity Secretariat, Ministry of Mahaweli Development and Environment, with Technical Assistance from IUCN,	Sri Lanka UN-REDD Programme	National REDD+ Investment Framework and Action Plan, 2017
		National Biodiversity Strategic Action Plan (NBSAP) 2016-2022	Study on Integrated spatial planning and analysis to prioritize biodiversity conservation in Sri Lanka by Eric Wickramanayake & Vindhya Buthpitiya- a proposal submitted to the Secretariat, Convention on Biological Diversity, Japan Biodiversity Fund - December 2016
		National Biodiversity Strategic Action Plan 2016-2022	–
		An Action Plan for Aair Quality Management - Clean Air Action Plan 2025	–
Infrastructure	A joint venture between the Sri Lanka Ports Authority and China Merchant Holdings Ltd	Colombo South Port Expansion	The Colombo South Port expansion project with three terminals, each terminal having capacity of 2.4 million TEUs per annum, will increase the capacity of the Colombo Port by 160% upon completion.
	Road Development Authority	Development of High Mobility Road Network	The National Road Master Plan has already been prepared, which focuses on the construction of highways, widening of highways, reduction of traffic congestion, road maintenance & rehabilitation and bridge rehabilitation and reconstruction.
		Major road developments	Colombo - Katunayake Expressway - CKE (25km) Southern Highway (126km) Outer Circular Highway - OCH (29.2km) Colombo -Kandy Highway (99km)

Appendices

Sector	Institution	Project/Program	Remarks
Infrastructure	Railway Department	Railway Development Projects	Matara – Kataragama Railway Extension Project Construction of the railway track from Matara to Beliatta Improvement of Northern Railway Track Development of Kandy, Kadugannawa Peradeniya and Mahawa Doubling the railway track from Kalutara to Payagala Improvement of railway stations and buildings Establishment of signaling system for the Ja-Ela-Seduwa Double Track
Energy	Ministry of Power and Renewable Energy	**Generation Projects – Ongoing**	
		Lakvijaya (Norocholai)Power Station	Commencement: 23rd July 2007 Current Progress: Completed – Largest power station in Sri Lanka. – Located in Norocholai, Puttalam, on the southern-end of the Kalpitiya Peninsula. Capacity 300MW Phase I-Construction of a 300MW coal fired plant. This includes installation of turbines, auxiliary systems, 117km power transmission line up to Veyangoda and Kotugoda, construction of a jetty for unloading of coal etc. Phase II & III-Construction of 300 x 2 coal fired plants Source of Funding – China-Exim Bank- US$ 450 million (Loan from China) US$ 300 million @ 2% interest and 150 million @ 6% interest GOSL Contribution- Rs. 5300 million
		Kerawalapitiya Power Station	300MW Combined Circle Power Plant, which is a multi fuel capable plant presently, operating on Heavy Fuel Oil. At present, LTL has 424MW of thermal power generation capacity and considering 2009 statistics, LTL has supplied 25% of the total thermal power generation by Independent Power Producers. Source of Funding – Japanese International Cooperation Agency (JICA)
		Upper Kotmale Hydropower Project (UKHP)	• UKHP is a run of river hydropower project with an installed capacity of 150MW (consisting of two 75MW units) and It will produce 409GWh per year. • Located in Talawakele, within the Nuwara Eliya District, in the Central Province of Sri Lanka the dam feeds the third largest hydroelectric power station in the country.
		Uma Oya Hydro Power Project	Installed capacity-120MW Annual Energy Generation- 312GWh Construction of two ponds in Welimada across Uma Oya and Mahatitilla Oya underground power station at Randeniya near Wellawaya transbasin to KirindiOya. Source of Funding – EDBI of Iran

Sector	Institution	Project/Program	Remarks
Energy	Ministry of Power and Renewable Energy	**Feasibility Studies**	
		Projects on Pipeline Energy Diversification Enhancement Project (Construction of LNG related facilities)	Phase I – Feasibility level fuel option study. Phase 2 – Detailed Feasibility Study inclusive of Detail Design. Phase 2 will commence only if GOSL decides to do so. Source of Funding – Japanese International Cooperation Agency (JICA)
		Moragolla Hydro Power Plant	Feasibility study on construction of 26.5 MW hydro plant with 82GWh generation. Located at downstream of Kotmale Dam. Estimated project cost US $ 85 Mn. Source of Funding – Kuwait
		Seethawaka Ganga Hydro Power	Potential of around 20 MW hydro power plants in Seethawaka River, a tributary of the Kelani River system, which could potentially generate about 50 GigaWatt hours of energy. Cost around $60 million to build.
		Ginganga Hydro Power Project	Feasibility study on construction of hydro plant located near Lankagama Deniyaya adjacent to Deniyaya. Several options were considered. CECB study in 2008 39-49 MW with 102-143 GWh. Irrigation transbasin option 10 MW with 21 GWh.
		Victoria Expansion Power Project	Feasibility study on Construction of tunnel and 228 MW Extension power plant at Victoria Hydro Power station. Estimated cost US$222 million
		Pump storage hydropower Station	Several possible sites, according to internal desk study and site survey. North of Samanalawewa, 2 sites of 500MW potential each North of Maussakele 500MW
		Diversion of PundaluOya (Upper Kotmale)	Addition of 50 GWh average annual generation at Upper Kotmale Hydro project
		Coal Power Plant at Trincomalee	To develop a 2x250 MW coal power plant in Trincomalee along with associated facilities such as coal unloading jetty. The power plant will be on BOO basis by the Joint Venture Company between NTPC India and CEB. Estimated cost US$500 million Source of Funding –Joint Venture Company (NTPC/CEB) will identify the donor.
		Rehabilitation	
		Rehabilitation of old Laxapana Power Plant	Replacement of complete turbine including runners, complete generators excitation systems, governors, bearings, cooling water system, main inlet valves and penstock guard valves. Source of Funding –Uni Credit Bank Austria AG & HNB PLC
		Rehabilitation of Wimalasurendra and New Laxapana Power Plant	Wimalasurendra Power Station: Replacement of generator stators and windings, rotor poles, excitation systems, governors, controls, bearings, LV AC/DC system, refurbishment of turbine, M/V and Balance of plants. New Laxapana Power Station: Replacement of turbine runners, Generator stators & windings, Rotor Poles, Excitation Systems, Governors, controls, bearings, LV AC/DC systems, cooling water system, refurbishment of turbine, M/V and balance of plants Source of Funding – Calyon Bank France and HNB PLC

Appendices

Sector	Institution	Project/Program	Remarks
Energy	Ministry of Power and Renewable Energy	Rehabilitation of Ukuwela Power Plant	Replacement of turbine runners, generator stators & windings, rotor poles, excitation systems, governor, bearings, cooling water system, refurbishment of turbine and balance of plants. Source of Funding – Japan Bank for International Cooperation(JICA)
		Transmission Projects	
		VavuniaKillinochchi Transmission Line Project (JBIC)	Lot A: Construction of Killinochchi 132/33kV Grid Sub-Station, Lot B: Construction of 73km, 132kV single zebra double circuit transmission line from Vavunia to Kilinochchi along the existing right of way including OPGW., Lot C: Consultancy services for lot A and lot B. Source of Funding – Japan Bank for International Cooperation(JICA)
		KillinochchiChunnakamTransmission Project	(1)Construction of 132kV transmission line from Killinochchi GS to Chunnakam GS- Lot B. (2) Construction of 2x31.5MVA, 132/33kV GS at Chunnakam-Lot A Source of Funding – ADB
		Lighting Sri Lanka Transmission - Beliatta Grid Substation Project –	Lighting Sri Lanka Transmission -Beliatta Grid Substation Project – GOSL Lot A-Construction of Grid Substation: with 2x31.5 MVA T/F with 8 Nos. of 33kV out going feeder bays. Lot B-Construction of Transmission Line from Hakmana to Beliatta: Construction of 8km of 132 kV double circuit transmission line by CEB Direct execution. Source of Funding – GOSL
		insulated GS)	Source of Funding – Japan Bank for International Cooperation(JICA)
		Clean Energy and Access Improvement Project	
		A-System Control modernization B1 – Transmission system strengthning in the Eastern Province	Setting up of a new system control centre at Sri Jayawardenapura and installing island wide fiber optic communication network. Lot A-Augmentation of 132/33kV Grid Substations at Ampara and Valacchchenai. Lot B-Construction of new 132kV Double Circuit Transmission Line from Habarana GSS to Valachchenai GSS Line length Approx. 100km. Source of Funding – ADB
		B2 – Transmission System Strengthening – Grid Substation Project	1)km, of 132 kV double circuit three phase transmission line of single 400mm2 ZEBRA (61/3.18mm) ACSR, one 7/3.25mm galvanized steel earth wire and one OPGW from existing Matara GSS to proposed Galle GSS2)42km, of 132kV double circuit three phase transmission line, single circuit stringing of single 400mm2 ZEBRA (61/3.18mm)ACSR, one OPGW from existing Puttalam GSS to proposed Maho GSS. 3)17km, of 132kV double circuit three phase transmission line, of single 400mm2 ZEBRA (61/3.18mm)ACSR, one 7/3.25mm galvanized steel earth wire and one OPGW from existing Ukuwela GSS to proposed Pallekale GSS. 4)0.5km, of 132kV double circuit three phase transmission line, of single 400mm2 ZEBRA (61/3.18mm)ACSR, one 7/3.25mm galvanized steel earth wire to in out one circuit of the existing Ukuwela-Habarana 132kV trans. line to proposed Naula GSS. B-2-1 (a) – Augmentation of (i) Panadura (ii) Veyangoda (iii) Matara(iv)Kurunegala (v) Habarana and (vi)Horana Grid substations and (b) Construction of (i) Pallekele (ii) Maho and (iii) Naula Grid substations.
		C – Distribution Substations Augmentation	C1 – Capacity Enhancement of transformers at (i) Katunayake (ii) Nawala (iii) Kiribathgoda (iv) Kotikawatta and (v) Hikkaduwa substations Source of Funding- ADB

<table>
<tr><th>Sector</th><th>Institution</th><th>Project/Program</th><th>Remarks</th></tr>
<tr><td rowspan="8">Energy</td><td rowspan="5">Ministry of Power and Renewable Energy</td><td>E- Network Capacity Augmentation for Renewable Energy Projects phase II</td><td>Augmentation of existing 132/kV Grid Substations at Seethawaka, Balangoda, Badulla, NuwaraEliya, Ukuwela and construction of New Grid Substation at Mahiyangana. Source of Funding- ADB</td></tr>
<tr><td>Augmentation of Grid substations for Absorption of Renewable Energy – Phase I</td><td>Phase I Lot A –Augmentation of Ratnapura,Wimalasurendra and &Rantembe Grid substations.
Lot B - Construction of 21 km long 132 kV Double Circuit Transmission Line from Rantambe to Mahiyangana. Source of Funding- GOSL</td></tr>
<tr><td colspan="2">Other Priority Transmission Projects in the Pipe Line</td></tr>
<tr><td>New Galle Transmission Development Project</td><td>Considered under Sustainable Power Sector Support II Project
a. New Galle Grid substation
b Ambalangoda – Galle 132kV Transmission Line
Source of Funding- ADB</td></tr>
<tr><td>Support II Project-North East Power Transmission Project</td><td>• Considered under Sustainable Power Sector
a1. Monaragala 132/33kV Grid substation & Transmission Line
a2. Construction of new 16km 132kV Tr. Line Medagama – Monaragala
b. Polonnaruwa 132/33 kV Grid substation
c. Vavunativu 132/33kV Grid substation d. Ampara 132/33 kV Grid substation augmentation.
e. Mahiyangana – Vavunative 132kV Transmission Line via Ampara
f. Kotmale to Anuradapura 220kV Transmission Line second circuit Stringing.
Source of Funding – ADB</td></tr>
<tr><td>Indu Sri Lanka Inter connection Line between Madurai and Anuradhapura (ADB)</td><td>Objective of the project is to interconnect India and Sri Lanka power grids through a submarine cable across the Palk-Straight for power exchange between two countries.</td></tr>
<tr><td rowspan="3">Sustainable Energy Authority</td><td>Renewable Energy -Mini Hydro Development (Feasibility Studies level)</td><td>Commissioned plants capacity addition and for future development within 2 -3 years as under construction, PA issued and processing stage
<table>
<tr><th>Status</th><th>No. of Projects</th><th>Capacity MW</th></tr>
<tr><td>Commissioned</td><td>172</td><td>342.94</td></tr>
<tr><td>Under Construction</td><td>86</td><td>154.90</td></tr>
<tr><td>Provisional Approval Issued (PA)</td><td>85</td><td>123.89</td></tr>
<tr><td>Processing Stage</td><td>457</td><td>577.63</td></tr>
<tr><td>Total</td><td>800</td><td>1199.36</td></tr>
</table></td></tr>
<tr><td>Seethawaka Ganga Hydro Power</td><td>Potential of around 20 MW hydro power plant in Seethawaka River, a tributary of the Kelani River system, which could potentially generate about 50 Giga Watt hours of energy. Cost around $60 million to build.</td></tr>
<tr><td>Moragolla Hydro Power</td><td>Feasibility study on construction of 26.5 MW hydro plant with 82GWh generation. Located at downstream of Kotmale Dam. Estimated project cost US $ 85 Mn .Source of Funding- Kuwait</td></tr>
</table>

Appendices

<table>
<tr><th>Sector</th><th>Institution</th><th>Project/Program</th><th>Remarks</th></tr>
<tr><td rowspan="7">Energy</td><td rowspan="3">Sustainable Energy Authority</td><td>Broadlands Hydro Power</td><td>To be constructed at Kithulgala, about 90 km north-east of Colombo, will add 35 Megawatt to the national grid. Once the project is completed it expects to generate 137 GWh of electrical energy annually. Source of Funding- China Export and Credit Insurance Corporation</td></tr>
<tr><td colspan="2">Other Renewable Energy Projects</td></tr>
<tr><td>Mannar's Wind Power</td><td>
<table>
<tr><th rowspan="2">Project Type</th><th colspan="2">Commissioned</th><th colspan="2">Under Construction</th><th colspan="2">Provisional Approval Issued</th></tr>
<tr><th>Projects</th><th>MW</th><th>Projects</th><th>MW</th><th>Projects</th><th>MW</th></tr>
<tr><td>Wind</td><td>15</td><td>128.45</td><td>2</td><td>101.10</td><td></td><td></td></tr>
<tr><td>Solar</td><td>4</td><td>11.36</td><td>6</td><td>60.00</td><td>3</td><td>30.00</td></tr>
<tr><td>Dendro</td><td>5</td><td>15.54</td><td>9</td><td>46.24</td><td>5</td><td>32.50</td></tr>
<tr><td>Solid Waste</td><td>-</td><td>-</td><td>2</td><td>20.00</td><td>4</td><td>16.90</td></tr>
<tr><td>Agri.Waste</td><td>3</td><td>13.00</td><td>-</td><td>-</td><td>1</td><td>10.00</td></tr>
<tr><td>Biogas</td><td>1</td><td>0.08</td><td>1</td><td>0.13</td><td></td><td></td></tr>
<tr><td>Total</td><td>28</td><td>168.43</td><td>20</td><td>227.47</td><td>13</td><td>89.40</td></tr>
</table>
</td></tr>
<tr><td colspan="2">Ministry of Petroleum Resources Development</td></tr>
<tr><td rowspan="3">Petroleum Resources Development Secretariat</td><td>Request For Proposals To Conduct Airborne Geophysical Surveys On Multi-Client Basis Over the Mannar and Cauvery Basins of Sri Lanka</td><td>Proposals are hereby called worldwide from competent and experienced Geophysical Exploration Companies to carry out Airborne Gravity, Gravity Gradiometry and Magnetic Surveys (Data Acquisition, Processing and Interpretation) of the Mannar and Cauvery Basins, offshore Sri Lanka on a multi-client basis in partnership with the PRDS.</td></tr>
<tr><td>Sri Lanka's Offshore Seismic Programme</td><td>The "MV Vespucci", a vessel belonging to Global Seismic Company Western Geco. to conduct the country's first ever seismic acquisition off the East Coast. Total acquisition programme will include around 5000 km of 2D seismic off the East coast, after which the vessel will move to the Mannar basin off the West coast to conduct further 2D and 3D acquisition programmes.
The new seismic data would reduce geological uncertainty, and form the basis of Sri Lanka's 3rd International Licensing Round, currently planned for the end of 2018.
To acquire multi-client airborne gravity/magnetic data in the Mannar and Cauvery basins over the next few months. This will complement seismic data in enhancing subsurface imaging and geological modeling capabilities, encouraging major oil companies to invest in Sri Lanka. Under the Joint Exploration Agreement between Total of France and the Government of Sri Lanka. (by the Global Seismic Company Western Geco)</td></tr>
<tr><td>Seismic Vectorizing and Well Log Digitizing Cauvery Basin</td><td>Collaboration with Calderdale Geoscience Limited, a Geoscience Consultancy established in 2004in
Association with Consultant Reservoir Engineer AJ Jayasekera, have been authorized by PRDS Sri Lanka to vectorize the legacy seismic data, and to market the product.
The survey areas (Palk Strait, Palk Bay, Gulf of Mannar and the North East area)</td></tr>
<tr><td>Economy</td><td>Board Of Investment</td><td>Establishment of 45 new BOI zones covering all districts</td><td>To Develop Export Processing Zones / Parks within all Districts for Manufacturing, Agro Processing, IT/BPO/KPO Parks to generate employment.</td></tr>
</table>

Sector	Institution	Project/Program	Remarks
Economy	Sri Lanka Tourism Development Authority	Integrated tourism resort projects in Kalpitiya	Kalpitiya Integrated Tourism Project – Construction of hotels, Entertainment Centres, Golf Courses. Water based accommodation facilities, Water related facilities, Ayurvedic Health Village and Spa, Eco lodge Deluxe hotel as leading product and development landmark, Water sports center, Boat Service, Aqua centre and museum.
		Resort & recreation development in Dedduwa	Dedduwa Lake Resort Hotel (Activity based Eco Tourism)
		Beach resort / hotel project at Kuchchaveli	Kuchchaveli Tourism Development Project with 40 Beach Resorts
	The government's economic vision, 2025	Wayamba special economic development area	Iranawila Tourist Development Kalpitiya Tourist Development Bingiriya Zone Kuliyapitiya Zone
		Ruhuna economic development area	Industrial Zones and Mattala Tourism Zone
		Bogambara cultural and tourism centre	
Urban Development and Human Settlement Planning'	Ministry of Megapolis and Western Development	Trincomalee Economic Development area Western Region Mega polis project	Mega Projects- 1. Transport, Energy and Water 2. Housing and Relocation of Administration 3. Environment and Waste Management 4. The Aero Maritime Trade Hub 5. 'The High Rise' - Central Business District 6. Industrial and Tourist Cities - Mirigama, Horana, Negombo & Aluthgama 7. Science and Technology City 8. 'Eco Habitat' and Plantation City 9. 'Smart Nation'- The Smart City Development Project 10. Tranquility' – The Spiritual Development Facilitation
		Strategic Cities Development Project (SCDP)	Anuradhapura, Galle, Kandy and Jaffna: to be included Trincomalee, Ratnapura, Matara, Kurunegala and Dambulla
Human Resources Development/ Educational Policies in Economic Development	Ministry of Education	Structured on the objective of providing "13 Years of Education"	It will focus on improving the ratio of science, technology, engineering and medicine (STEM) to Non-STEM graduates in the country.
		Change in the methodology of teaching of Engineering and Medicine (STEM) subjects	This will allow students to offer combinations such as mathematics with music, science with drama etc.
		The examination and assessment methodology will also be reformed to suit "13 years of Education"	• Provide the students with math kits and upgrade the mathematics laboratories. • Programme for International Student Assessment (PISA) will be introduced to facilitate the testing of our education system in comparison to the global standards by testing the skills and knowledge of students. • In preparing our students for tomorrow's jobs, it will introduce genomics, coding, and robotics and Nano science into our school curricula.
		Continuous Professional Development (CPD) for Teachers will be continued	

Appendices

Sector	Institution	Project/Program	Remarks
Human Resources Development/ Educational Policies in Economic Development	Ministry of Education	The "Smart Class Room" concept will be strengthened Strengthen the training of teachers of special needs students	The special needs training facilities at Hapitigama and Adalachchenai Colleges of Education will be upgraded.
	Ministry of Higher Education	Improvement of University Education	• Establishing State medical faculties at Wayamba, Sabaragamuwa and Moratuwa Universities to expand medical education. • A Professorial unit at the Karapitiya hospital to complement the expansion of the medical faculty at the Ruhuna University. • Expand the technology degree programmes in subjects such as Information and Communication Technology, Engineering Technology and Bio Systems Technology in 7 new technology faculties which include, the Universities of Rajarata, Ruhuna, Sabaragamuwa, Kelaniya, Colombo, Sri Jayewardenepura and the South Eastern University. • Establish a Centre for Naval Studies and Shipping at the Ruhuna University. • Support the Colombo University's initiative to collaborate with the industry needs and venture into new streams such as Data Science, Big Data analytics, Actuarial studies, Business analytics etc. • Strengthen the Vavuniya Campus of the Jaffna University by including a state of the art library facility and an IT center. • Establish a postgraduate Institute of Indigenous Medicine. • Increase the eligibility criteria of the household income threshold from Rs. 300,000 to Rs. 500,000 per annum for the Mahapola Scholarship scheme. This will benefit an extra 3,000 students. • Finance a health insurance scheme for all university students.
	Ministry of Health	Programmes on Improvement of health	• Establish specialized renal units and 3 numbers state of the art Extra-Corporeal Shock Wave Lithotripsy (ESWL) machines at the Polonnaruwa, Anuradhapura and Jaffna Hospitals. • Strengthen the Health Education Bureau's (HEB) activities - the HEB will collaborate with the Ministry of Education in addressing the threat of NCDs such as juvenile diabetes, asthma etc. The screening process for CKDu, Thalassemia and HIV/AIDS will also be strengthened. • Strengthen the Karapitiya Cancer Unit • Establish Cancer Units at both Batticaloa and Ratnapura Hospitals. • Strengthen primary health care network of Government dispensaries. • Establish an assisted Reproductive Treatment Centre at the Castle Street Hospital for women and 3 highly specialized Obstetrics Centers in Colombo, Kandy and Anuradhapura. • Establish a Maternity and Neo-natal Complex at the Polonnaruwa Hospital • Commence work on the Cardiac and Critical Care Complex and the Cardiothoracic Complex at the Lady Ridgeway Hospital. • Upgrade the Divisional Hospitals at Moratuwa and Deniyaya by providing the necessary infrastructure • Develop the new District General Hospital at Matara which is severely congested at present by moving the maternity, pediatric, and medical and the administrative units to Kamburugamuwa. • Develop a comprehensive food hygiene and food safety system in collaboration with the relevant line agencies.

Sector	Institution	Project/Program	Remarks
Human Resources Development/ Educational Policies in Economic Development	Ministry of Health	Programmes on improvement of health	• Improving the infrastructure facilities at the Nurses Training Schools • Strengthen the Dental Health Institute of Maharagama and the Oral Health Care Unit at Ratnapura with better facilities. • Establish a unit that will be dedicated to Sexually Transmitted Diseases (STDs) and HIV/AIDS with the state of the art facilities at the National Hospital of Colombo • Improve support of Suwaseriya Ambulance service • Issue regulations imposing the quality and standards required in importing cosmetic and personal care products.
Culture and Heritage	Ministry of National Heritage	Develop a proposal to the World Heritage List.	Develop a proposal for the inscription of a cluster of ancient Buddhist temples, Hindu kovils, ports and forts in Sri Lanka provinces into the World Heritage List.
	The government's Economic Vision, 2025	Bogambara cultural and tourism centre	
	Central Cultural Fund	SAARC Cultural Centre	The prime objectives of establishing a SAARC Cultural Centre are to preserve the regional cultural heritage and fosters co-operation among different traditions and advanced cultural diversities.
Research& Development, Technological innovation	Ministry of Science, Technology and Research		
	Industrial Technology Institute (ITI)	Food Technology	
		1.Enhanced preservation of fruits using nanotechnology	Source of Funding-International Development Research Centre (CIDA-IDRC), Canada
		2.Value addition to fruits and vegetables	By clarifying, concentrating and separation of bioactive components using membrane filtration technology and process modeling. Collaboration with National Science Foundation (NSF)
		3.Formulation of probiotic foods as an alternative treatment for H. pylori infec-tion	Collaboration with National Science Foundation (NSF)
		4.High iron & protein containing rice products	Source of Funding – Treasury Grant
		5.Rice bran snacks rich in antioxidants	
		6.Enhancing the quality of Jaadi in Sri Lanka	
		7.Establishment of testing facility to eval-uate physical quality of feed and as-sessment of imported feed quality	

Appendices

Sector	Institution	Project/Program	Remarks
Research& Development, Technological innovation	Industrial Technology Institute (ITI)	8.Assessment of suitability of selected Sri Lankan Tomato varieties for devel-opment of physic-chemically and func-tionally sound tomato puree under differ-ent processing conditions	Source of Funding – Treasury Grant
		9.Development of low caloric functional bread	
		10.Establishment of non-thermal pro-cessing technologies for blended fruit and vegetable juices	
		11.Formulation of ready to drink bever-age and herbal tea with The bu (Costusspeciosus) and evaluation of bi-oactivity	
		12.Quality analysis of selected imported and local food in Sri Lankan food basket	
	National Engineering Research and Development Centre of Sri Lanka (NERD)	1.Mechanization of Conventional NERDC Slip-form Wall	Civil-NERDC slip form technology wall construction side shutters lifting arrangement mechanization.
		2.Machinery Development for Making Compressed Solid Feed Blocks	Dairy Industry- to develop machinery for making compressed solid feed block to improve its storing capacity, transportability, cost effectiveness and reduce wastages of animal foods
		3.Design and Development of a Mecha-nism to Cut Weeds Grown in Tanks of Breeding Fresh Water Fish	Inland fishery & Irrigation- to design low cost, user-friendly mechanical device to cut aquatic weed
		4.Conversion of Diesel Fired Air Heating System to Chip Wood Fired System	Tea diesel chip wood- fuel switching from diesel to biomass in tea drying in the tea industry. It includes a biomass pre-furnace, conveyer type fuel wood feeding system and the controlling system.
		5.Design and Fabrication of a Hyperbaric Oxygen Chamber	Medical-To develop a cost effective and user friendly HBOC (Hyperbaric Oxygen Chamber) for giving an effective treatment for all types of wounds with acute and chronic damaged tissues
		6.Development of Smoked Fish Pro-cessing unit for SMEs	Post-Harvest Technology-to develop fish smoking unit to minimize Polycyclic Aromatic Hydrocarbon (PAH) contaminations of smoked fish at safe levels
		7.Modified Version of Semi-Automatic String Hopper Machine	Food Industry-to develop Semi-Automatic string Hopper Machine for small and medium scale industry
		8. Development of Aquatic Weeding Ma-chine	–
		9.Advancement of NERDC Cremator	–

Sector	Institution	Project/Program	Remarks
Research& Development, Technological innovation	National Engineering Research and Development Centre of Sri Lanka (NERD)	10.Development of an Efficient Dryer for Roof-Tile Industry	–
		11.Development of Machinery and Equipment for Coconut Industry	1. To develop an effective coconut harvesting device 2. To develop manual coconut de-husker 3. To develop industrial type coconut de-husker
	Sri Lanka Institute of Nanotechnology	Nano Technology and Science park	Located on 50 Acres of land. Phase 1 – Development of the Nanotechnology Centre of Excellence (NCE). Phase 2 – Focus: Incubation and Pilot Plant development. This phase will be developed along with Phase 1. Plots will be offered to SLINTEC equity holders as well as current R&D partners and focus will also be on attracting domestic and international companies. Phase 3- Focus: Attract Research &Business Development (R&BD) of High Technology Industries Phase 4- Focus: Continue to attract R&BD Multinational Companies as well as Small and Medium Enterprises. Nanotechnology Centre of Excellence (NCE) 1) Centre of Research & Innovation (R&I) 2) Incubation for taking Research into Commercialization 3) Corporate Research & Business Development (R&BD) 4) Nanotechnology focused departments of other Institutes 5) Technology Commercialization Centre (TCC) 6) Administrative Centre & essential Centralized Services 7) Library, Auditorium & Accommodation for visiting Researchers Collaboration with Government of Sri Lanka
Disaster management	Disaster Manage-ment Centre	Flood/drought/landslide Mitigation projects	District level
		Mainstreaming DRR into Development	Preparation of Guidelines
		Development of multi Hazard Risk Profile	Risk Profile available for frequent hazards
		Capacity building at all levels through training and awareness	• National level training programme for Disaster Risk Management for Government Sector Officials • Preparing Training and Awareness Tools for National and District Level Programmes
		Preparation of District Disaster Preparedness and Response Plans (DPRP) (25 programmes	
		Preparing Training & Awareness Tools for National and District Level Programmes	

Appendices

Appendix 2.4 : The Conventions and Agreements that Sri Lanka has been a Party

1. The 2030 Agenda for Sustainable Development- Sustainable Development Goals (SDGs)

2. United Nations Framework Convention on Climate Change (UNFCCC)

3. Submissions to the UNCLCS (United Nations Commission on the Limits of the Continental Shelf)· The Democratic Socialist Republic of Sri Lanka submitted to the Commission on 8th May 2009 on the Limits of the Continental Shelf, in accordance with Article 76, paragraph 8, of the United Nations Convention on the Law of the Sea of 10th December 1982 information on the limits of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured.

Appendix 2.11.2 : The Working Team

Team Leader: Amendment to the National Physical Plan and Physical Planning Policy, Alternative Scenario 2050: Archt./Plnr. Dr. Jagath 0Munasinghe, Director General NPPD

Moderator, Stakeholder consultation Workshop: Archt. Plnr. Veranjan Kurukulasuriya, Former Director General, NPPD

The NPPD officers provided various support:

Archt. Champa Amarasinghe, Director (Local Physical Planning)
Mr. Ananda Rathnayaka, Chief Internal Auditor
Mr. Prabath Chithtraranjan, Chief Accountant
Ms A Susantha, Chief Accountant
Mr. A Wimalaweera, Director (Admin)
Eng. C. Kularathne, Director (Engineering)
Archt. S.D.P.C. Hettiarachchi, Director (Architecture)
Eng.K. Sumanadasa, Assistant Director (Engineering)
Eng. E.R.S. Samarasinghe, Assistant Director (Engineering)
Archt. Champaka Bandaranayake, Assistant Director (Architecture)
Archt. Priyani Athuraliya, Assistant Director (Architecture)
Ms. W.N. Shiromi Perera, Legal Officer
Ms. D.M.T.M. Disanayake, IT Officer
Ms Gayani Samarawickrama, Assistant Director (Administration)
Mr. Chandana Athukorala, Assistant Director (C.U.)
Ms. Sanjeewani Ranasinghe, Assistant Director (C.U.)
Mr. Prabath Warusamanna. Assistant Director (C.U.)
Mrs. Kumudu Niroshani, Administrative Officer (C.U)
Ms Samanthika Perera
Ms R. A. Pushpa Sriyani
Mr. Indika Senanayake

Team Coordination and Event Organization· Plnr. Sumith Samaratunge
Technical Coordination and Presentations· Plnr. K. Sugirthan, Plnr. B.C.K. Wickramasingha
Chairing Focus Group Discussions· Archt./Plnr. Veranjan Kurukulasuriya

Subject Coordinators· Disaster Management and Climate Change· Plnr. Jagath Rathnayake, Plnr. H. L Chamila

Subject Coordinators· Economic/ investment Promotion and Industrial Development· Plnr. G. S. D. A. Madhuwanthi, Plnr. Janitha Ponnamperuma

Subject Coordinators· Forest, Wildlife, Coastal Management, Environmental Protection, Oceanic Resource, Fishery and Mining· Plnr. A. G. N. N. Ranaweera, Plnr. A. U. Jayawardhana

Subject Coordinator· Research and Development, Technological innovation· Plnr. M. D. G. M. Siriwardhana

Subject Coordinators· Human Resource Development/ Education Policies in Economic Development· Plnr. N. M. N.G. Nawarathna, Ms. Nalika Batuwaththa

Subject Ccoordinators· Infrastructure Planning and Development· Plnr.U.D.Kottege, Ms. Thushani Witharana, M.D.G.M. Siriwardhana

Subject Coordinator· Urban Development and Human Settlement Planning· Plnr. P. M. K. R. Aberathna, Plnr. K. A. I. T. Jayanayake, Plnr. R. M. N. M. Rajapaksha

Subject coordinator· Culture and Heritage in Physical Planning· Plnr. R. M. Anusha Kusum

Subject coordinators· Agriculture, Irrigation and Water Resource and Facilitate Livestock Development· Plnr. L. H. S. Dilhani, Ms. Nilani Edirisinghe

GIS Mapping and Analysis Works· Plnr. B. C. K. Wickramasingha, Plnr. K. Sugirthan, Plnr. Sachini Srinika, Plnr. M. D. G. M. Siriwardhana, Plnr. Jagath Ratnayaka, Plnr. A. G. N. N. Ranaweera, Plnr. L. H. S. Dilhani, Plnr. A. U. Jayawardhana, Plnr. R. M. Anusha Kusum, Plnr.G. S. D. A.Madhuwanthi, Plnr. P. M. K. R. Aberathna, Plnr. K. A. I. T. Jayanayake, Plnr. R. M. N. M. Rajapaksha

Supportive Planning Team for the groups of Subject in charge, Event Management· Mrs. Sumudu Siriwardane, Mrs. Sagarika De Silva, Ms. Uthpala Panditharathna, Mrs. V.G.N. Chandrika

Appendix 2.11.3 : Members of the Technical Advisory Committee (TAC)

1. Archt./Plnr. Dr. Locana Gunaratne, Physical Planning Expert
2. Plnr. (Mrs.)I. S. Weerasoori, Past President; Institute of Town Planners Sri Lanka
3. Archt./Plnr. Veranjan Kurukulasuriya, Senior Vice President, Institute of Architects Sri Lanka
4. Mrs. P. M. Shanthi Fernando, Director General; Land Use Policy Planning Department
5. Eng. R. R. Jayarathne, Deputy General Manager (Sabaragamuwa) Ceylon Electricity Board
6. Eng. (Mrs.) D. N. Siyambalapitiya, Director (Planning), Road Development Authority
7. Mr. C. Jayasooriya, Director; Department of National Budget
8. Eng. M. N. A. Samad, Chairman (Civil Engineering), Institute of Engineers, Sri Lanka
9. Eng. Thushara Wickramarathne, A. G. M, Central Engineering Consultancy Bureau
10. Senior Prof. Amal Kumarage, Transport Planning, University of Moratuwa, Sri Lanka
11. Senior Prof. Indralal de Silva, Demography; University of Colombo, Sri Lanka
12. Syr. L. P. A. Shantha Priya Perera, Secretary, Surveyor Institute of Sri Lanka
13. Dr. Jagath Munasinghe, Secretary (TAC), Director General; National Physical Planning Department

Appendix 2.11.4 : Members of the Inter Ministerial Coordinating Committee

1. The Secretaries to the Ministries in-charge of

   The Ministry of Physical Planning
   The Ministry of Economic Planning
   The Ministry of Finance
   The Ministry of Land
   The Ministry of Agriculture
   The Ministry of Industry
   The Ministry of Housing
   The Ministry of Transport
   The Ministry of Highways
   The Ministry of Ports
   The Ministry of Civil Aviation
   The Ministry of Coast Conservation
   The Ministry of Environment
   The Ministry of Forestry
   The Ministry of Tourism
   The Ministry of Irrigation
   The Ministry of Power & Energy
   The Ministry of Home Affairs
   The Ministry of Provincial Councils
   The Ministry of Plan Implementation
   The Ministry of Cultural Affairs
   The Ministry of Fisheries
   The Ministry of Mahaweli Development
   The Ministry of Plantation
   The Ministry of Construction

2. The Chief Secretaries of all Provinces
3. The Director General , National Physical Planning
4. The Director General , National Planning
5. The Director General , Urban Development Authority
6. The Director General , Board of Investments

Appendix 2.11.5 : Members of the National Physical Planning Council Constitution of the National Physical Planning Council under the provisions of Town & Country Planning (Amendment) Act No 49 of 2000

1. The Head of the Government - H.E. the President/Chairman
2. The Minister in charge of the subject of National Physical Planning, who shall be the Vice Chairman / Hon. Minister, Ministry of Megapolis and Western Development
3. Hon. Minister, Ministry of Mahaweli Development and Environment
4. Hon. Minister, Ministry of National Policies and Economic Affairs
5. Hon. Minister, Ministry of Tourism Development and Christian Religious Affairs
6. Hon. Minister, Ministry of Sustainable Development and Wildlife
7. Hon. Minister, Ministry of Transport and Civil Aviation
8. Hon. Minister, Ministry of Higher Education and Highways
9. Hon. Minister, Ministry of City Planning & Water Supply
10. Hon. Minister, Ministry of Disaster Management
11. Hon. Minister, Ministry of Finance and Mass Media
12. Hon. Minister, Ministry of Home Affairs
13. Hon. Minister, Ministry of Internal Affairs, Wayamba Development and Cultural Affairs
14. Hon. Minister, Ministry of Industry and Commerce
15. Hon. Minister, Ministry of Fisheries and Aquatic Resources Development
16. Hon. Minister, Ministry of Plantation Industries
17. Hon. Minister, Ministry of Power and Renewable Energy
18. Hon. Minister, Ministry of Agriculture
19. Hon. Minister, Ministry of Irrigation and Water Resources Management
20. Hon. Minister, Ministry of Rural Economy
21. Hon. Minister, Ministry of Housing and Construction
22. Hon. Minister, Ministry of Ports and Shipping
23. Hon. Minister, Ministry of Lands and Parliamentary Reforms
24. Hon. Minister, Ministry of Hill Country New Villages, Infrastructure and Community Development
25. Hon. Minister, Ministry of Provincial Councils and Local Government
26. Hon. Minister, Ministry of Petroleum Resources Development
27. Hon Minister, Ministry of Primary Industries
28. Hon. Minister, Ministry of Regional Development
29. Chief Minister, Northern Provincial Council
30. Chief Minister, Central Provincial Council
31. Chief Minister, North Central Provincial Council
32. Chief Minister, Eastern Provincial Council
33. Chief Minister, North Western Provincial Council
34. Chief Minister, Sabaragamuwa Provincial Council
35. Chief Minister, Southern Provincial Council
36. Chief Minister, Western Provincial Council
37. Chief Minister, Uva Provincial Council
38. The Secretary of the Ministry of the Minister in charge of the subject of National Physical Planning shall be the Secretary of the Counci

Appendices

Appendix 2.11.5a : Comments received from the member Institutions of the National Physical Planning Council

Ministry	Signature	Received/ Not Received	Major Points	NPPD Response
1. Ministry of Transport & Civil Avi-ation	Additional Secretary (Planning)	Received	Developing of the problem statement	
			Lack of experts in the Planning Team	Since the NPPD does not have in-house expertise, such deficiency was expected to overcome with extensive consultations with the relevant expert agencies (Ref. Section 2.11.2) and with the advice of the Technical Ad-visory Committee (Ref. Section 2.11.3)
			Need to develop a new guiding policy to ensure connectivity, ac-cessibility and efficient mobility of population	National Transport Policy shall address the requirement. This plan provides the inputs from Physical Planning point of view. (Ref. Section 5.4.1)
			Page 5-9 The objective should be read as follows	
			"As a complimentary element to the national Transport Policy which was approved by Cabinet of Ministers in 2009 and the same is being updated by the Ministry of Transport and Civil Aviation. The following objectives are proposed by the this plan"	Amended in compliance with the suggested (Ref Section 5.4.1)
			5.4.1.9 First Objective should be as follows followed by other ob-jective	
			5.4.1.9 Proposed Land Use Plan aligned with sustainable transpor-tation.	
			Future land use plan should be strongly supportive to and be aligned with sustainable transportation that is based on 3 main pil-lars viz avoid, shift and improve. Proximity to basic services such as education, health care and social activities etc. could be aligned with human settlement distribution patterns. Proactive policy ap-proaches that support and encourage modal shift from private to public and improve efficiency and reliability be suggested to be in-cluded in the policy.	The NPPD is in the opinion that land use and the trans-portation shall be planned and developed hand in hand, rather than one preceding the other, framing the prob-lems with certainty, examining the root causes of the ap-parent problem situations, finding the most appropriate solutions and analyzing the costs and benefits those so-lutions without compromising one aspect with another and being complementary to each other.
			5.4.1.b & 5.4.1.c These two objectives can be merged. However, it should also be added that even heavy investments identified by transport plans recently prepared should be financed since transport network and efficient mobility of human & physical re-sources is the life blood of an emerging economy. Further, utility optimization of available transport infrastructure should also be strongly encouraged to minimize financial burden on the national economy.	Noted and reworded as appropriate (Ref. Sections 5.4.1)

Ministry	Signature	Received/ Not Received	Major Points	NPPD Response
			Other Railway Proposals	
			Construction of double track between Peradeniya-Kandy 5.9km	Included in the Project list
			Construction of double track between Polgahawela Kurunegala 21.5km	Included in the Project list
			Construction of double track between Katunayake-Kochchikade 12.6km	Included in the Project list
			Construction of double track between Peradeniya-Gampola 12.1km	Included in the Project list
			Construction of double track between Peradeniya-Kadugannawa 9.3km	Included in the Project list
			Strengthening of third line Maradana-Ragama 13.6km	Included in the Project list
			Upgrading/double tracking KV line 61.2km	Included in the Project list
			Improvement of Colombo Port Connection 3km and Re-establishment of Orugodawatte Triangle 1km	Included in the Project list
			Replacement of Old Kelani Bridge	Included in the Project list
			Electrification of Colombo-Panadura-Veyanoga 70km*2	Included in the Project list
			Construction of double track between Kandy-Katugasthota 7km and New Extension Katugasthota-Digana 18km	Included in the Project list
			Construction of Railway Triagle at Maho 1.5km	Included in the Project list
			Construction of Ragama-Veyangoda third line 22 km	Included in the Project list
			Upgrading of track between Maho-Anuradhapura 66.4km	Included in the Project list
			Upgrading of track between Anuradhapura-Omanthai 49.4km	Included in the Project list
			Rehabilitation of Railway Track Gal Oya-Trincomalee 70.2km	Included in the Project list
			Rehabilitation of Railway Track Gal Oya-Batticaloa line 123km	Included in the Project list
			Construction of Maradana-Ragama fourth line 13.6km	Included in the Project list
			Rehabilitation of dilapidated pier in Thalaimannar for operation of passenger ferry service	Included in the Project list
			Construction of New Railway Lines	
			Construction of Matara-Beliatta-Kataragama new railway line 110km	Included in the Project list
			Construction of new suburban line Colombo-Avissawella via Sapu-gaskanda 34.4km	Included in the Project list

Ministry	Signature	Received/ Not Received	Major Points	NPPD Response
			Construction of new railway line Kurunegala-Habarana 79km	Included in the Project list
			Construction of new railway line Maho-Palavi	Included in the Project list
			Construction of new suburban railway line Dematagoda-Battaramulla 10km	Included in the Project list
			Construction of new suburban railway line Colombo-Horana 18km connecting via Piliyandala	Included in the Project list
			Connection of Ratnapura to railway network 50km	Included in the Project list
			Construction of new railway line Batticaloa-Pottuvil 101km	Included in the Project list
			Roads	
			Kurunegala-Kandy expressway need to be built before 2030	Having observed the travel demand, sensitivity of the area, the expected return on the huge investment, and the other less costly alternatives available, the NPPD does not view an immediate requirement of these pro-jects.
			Dambulla-Anuradhapura expressway should be built before 2030	
			General	
			There should be specifically mentioned provisions in the policy to consider psychology of built environment	Noted and reworded as appropriate (Ref. Sections 5.4.1)
			A subway system need to be built in Colombo and its adjacent area to address the future transport issues in terms of Colombo Port City etc	This requirement shall be considered at the Metro Urban Region and Local Urban Development Plans prepared by the UDA.
			Need to include provisions for non motorized transport modes as strategy for sustainable urban transport system development	Noted and reworded as appropriate (Ref. Sections 5.3.2)
2. Ministry of Irrigation and Water Resources Management	Additional Secretary (Irrigation Develop-ment)	Received	The Ministry suggests to include following projects also under the Appendix 2.3	
			Projects under the Irrigation Department Head 282	
			1. Menik Ganga - Beneficiary extent 5000 ha, beneficiary families 8000, Capacity 64 MCM, Irrigable Area 10000 ha	Included in the Project List
			2. Morana Reservoir - Beneficiary extent 1700 ha, beneficiary families 1000, Capacity 16.53 MCM, Irrigable Area 1012 ha	Included in the Project List
			3. Kalugal Oya - Beneficiary extent 1500 ha, beneficiary families 1400, Capacity 10 MCM, Irrigable Area 1130 ha	Included in the Project List

Ministry	Signature	Received/ Not Received	Major Points	NPPD Response
			4. Kumbukkan Oya - Beneficiary extent 5263 ha, beneficiary fami-lies 6000, Power Generation 16 Gwh, Capacity 55 MCM, Irrigable Area 5261 ha	Included in the Project List
			5. Mundeni Aru Development - Galodei Reservoir - Power Genera-tion 0.25 MW, Capacity 75 MCM, Irrigable Area 2337 ha, Water Supply 2 MCM	Included in the Project List
			6. Mundeni Aru Development - Rugam Kithul Reservoir - Benifi-ciary exten 2106 ha, Capacity 90 MCM, Irrigable Area 6070 ha, Water Supply 12 MCM	Included in the Project List
			7. Mundeni Aru Development - Maha Oya - Power Generation 0.5 MW, Capacity 80 MCM, Irrigable Area 1052 ha, Water Supply 2 MCM	Included in the Project List
			Projects under the Ministry Head 198	
			1. Thalpitigala Reservoir (Uva) - Power Generation 51.3 Gwh, Ca-pacity 15.83 MCM, Irrigable Area 668 ha, Water Supply 20 MCM	Included in the Project List
			2. Lower Malwathu Oya Multi sector Development Project (East-ern) - Beneficiary extent 668 ha, beneficiary families 16633, Power Generation 4.28 Gwh, Capacity 209 MCM, Irrigable Area 13215 ha, Water Supply 2 MCM	Included in the Project List
			3. Mahaweli Left Bank Lower Basin Development Project (East-ern)- Beneficiary families 73200, Irrigable Area 7872 ha, Water Supply 4 MCM	Included in the Project List
			4. Heda Oya (Uva) - Beneficiary families 25200, Capacity 141.85 MCM, Irrigable Area 5308 ha	Included in the Project List
3. Northern Provincial Council	Chief Secretary	Received	No Specific Comments, Thanks to Department, Given Consent	Noted
4. Eastern Provincial Council	Chief Secretary	Received	Hon. Governor agreed with Plan	Noted
5. Ministry of Rural Economy	Secretary	Received	1. Not given much attention to the Northern and North Central Provinces	Noted
			2. Proposed Expressway to Jaffana - Kilinochchi not linked to Anu-radhapura/Dambulla/Puttalam/	Noted, but the proposal has to be evaluated on the need, the costs and the benefits of the investment.
			3. Not considered Anuradhapura for Industrial Development	Based on the potential for agro based developments, Agro based processing industries and, capitalizing the human resource and the higher education facilities avail-able in the region, Knowledge based industries are pro-moted in Anuradhapura. (Ref.Section 5.7)

Appendices

Ministry	Signature	Received/ Not Received	Major Points	NPPD Response
			4. Not given much attention to the Kandy area (not included a Ex-pressway)	Having observed the travel demand, sensitivity of the area, the expected return on the huge investment, and the other less costly alternatives available, the NPPD does not view an immediate requirement of these pro-jects.
6. Ministry of Internal Affairs, Wayamba Development & Cultural Affairs	Hon. Minister	Received	The Hon. Minister suggests to include Following into Appendix 2.3	
			Sector - Culture & Heritage	
			1. Develop a proposal into the World Heritage List - Develop a pro-posal for the inscription of a cluster of ancient Buddhist Temple, Hindu Kovils, Ports and Forts in Northern and Eastern Provinces into the World Heritage List	Noted
			2. SAARC Cultural Centre - The prime objective establishing SAARC Cultural Centre is to preserve the regional cultural heritage and build the cooperation among different traditions and advanced cultural diversities	Noted
7. Ministry of Hill Country New Vil-lages, Infrastructure and Communi-ty Development	Secretary	Received	The Secretary has highlighted previous comments of the Minister not considered for this plan.	
			Hon. Minister's comments and Suggestions (His Own words) - My concern centres around the references made in the docu-ment on central hilly zone which has been classified as one of the fragile areas. Also the document says that these fragile areas are increasingly disturbed by various human activities. Examples have been sited such as government housing programme in highlands of Central, Uva and Sabaragamuwa provinces, whose lands are highly vulnerable to landslides and in need of conservation due to water resources. This statement has direct implications with the mandate given to my Ministry. That is ie. Creation of New Villages in the Hill Country. This means the replacing existing line rooms with single houses, which will be the centre of New Villages.	The NPPD observes that the increasing risk of land-slides and other disasters, and the likely threats to wa-tersheds of the main rivers of the island, do not warrant the promotion of future human settlement developments in the area earmarked as 'Central Fragile Zone' of the island. However, given the necessity, the communities settled in line rooms and under-served settlements shall be served with improved housing and the related facilities, but with adequate sensitivity towards the environmental degrada-tion, nationally important conservation needs, and the consultation of the relevant authorities. The National Physical Plan envisages the shifting of populations over two generations until 2050.
			There are around over 200,000 houses are to be built in the planta-tion to replace the existing line rooms in which plantation workers have been living for pastt 200 years. To overcome these difficul-ties, it has suggested in the document when the locations are to be identified, existing settlement locations those have possibilities to-wards the intensification of the development along with the aug-mentation of space, facilities and amenities is considered ad an appropriate strategy.	

Ministry	Signature	Received/ Not Received	Major Points	NPPD Response
			In line with this strategy my ministry contemplates to replace the existing line rooms with new houses. However, this may not be sufficient as the requirement is large. Relocation is inevitable where land may be required. In finalizing the policy document these con-cerns may be taken into account.	
8. Sabaragamuwa Provincial Coun-cil	Hon. Governor and Chief Secretary	Received	1. Has highlighted and appreciated positive suggestions of the plan	
			2. Highlighted the necessity of having protective measures/policies for bio diversity areas, unique and attractive landscapes in terms of tourism	
			3. Ratnapura as a one of main nine cities - need to reconsider this with proper alternatives in terms frequent flood situation	
			4. Suggested Sub-National Committee for Implementation of the NPPP. It will help to implement some projects using provincial funds	
9. Ministry of Disaster Management	Secretary	Received	1. Unplanned urbanization, migration, dense population, unauthor-ized construction and settlements had increased the severity of the impact of disasters. Therefore, damage and loss due to natural hazard was heavily impacted to the national economy and the sus-tainability of services. Therefore, it is very important to integrate DRR and DRM for NPP and also needed to consider (a) waste management and sewage plants (b) power and energy systems (c) Green construction (d) regularizing codes and emergency op-eration for fire, lighting etc	Noted and included.
			2. Integrating global framework like Sendai Framework for DRM, SDG and Universal Agreement on Climate Change	Noted and included.
			3. Conservation of fragile areas, hill country steep slopes, sensitive areas and coastal areas should be restricted for any modification of lands, agriculture, construction without proper investigation and approval - that will included, 1. landslide and subsidence in hill are-as, 2. severe impact due to tsunami, storm surge and cyclone in coastal areas	Noted and included.
			4. Protection of archaeological sites and environment	Noted and included.
			5. Promotion of livability of human environment, infrastructure, ser-vices, safety (natural and man-made disasters) and administration (governance)	Noted and included.
			6. Long term monitoring and investigation before implementing and major construction projects (Uma oya multipurpose project) - ground water, geology, morphology, settlements, DIA, EIA and others	Noted and included.

Ministry	Signature	Received/ Not Received	Major Points	NPPD Response
			7. Settlement Distribution - (a) It is advisable to consider the haz-ard profile of Sri Lanka, tsunami, landslide, drought cyclone and major flood at least for 100 years return period (b) Building codes for disaster resilient housing, (c) Regulations for waste disposal and mechanism for managing waste (d) water management (drink-ing and agriculture), (e) Exercising areas and relaxing sites, (f) it is suggested to address disaster and resettlement related issues with more emphasis in the proposed policy, (g) the proposed policy should encourage mainstreaming DRR into future plans and devel-opment projects, (h) It is suggested to include if possible for the proposed policy to define the country's planning system indicating the levels of planning and role of planning authorities at each level, (i) It is suggested to re-check the number of local authorities men-tioned as certain revisions were done recently, (j) the proposed policy should encourage attracting investors and people towards proposed core urban corridors, (k) the proposed policy should can empower local government authorities and institutions to prepare actions plans within their mandate within a stipulated time period and discuss that with the NPPD for considering inclusion of their important activities in the NPP , (l) the proposed policy can de-scribe a course of action to be taken against activities that area in contradiction to NPP, (m) In section 3.3.1 on Transportation where traffic congestion is addressed, the proposed policy can encour-age sitting of future developments with commercial and industrial activities or settlements and apartments within a reasonable dis-tance away from main roads and never immediately adjoining the main roads to avoid traffic congestion and air pollution (n) It is sug-gested to re-phrase the sentence in page 9 under section 1.4 to read as "In addition to overcoming the above limitations, the newly identified constrains and emerging challenges such as the in-crease in the landslide prone areas and consequent need for re-settling vulnerable communities, the need for reforestation, etc. as well as emerging potential such as wing power and petroleum de-posits etc. need to be incorporated into the NPPP	Noted and included.
10. Ministry of National Policies and Economic Affairs	Additional Secretary (Planning)	Received	3.2 Resettlement Distribution - (a) settlements should be basically setup based on transport facilities to enhance the accessibility and the mobility facilities, (b) to achieve a synergized urbanization led economic growth, the population growth in the western region should reach up to about 8.7 million by 2030 as envisaged by the MRMP	Noted and included.

Ministry	Signature	Received/ Not Received	Major Points	NPPD Response
			3.4 Sector Specific Strategies - (a) along with the settlements dis-tribution, water supply and sewerage system for those areas need be implemented systematically. Therefore, it is proposed to include water supply and sewerage sector as an element under the 3.4 sector specific strategies, (b) DM and DRR is a compulsory factor to be integrated into existing and future physical plans. Therefore, it is proposed to give a priority to DM under sector specific strate-gies	Noted and included.
11. Ministry of Higher Education and Highways	Planning Division (Highway Sector)	Received	5.4.2.b Road Infrastructure	
			Paragraph 1 - Although, it has mentioned that timely maintenance of roads has throughout been a costly affair to the economy, we should not forget that transport by roads is the main mode of transport in Sri Lanka, which 95% of the passengers and 98% of the freight. It has the advantage over other means of transport be-cause of its easy accessibility, flexibility of operation door to door service and reliability.	Noted and reworded accordingly. (Ref. Section 5.4.2)
			Paragraph 3 - Urban Development Scenario is only a one aspect of considering for a new expressway development project among others such as Industrial development, Tourism development, Ag-ricultural development and Economic Corridor development etc. Therefore, we can't agree with statement that current available ex-pressways and ongoing expressway projects are adequate until 2030, and we propose to mention it as "The need for further exten-sions to the expressway shall be considered based on the traffic demand and economic development opportunities in the country"	The NPPD observed that the development of express-ways is only one option, among many other alternatives available, to improve connectivity among locations and fast mobility. Considering the reasonably higher costs of investments, the current debt situation of the nation and the expected returns on such investments the express-ways are not viewed as the most appropriate option at present. Therefore, additions to the existing expressway network shall be considered only under favorable eco-nomic conditions.
			Paragraph 4 - Some of the identified roads are currently in good condition (Trincomalee – Puttalam (A 12)), Medawachchiya- Man-nar and not necessary for urgent improvements. Anyway the main issue in the road transport is not inter –regional connectivity and speedy access to main cities in the areas mentioned in the chap-ter. The main problem is unable to cater the traffic demand with current road network especially in urban areas. Therefore, we suggest to mention as, Widening and Improvement of current road network and remove the bottlenecks in urban areas in order to avoid heavy traffic in Colombo and Suburbs.	Noted and amended as suggested as appropriate (Ref. Section 5.4.2)
12. North Western Provincial Coun-cil	Chief Secretary	Received	1. Proposed urban development and infrastructure development should take place without disturbing to natural resources located under the ground, It also need to conserve these resources. and should conserve	Agreed and no contradictory opinion.

Appendices

Ministry	Signature	Received/ Not Received	Major Points	NPPD Response
			2. This plan proposed to conserve water resources, coastal belt, environmentally sensitive fragile areas etc. But it is needed to con-serve all natural resources deposited under the ground for the benefit of future generation. Eg. Eppawala (postphate), Kahatagaha and Bogala (Mica), Ratnapura, Kahawatta (Gems), Puttalam Aru-wakkadu (Limestone), Chilaw (Clay - posilane), Marawila (Silica)	Agreed and included (Ref. Section 5.10)
			3. Need to rehabilitate and conserve all archeological sites and other heritage site for the benefit of the people	Noted.
			4. Need to introduce mechanism for solid waste management	Agreed and included (Ref. Section 5.5.2.c)
			5. Conservation of reservoirs and proper utilization for benefit of the future generations highlighted.	Noted and included (Ref. Action 5.5.2.a)
			6. Widening of roads and increasing of railway transport lead to minimize the congestion and road accidents. In addition, identifica-tion of condition of the vehicles, removal of bad conditioned vehi-cles from the roads, vehicles which are decaying within the prem-ises of different agencies needs to utilize sustainable manner	Noted and included as appropriate (Ref. Action 5.3.2.a)
			7. Some cities already are polluted. Needs to control air pollution. Very important to utilize renewable energies for industrial develop-ments	Noted and included as appropriate (Ref. Action 5.3.2.a)
			8. Buildings construct in the proposed urban and industrial areas should be green, proper standards, use of renewable energies	Noted and included as appropriate (Ref. Action 5.3.2.a)
			9. This plan not included the way of measuring progress of the plan. Therefore, introducing of KPI to measure of the progress of the implementation is highlighted	Noted and shall be considered with the opinion of an ex-pert committee.
			10. District level planning also important, minimize the land subdivi-sion, construction of high density multi story buildings, Introducing subway system in road junctions to minimize traffic congestion, construction of flyovers, introducing subways and railway transport to minimize traffic congestion, Solid waste management and environment conservation should be part of the NPP, introduc-ing necessary regulations to protect ground waters, minimize the construction of concrete drains which are disturbing to recharge the ground water	Noted and included where appropriate.

Ministry	Signature	Received/ Not Received	Major Points	NPPD Response
13. North Central Provincial Council	Deputy Chief Secretary (Planning)	Received (visited the NPPD and given comments verbally)	1. Anuradhapura should be a major tourism destination	Noted.
			2. To propose a International Airport at the Anuradhapura	Noted, but such investment has to follow a through such on the feasibility of the same.
			3. Linking of Anuradhapura with the proposed Expressway (without waiting 2030)	Noted, but such investment has to follow a through such on the feasibility of the same.
			4. To include Northern Water Project (Moragahakanda - Iranama-du)	Included.
			5. Development of Pahala Malwathu Oya Project	Included.
14. Ministry of Ports and and Ship-ping	Additional Secretary (Planning)	Received	No Objection with proposed plan	Noted
15. Ministry of Housing & Construc-tion	Additional Secretary (Technical)	Received	1. One of the objectives of the Construction Industry Development Authority (CIDA) as in the Act is to create sustainable growth in the construction industry and to promote design and development of energy efficient buildings and structures and it corporate with No 5.5.2.b of Draft NPP	Noted
			2. One of the functions of the CIDA is to promote new technology related to environmentally friendly and cost effective affordable in-novation in the construction industry and it cooperates with No 5.3.1.d of draft NPP	Noted
			3. CIDA Act No 33 of 2014 interprets the identified construction work as any construction work for the public use exceeding in the vale Rs. 10 million or higher. This provision helps to standardize the construction work made for the public which cooperates with the item No 5.3.2.d of draft NPP	Noted
			4. CIDA provides guidelines for construction contractors registered with them. Such guidelines promote the green practices among contractors. CIDA has entered into a MOU with Green Building Council of Sri Lanka for the purpose of promoting green concept in the construction industry, which cooperates with the item No. 5.3.2.i of draft NPP	Noted
			5. The guideline for construction contractors, promotes a proper construction and demolition waste management among contrac-tors. CIDA has prepared the guide for environmentally responsible selection, sourcing use and disposal of construction material in Sri Lanka and is in the process of preparing a C & D waste manage-ment guidelines cooperate with the item No 5.5.2.c of draft NPP	Noted

Appendices

Ministry	Signature	Received/ Not Received	Major Points	NPPD Response
			6. CIDA further suggests to and another policy in section 5.3.2.i mentioned below, - 6. Application of best practices of a circular economy to minimize resource usage	Noted
16. Ministry Mahaweli Development and Environment	Director (Policy Planning and Moni-toring	Received	1. Preserved Watersheds, forest cover, Coastal ecosystems includ-ing mangroves, other natural resources,	Noted and included as and where appropriate
			2. Implementation of climate resilience strategies in line with global conventions	
			3. Implementation of environmental safeguards in all activities to minimize pollution	
			4. Transforming conventional villages into sustainable, climate change resilience, green smart villages.	
			5. Promotion of best practices of Sustainable Consumption and Production (SCP)	
			6. Promotion of cleaner production concepts for resource efficien-cy and minimize pollution	
			7. Increased International Trade through promotion of green finan-cial instruments	
			8. Increased resource efficiency, and eco friendly practices to min-imize pollution	
			9. It is suggested to incorporate the valuable elements of natural environment in to the plan and relevant Act be appropriately amended	
			10. With a view to incorporating the necessary environmental con-cerns, it is proposed to include environmental professionals from the Ministry in charge of the subject of environment also should be included in the working team.	
			11. Implement vertical structural development to save space and accommodate common green areas / common service places within cities.	
			12.Resource efficient space and energy saving green pollution free cities, incorporating urban ecology	
			13. Efficient use of resources and adaptation of green technology to minimize pollution	

Ministry	Signature	Received/ Not Received	Major Points	NPPD Response
			14. Transformation of the national economy from conventional industries to environmental friendly high-tech pollution free	
			15. Considering the importance of the environmental value and sensitivity of the country it is mandatory to adhere to the existing rules and regulations for the development activities even within the development corridors. To enhance the sustainability of all environmental aspects, it is expected to strengthen the canopy cover of the area while increasing the food availability by introducing the urban greening, agro forest-ry and commercial forestry in the area where ever possible with the physical infra-structure development. This is already be includ-ed in the planning process of the urban development –land use pol-icy plan. –sustainable cities.	
			16. These main cities will be developed as climate smart cities in the country.	
			17. Sri Lanka is a party to the Paris Agreement on reduction of greenhouse gas emission levels and building resilience in most vulnerable sectors, communities and areas to the adverse effects of climate change	
			18. the inter-connected Nine Main Cities on priority basis	
			19. Alternatively, Centralized Traffic Management System will be introduced to minimize traffic congestion.	
			20. Further, Bus Rapid Transport (BRT), Park and Ride system, Light Rail Transport (LRT) will be promoted and the transport net-working hubs linking all public transport mode will be established The proposed improvements in the transport sector should be in consistent with the clean air action plan and the fuel quality road map that have been accepted as major policy documents directly applicable to the transport sector	
			21. The existing railway network will be electrified and electrified new railway lines will be established	
			22. and also with adequate green growth and canopy cover by providing shades, colours and beauty while enhancing the water infiltration there by reducing the urban flooding, availability of food for animal and people etc	

Appendices

Ministry	Signature	Received/ Not Received	Major Points	NPPD Response
			23. Peri-urban forests and woodlands (Forests and woodlands surrounding towns and cities which provides goods and services such as wood, fiber, fruit, other non-wood forest products, clean water, recreation and tourism	
			24. City parks and urban forests (.0.5ha) Large urban parks ,partly with facilities for leisure and as a major contributor for the urban air pollution	
			25. both passenger and freight shall be the first in the priority order with the gradual conversion to electrification	
			26. All these roads should be in line with a green belt to increase the visual appearance and noise absorption, ambient cooling etc. A component for the environment protection including tree planting should be included in all projects of road development.	
			27. Introduction of incinerators	
			28. National Adaptation Plan for Climate Change Impacts in Sri Lanka 2016-2025Readiness Plan for Implementation of Intended Nationally Determined Contribution2017-2019Prepared by the Cli-mate Change Secretariat of Ministry of Mahaweli Development and Environment	
			29. Environment conservation must be a key factor to be consid-ered in developing the plan. Hence, the observations and inputs in relation to the environment factors to be taken by the Ministry under the subject of environ-ment	
17. Ministry Sports, Provincial Councils and Local Government	Secretary	Received	1. There are 341 Local Authorities (MCs 24, UCs 41 and PSs 276)	Noted
			2. The Ministry adopted couple of criteria for constitution of new Local Authorities and upgrading of existing Local Authorities such as; (a) population and population density, (b) no. of houses and density, (c) provision of services and improvement of infrastruc-ture, (d) spread of commercial and industrial institutions, (e) Em-ployment, (f) self-generation income within the limits of proposed institution	Noted
			3. Need to provide relevant expertise, technology and institutional setup of Planning and Implementation Division of the Local Authori-ties	
18. Uva Provincial Council	Deputy Chief Secre-tary (Planning)	Received	1. Providing facilities for further expansion of Agriculture Zones in Uva Province	

Ministry	Signature	Received/ Not Received	Major Points	NPPD Response
			2. Extension of rural schools with a limited community to minimize the competition in urban areas	
			3. Wildlife and forest conservation areas (Yala, Galoya, Udawala-wa) can be utilized for recreation purpose (eco tourism)	
			4. In Uva province availability of surface water is a limiting factor for any settlement and urban development. Upper water shed are-as of the local rivers have been cleared for cultivation tea and veg-etables. Urgent attention is required for conservation of water shed areas in order to assure supply of quality and sufficient water for agriculture as well as human consumption	Noted
			5. Major part of the tea plantations in Badulla district falls within the Central Fragile Zone and these tea lands have become very un-sustainable due to neglect of scientific crop management by the present companies who run the ventures only for short term profit. This led to a situation of high risk of sustaining the livelihood of plantation workers in the future. Alternative sustainable uses of these marginal tea lands are imperative and a meaningful interven-tion is required to safeguard the vulnerable groups of plantation works	Noted
19. Ministry of City Planning & Wa-ter Supply	Director (Develop-ment)	Received	No comments. Agree with the Plan	Noted
1. Ministry of Tourism Development and Christian Religious Affairs		Not Re-ceived		
2. Ministry of Finance and Mass Media		Not Re-ceived		
3. Ministry of Home Affairs		Not Re-ceived		
4. Ministry of Industry and Com-merce		Not Re-ceived		
5. Ministry of Fisheries and Aquatic Resources Development		Not Re-ceived		
6. Ministry of Plantation Industries		Not Re-ceived		

Appendices

Ministry	Signature	Received/ Not Received	Major Points	NPPD Response
7. Ministry of Agriculture		Not Re-ceived		
8. Ministry of Petroleum Resources Development		Not Re-ceived		
9. Ministry of Primary Industries		Not Re-ceived		
10. Ministry of Regional Development		Not Re-ceived		
11. Central Provincial Council		Not Re-ceived		
12. Southern Provincial Council		Not Re-ceived		
13. Western Provincial Council		Not Re-ceived		
14. Ministry of Sustainable Develop-ment and Wildlife		Not Re-ceived		
15. Ministry of Lands and Parliamen-tary Reforms		Not Re-ceived		

Appendix 2.11.6 : Focus groups and the members of the focus groups

1. **Focus Group: Disaster Management and Climate Change: Stakeholder Agencies & Team Members**

   - Ministry of Disaster Management (MoDM) - Mr. U.W.L. Chandradasa
   - Disaster Management Centre (DMC) - Mr. C. Liyanaarachchige (Assistant Director)
   - Department of Meteorology - Mr. A.G.M.M. Wimalasuriya
   - National Building Research Organization (NBRO) - Mr. Winson Gnanatheepan
   - Climate Change Secretariat (CCS) - Ms. H.N.K.T.Dulani (Assistant Director)
   - Institute of Policy Studies (IPS) - Dr. A. Senarathna
   - UN Habitat - Plnr.Indu Weerasoori
   - UNDP – Absent

2. **Focus group: Research & Development, Technological Innovations: Stakeholder Agencies & Team Members**

   - Arthur C Clark Institute for Modern Technology; Mr. Preethi Liyanage, Dy. Director-Library Services,
   - National Science Foundation (NSF); Prof. Sirimali Fernando, Chair Person,
   - National Center for Non-destructive Testing (NCNDT); Sri Lanka Atomic Energy Board,
   - Mr. T. M. R. T. Tennakoon ,Director/ and Mr. Anura Jayathilake; Deputy Director(NCNDT)/ Senior Scientific Officer-(NCNDT),
   - Hector Kobbekaduwa Agrarian Research and Training Institute; Dr. M. S. Senanayake, Head of the Statistical and Data Processing Division.
   - Sri Lanka Institute of Nano Technology; Mr. Anil Fernando, Head of Finance , Procurement and IT and Mr. Sunanda Gunasekara Head of Technical, SLINTEC (Pvt) Limited,
   - National Research Council of Sri Lanka ;Nanduni Hansana Wanniarachi , Scientific Officer,
   - Ministry of Social Empowerment and Welfare; S.Balasubramanyam, Additional Secretary and Mrs. M. C. K. D. Liyanage, (Director)
   - Rural Development Training and Research Institute; Mrs. Chithra Jayasinghe, Training and Research Officer
   - Sri Lanka Council for Agricultural Research Policy (CARP),Sri Lanka Council for Agricultural Research Policy (CARP);Mr. Gerry Jayawardena ,Chairman,
   - National Academy of Sciences Sri Lanka; Dr. Azeez M Mubarak, President,
   - Coordinating Secretariat for Science, Technology and Innovation (COSTI); Prof. Ajith de Alwis, Project Director
   - Prof. K.P.S. Chandana Jayaratne, Prof. Sagarika Ekanayake-GRC, Chairperson, Dr. BanduniAtapaththu-General Manager/Board of Trustees (BOT)- Secretary and Prof. Chandrani Wijeyaratne-Treasurer Council 2017 of Sri Lanka Association for the Advancement of Science (SLAAS)

3. **Focus Group: Economic/Investment Promotion/Industry and Commerce: Stakeholder Agencies & Team Members**

   - Industrial Technology Institute; Dr. S. P. peremakumara, Director General,
   - Asian Development Bank, Mr. Tadateru Hayashi, Senior Country Economist,
   - Departed of Trade and Industrial Policy; Mrs. D.T.Sutharshana,
   - TDASL; Mr. P.U.Ratnayake,
   - Department of Commerce; Mr. B. Wijesekara, Director,
   - Registrar of Companies; Mr. Saman Mellawatantri, Admin Officer,
   - Industrial Development Board; Ms. Prinyanke Ratnamalala,
   - National Enterprise Development Authority; Mr. Lakshman Wijeyawardena,
   - SL Export Development Board; Mr. DammikaJ eyawardena, Mr. Sanjeewa Ratnaskera,
   - Department of National Planning; Mr. M. F. A. Mubarak,
   - CBSL; Mrs. S. P. Y. W. Senadheera, Economist,
   - IPS; Dr. (Ms.) Bilesha Weeraratne,
   - Southern Development Board; Mr. S. Ramanayake,
   - Department of National Budget; Mr. A. G. Nishantha, Director,
   - Department of Public Enterprise· Absent
   - Department of Fiscal Policy· Absent
   - Department of Development Finance· Absent

4. **Focus Group: Forests, Wildlife, Coastal Mgt., Environmental Protection, Oceanic Resources, Fisheries and Mining: Stakeholder Agencies& Team Members**

   - Coast Conservation Department ; Ms. Lilani Ruhunuge, Head of M&E Division ,
   - Department of Forest Conservation; Mr. E.A.P.N. Edirisinghe,
   - Centre for Environmental Justice; Mr. Hemantha Vithanage, Head,
   - Central Environmental Authority; Ms. Nilmini Aththanayake, Deputy Director,
   - Marine Environment Protection Authority; Mr. A.J.N.Gunasekara; Manager (Operation) & Mr. Chamila Rajapaksha; Manager (Planning)
   - Department of Wildlife Conservation; Mr. U.K.L Peris, Deputy Director,
   - Department of Wildlife Conservation; Mr. I.H. Sisira Kumara De Silva, Assistant Director,
   - Environment Foundation (Guarantee) Ltd;. Dr. Eric Wickramanayake, Chairperson,
   - Mr. Milindu Tissera, Assistant Manager (Project)
   - Department of Fisheries and Aquatic Resources; Mr. Marcus, Director (Management),
   - Geological Survey & Mines Bureau; Mr. Mayooran, Mining Engineer & Ms. Deepani P.R. Weerakoon, Senior Geologist
   - Lanka Mineral Sands Ltd.; Mr. I.G.L. Kumara &Mr. S.L.M Rasheed
   - National Aquaculture Development Authority; Mr. H.M.U.K.P.D. Herath, Director (Fresh Water Aquaculture Development)
   - National Aquatic Resources Research and Development Agency; Dr. Anil Premarathne, Chairman,
   - Petroleum Resources Development Secretariat; Mr. S.R. Samarathunga,

5. **Focus Group: Human Resource Development / Educational Policies in Economic Development: Stakeholder Agencies & Team Members**

   - Sri Lanka Bureau of Foreign Employment; Mr. R.K.K.M.P. Randeniya,
   - Sri Lanka Foreign Employment Agency· Absent, but it comes under SLBFE. And it is being addressed by Mr. R.K.K.M.P. Randeniya, SLBFE·
   - Department of Manpower and Employment ;Mr. H.G.G.J.Dharmasena, DG,

- Department of Social Services ;Mr. M.R.Shantha Kumara,
- National Institute of Social Development ; Ms. Shamini Attanayake, Add.DG,
- Sri Lanka Police; Mr. Mahesh Senerathne, SSP General R&P & Inspector General of Police
- University Grant Commission, Dr. Nishantha Panditharathne,
- Ministry of Education; Mr. L. Thilakasiri, W.T.B. Sarath,
- Department of Examination; Mr. H.J.M.C. Jayasundara,
- Centre of Poverty Analysis· Absent

6. Focus Group: Infrastructure Planning and Development: Stakeholder Agencies & Team Members

- Public Utilities Commission - Mr. Gamini Serathchandra, Director
- Department of Sri Lanka Railways - Mr. S.M.P.C. Jayawardena (Planning Officer),
- R.H.P.M.Lakman (Planning Officer), Urban Development Authority
- Sri Lanka Transport Board – J.T. Dhanushka, Planning & Development Manager
- Department of Motor traffic – Vishaka Elapatha,Director
- National Transport Commission - Ms. S.Niranjalic Perera(DD),Sriyani Pathirana
- (Junior Manager) Civil Aviation Authority - Mr.H.M. Rangana Samaupriya
- Road Development Authority - Mr.H.N.Prasanga, Eng. Namalie Siyabalapitiya.
- Ceylon Electricity Board - Mr.R.R.Jayaratne,Enginner
- Sri Lanka Telecom Ltd – Mr. Vikneraja, Mr. Samith Sen evirathne,RoshanDayarathna,J.P.Hewanayakee
- Sri Lanka Ports Authority - Mr. P.M.S.S.Senadheera, Engineer (Planning)
- National Water Supply & Drainage Board - Mr. M.T.D.Abeywardena, AGM (WC), Ms.T.W.S.Perera, AGM (WC)
- Department of Community Water Supply – didn't partici[ate
- Department of Health Services – Dr.LaumanGamlath
- Water Resources Board - Mr.G.R.R..Karunaratne, DGM(R/D)
- Planning Division/ Ministry of Fisheries and Aquatic Resources – Mr.U.P.J.G.Uggaldeniya (ADP)
- Ceylon Fishery Harbours Corporation - Mr.M.J.Prasanna, Ceylon Fishery Harbor Corporation
- International Water Management Institute (IWMI)- Dr. Lal Muthuwatta,
- Information & Communication Technology Agency Sri Lanka – Absent

7. Focus Group: Urban Development and Human Settlement: Stakeholder Agencies & Team Members

- Urban Development Authority; Eng. Sumeedha Ratnayake, (Director General) & Mr. Chandaradasa (Additional Director General)
- Mahaweli Development Authority; Ms. Nadeeka,
- Sri Lanka Land Reclamation and Development Corporation ; Ms.P.D.Pindeniya, N.S. Kumrasiri,
- Strategic cities Development Programme; Mr.Tharindu ; A,W.P.K. Chandrawansha, Mr. Tharanga Ranasinghe; Ms. Windya Welideniya, Ms. Suboda Wategama,
- Urban Settlement Development Authority; Ms.Thusari P.Desilva, Actg. Dir (Pln & MIS), Assistant Director (R&D), Ms. W.P. Udani Perera, Assistant Director (Land)
- Condominium Management Authority; Mr.C.A.Wejeyaweera (Ch/CMA),
- University of Moratuwa, Dr. R. Ratnayake,
- Department of Survey General; Ms.K.L.B.I. Surangani (Snr. Supdt of Surveys),
- National Housing Development Authority; Archt. Kapila Priyanth (A.G.M),
- Land Use Policy Planning Department; Mr.M. Kirupamoorthy (Deputy Director- Agriculture),
- Sri Lanka Institute of Local Governance, Ms.D.S.S.... (P/O),
- NBRO; Mr. Krishan Sugathapala (Director), Mr. Dayan Munasinghe (scientist), DhanushkaJayathilake (scientist)
- Provincial Directors, District Officers of Urban Development Authority
- Ministry of Megapolis and Western Development· Absent
- Western Region Megapolis Development Project· Absent
- Resettlement Authority· Absent
- Department of Land Commissioner General· Absent

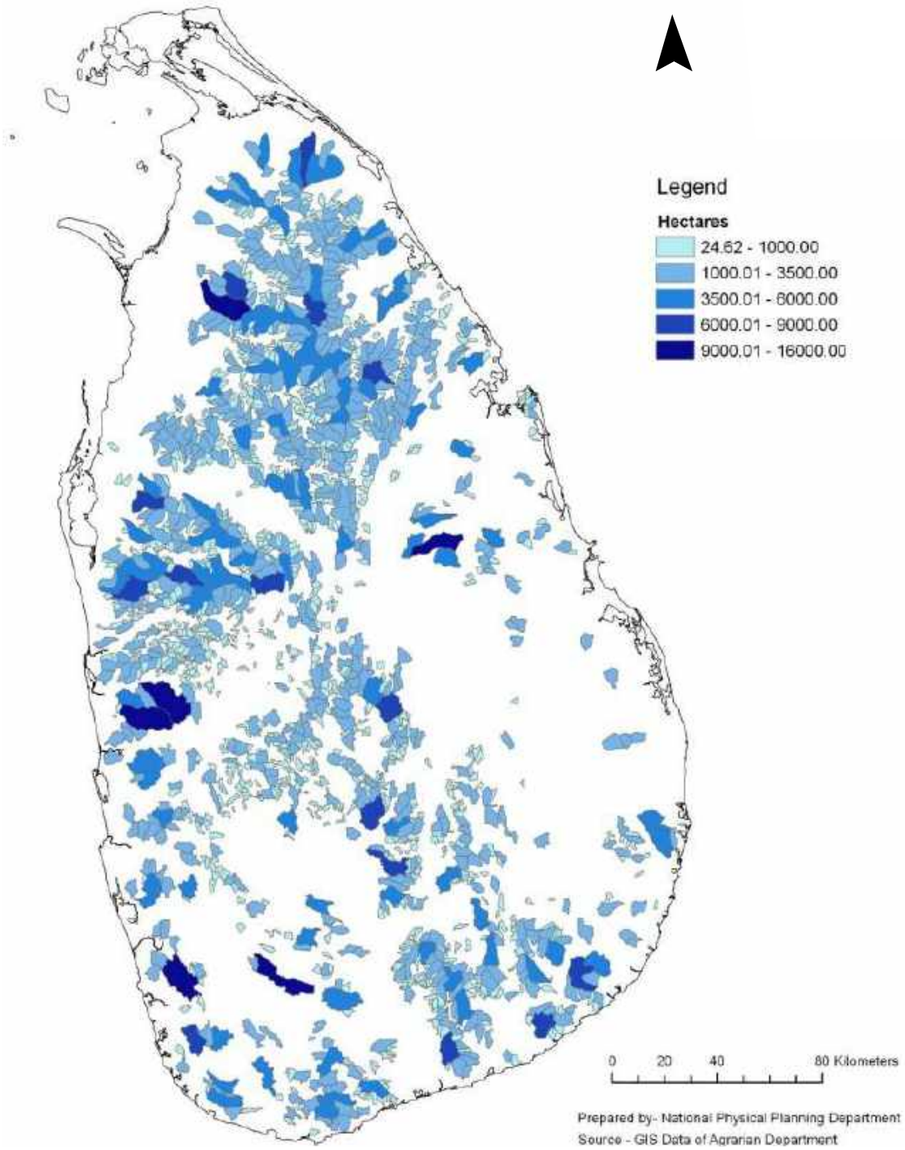
8. Focus Group: Culture and Heritage in Physical Planning: Stakeholder Agencies & Team Members

- Ministry of Internal Affairs, Wayamba Development and Cultural Affairs; Mrs. M.M.G.K. Meegahakotuwa (Director-Planning),
- Department of Cultural Affairs; Mrs.Anusha Gokula Fernando,
- Department of Cultural Affairs; D.S.P Jayasinghe (Assistant Director),
- Central Cultural Fund; Archt.Mrs. Sujeewa Deraniyagala (Assistant Director),
- Department of National Archives ;Ms. B.M.Nisansala Balasuriya (Assistant Director),
- Department of Museum; Mr. E.A.S. Wikramasinghe (Deputy Director),
- UNESCO Sri Lanka; Mrs. Dammika Wijayasinghe,
- ICOMOS Sri Lanka; Archt. Mr. Jayathissa Herath., President,
- University of the Visual & Performing Arts; Ms. Rangana Abeyadasa,

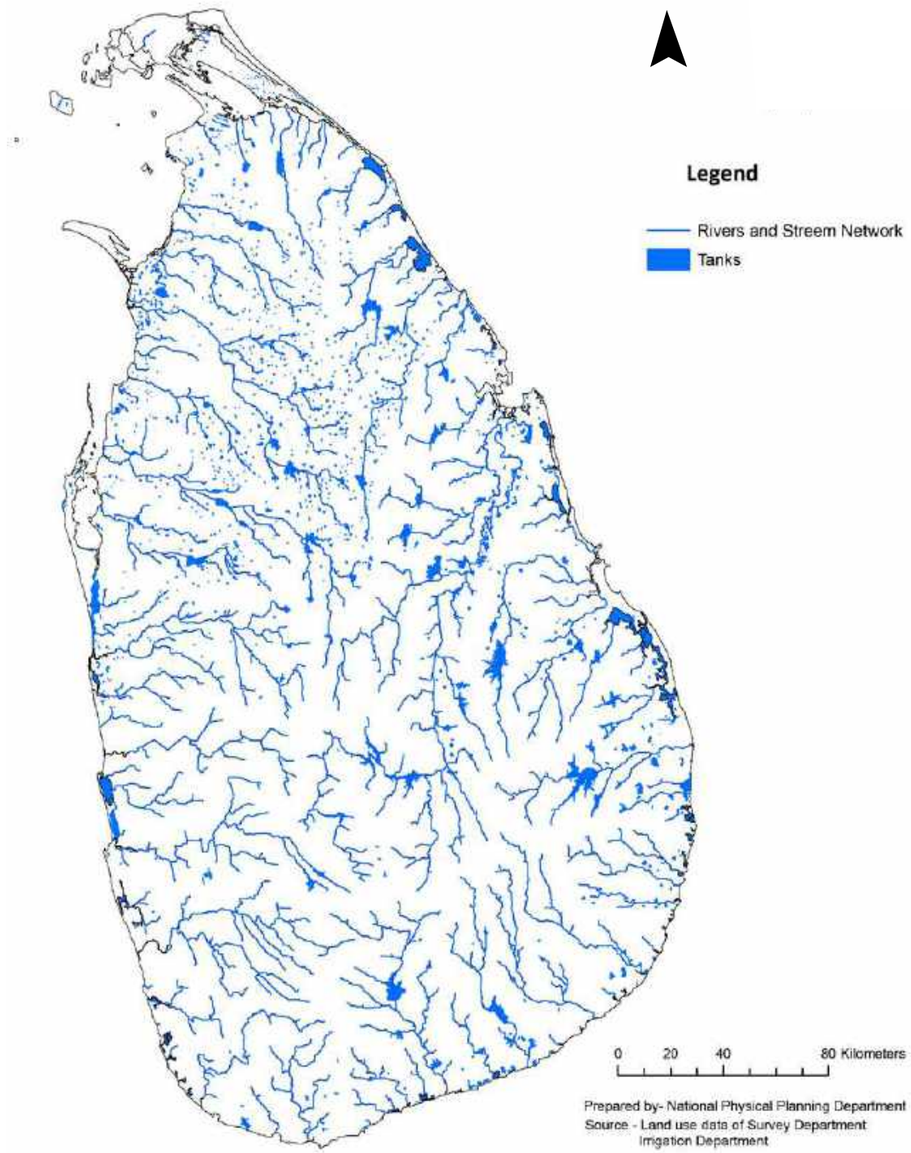
9. Focus Group: Agriculture, Irrigation and Water Resource and Facilitate Livestock Development , Stakeholder Agencies & Team Members

- Department of Rubber Development - MDR Weerasinghe (Assistant Director- Planning)
- Rubber Research Institute- Dr. V.H.L Rodrigo, Additional Director
- Coconut Research Institute- Mr. Jayantha Jayewardene Chairman,
- Sugarcane Research Institute- Dr. A.P.Keerthipala, Director
- Hadabima Authority - V.G.S Kumara, Assistant Director (Planning)
- National Livestock Development Board and Associated Companies- Prof. H.W Cyril, Chairman
- Tea Small Holdings Development Authority
- Department of Agriculture
- Department of Animal Production and Health

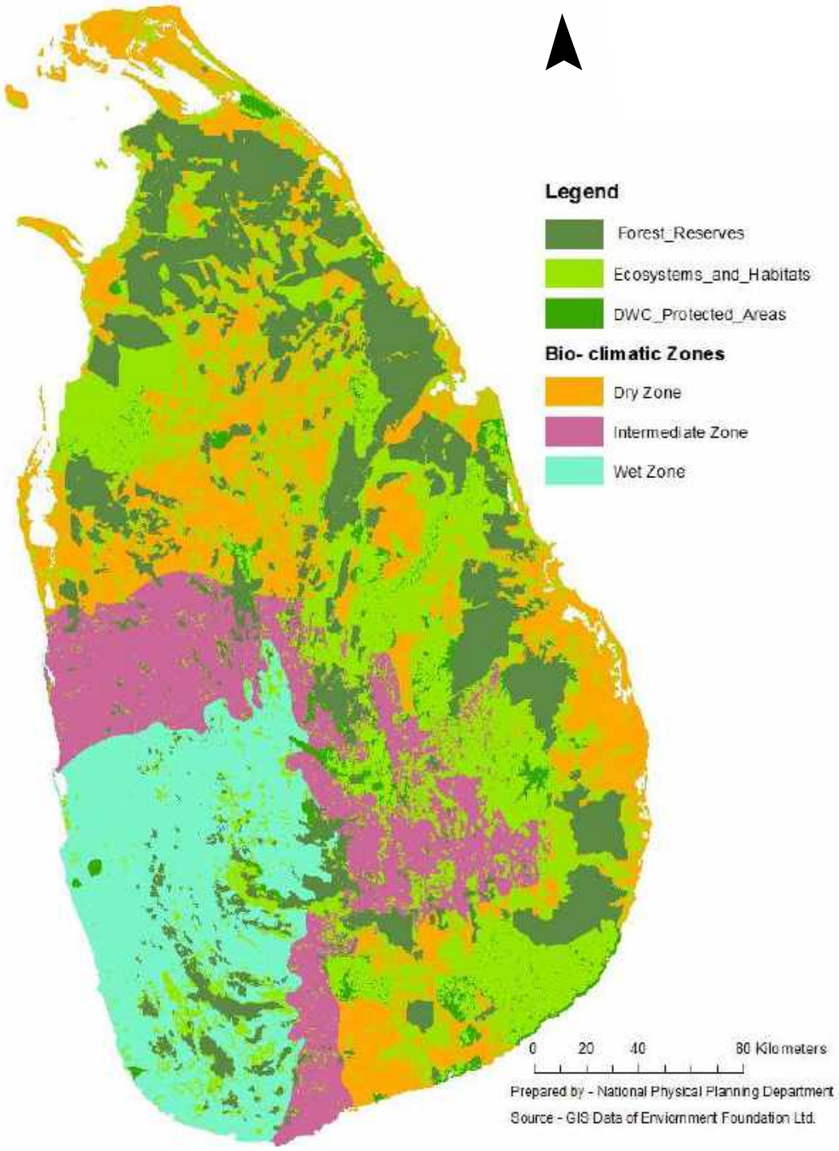
Appendix 4.3.1.a_1 : Water resources – Areas under Cascades



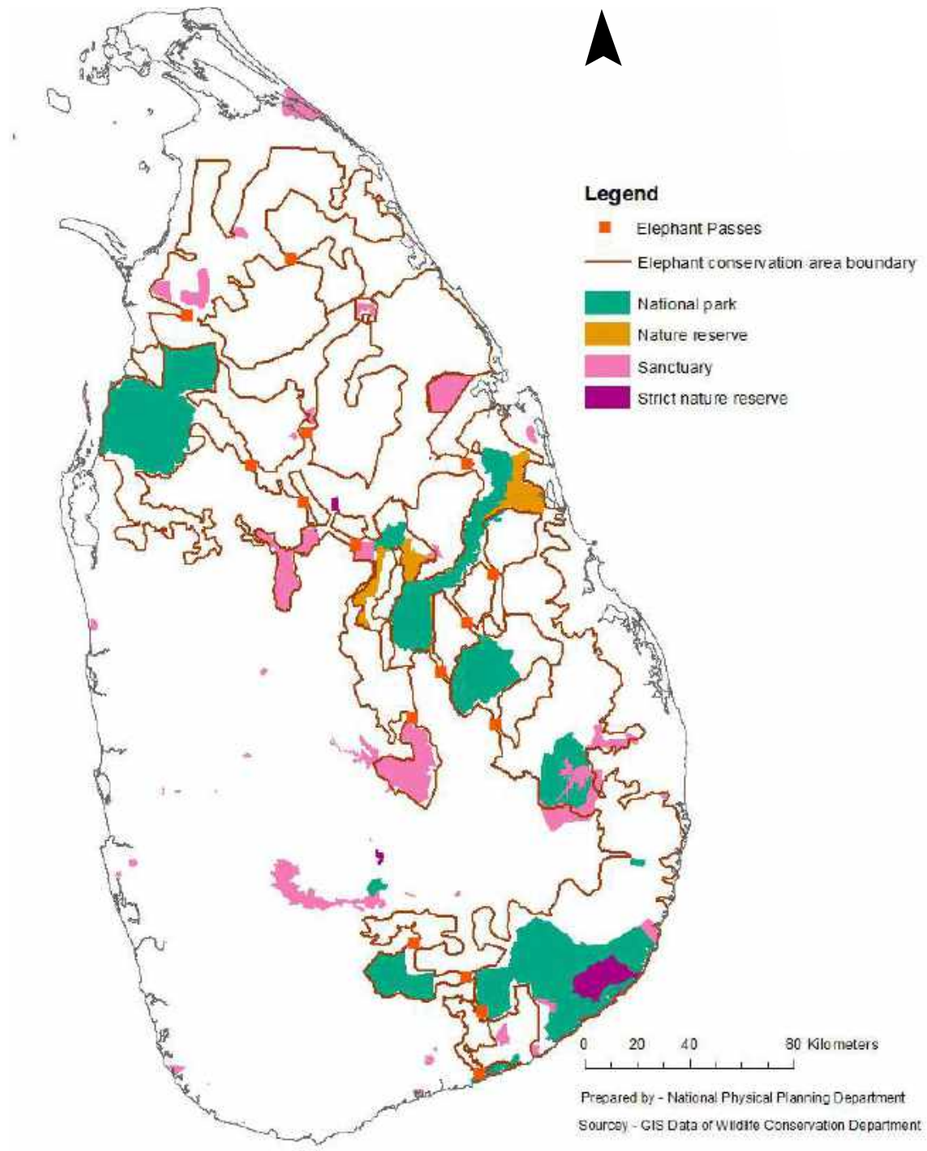
Appendix 4.3.1.a_2 : Major Rivers, Tanks (Weva), Reservoirs and Lagoons



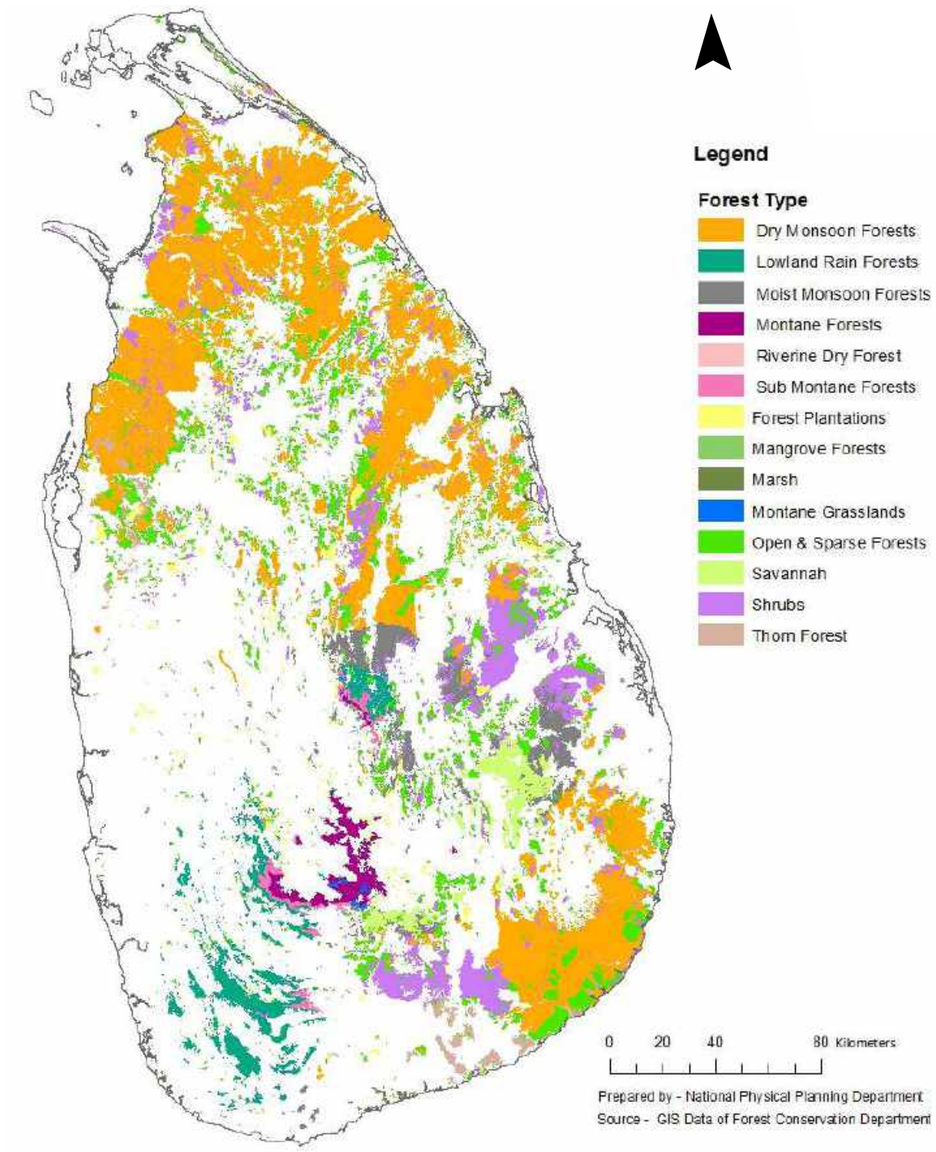
Appendix 4.3.1.b : Wildlife and Bio-Diversity by Zones



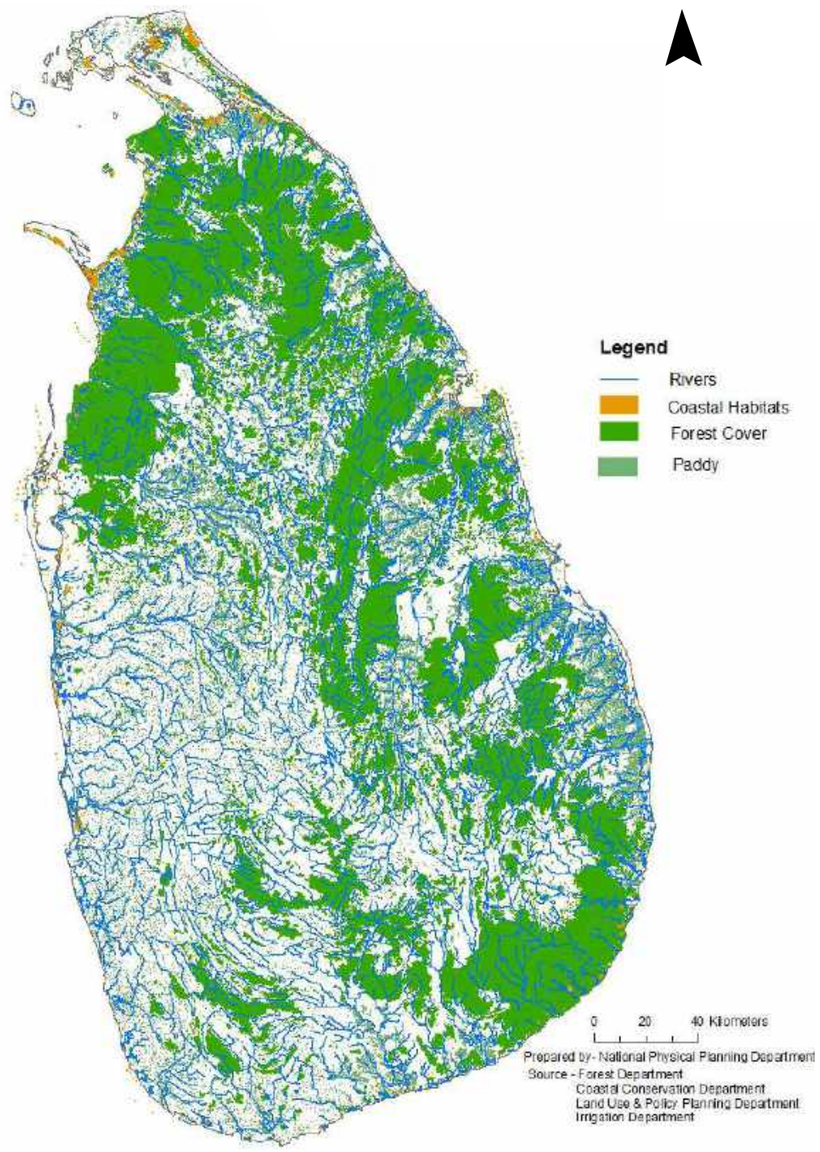
Appendix 4.3.1.b_1 : Proposed Elephant Conservation Areas



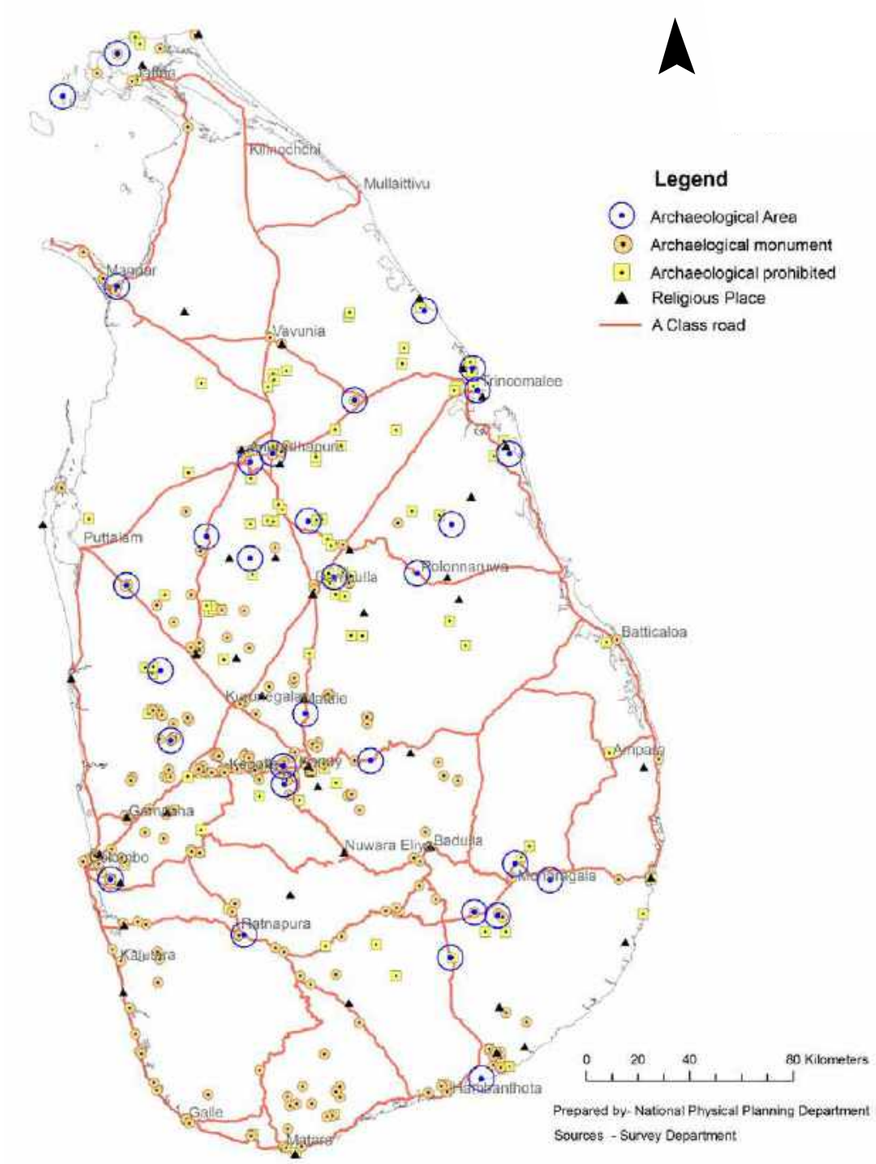
Appendix 4.3.1.c : Distribution of Forests by Types in Sri Lanka



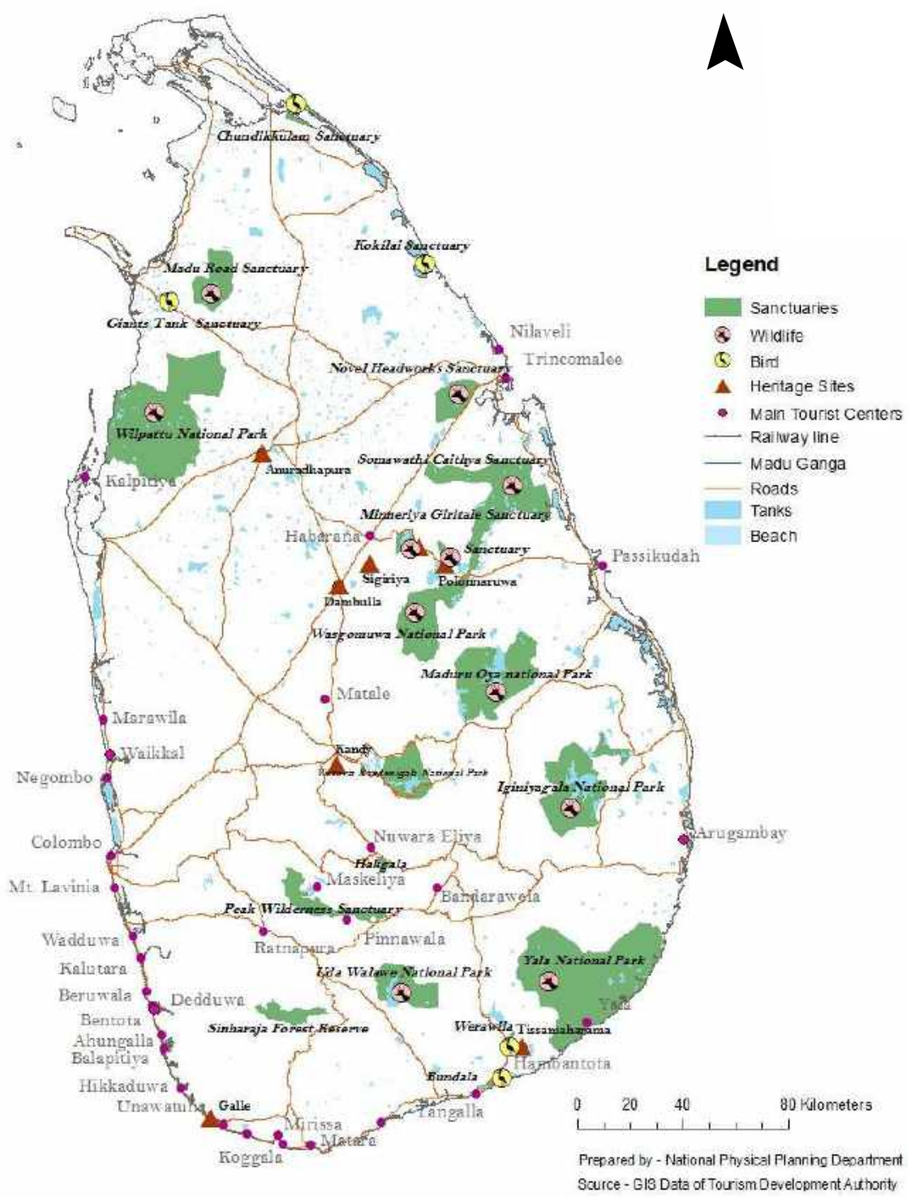
Appendix 4.3.1.d : Distribution of Coastal and Riverine Ecosystems



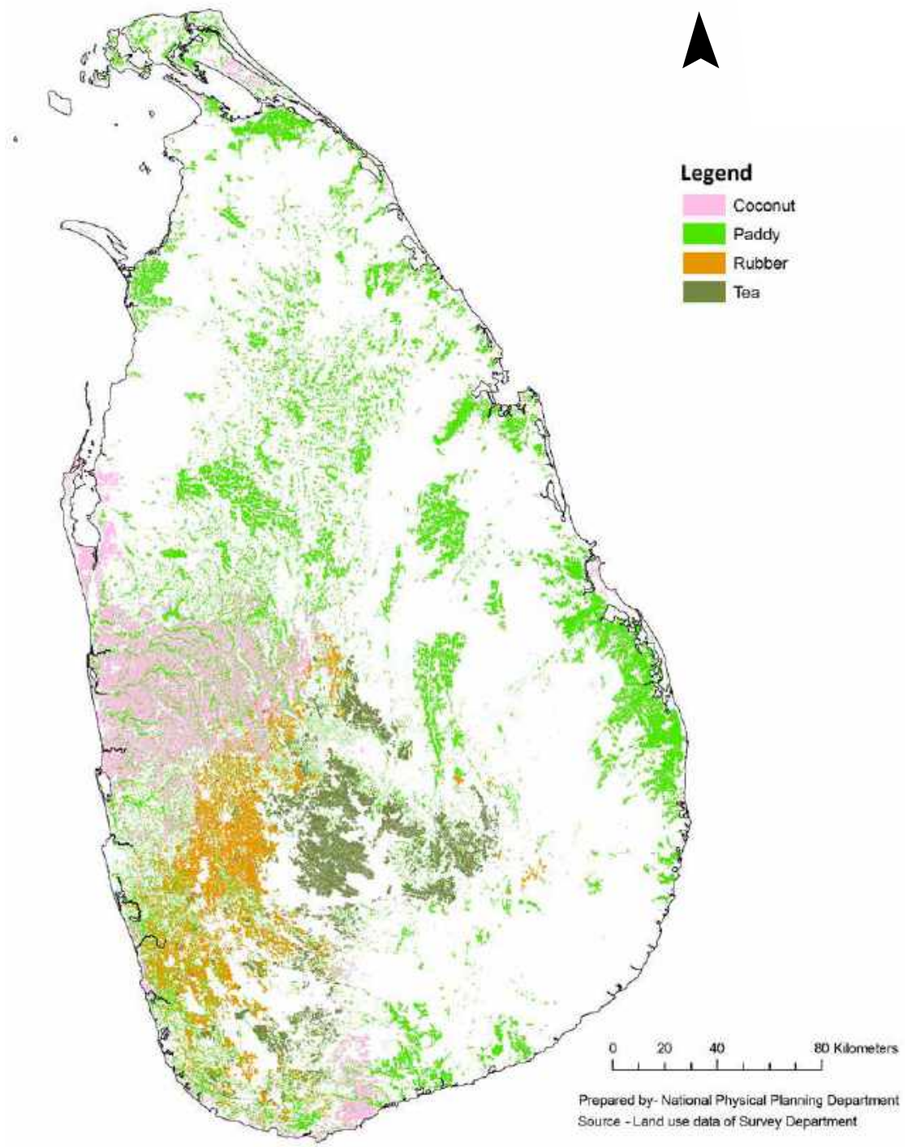
Appendix 4.3.1.e : Archeological Sites declared by the Department of Archeology



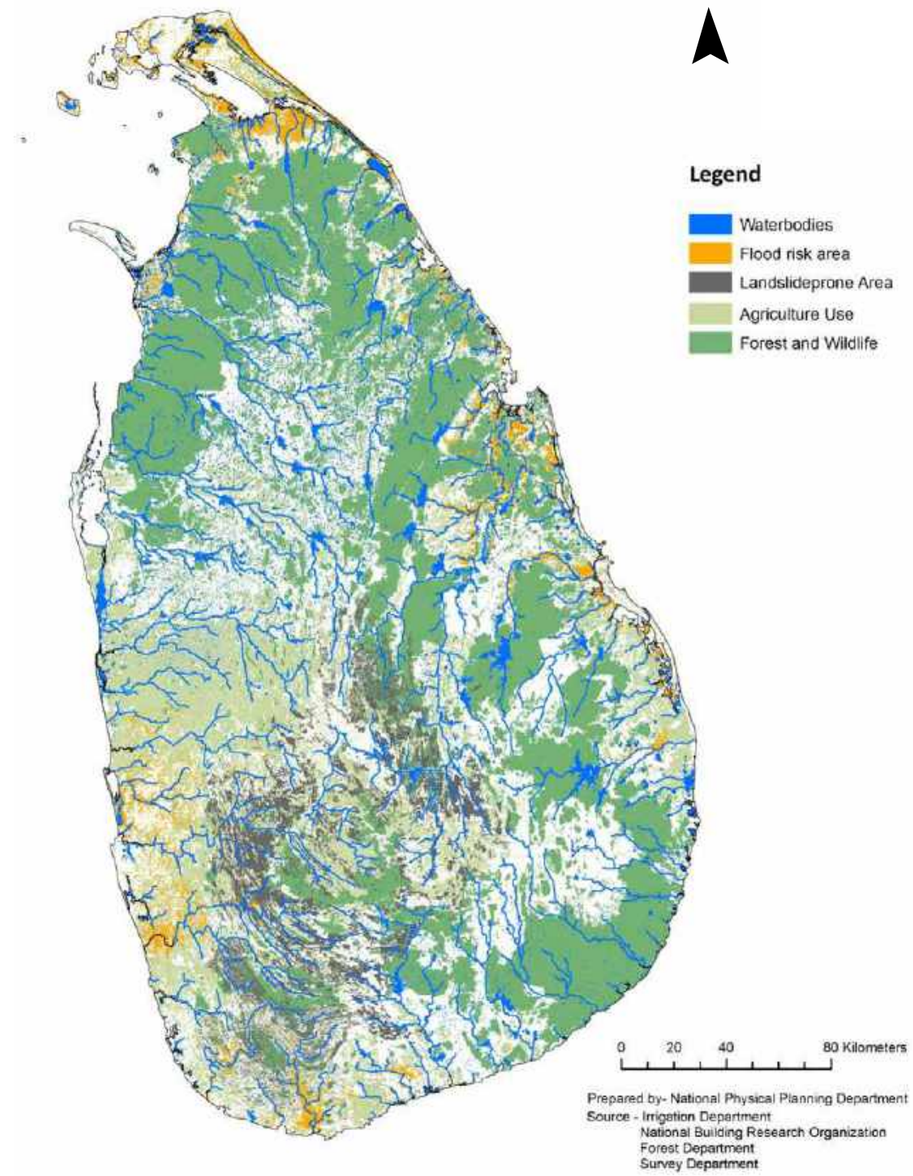
Appendix 4.3.1.f : Unique Landscapes Identified for Preservation



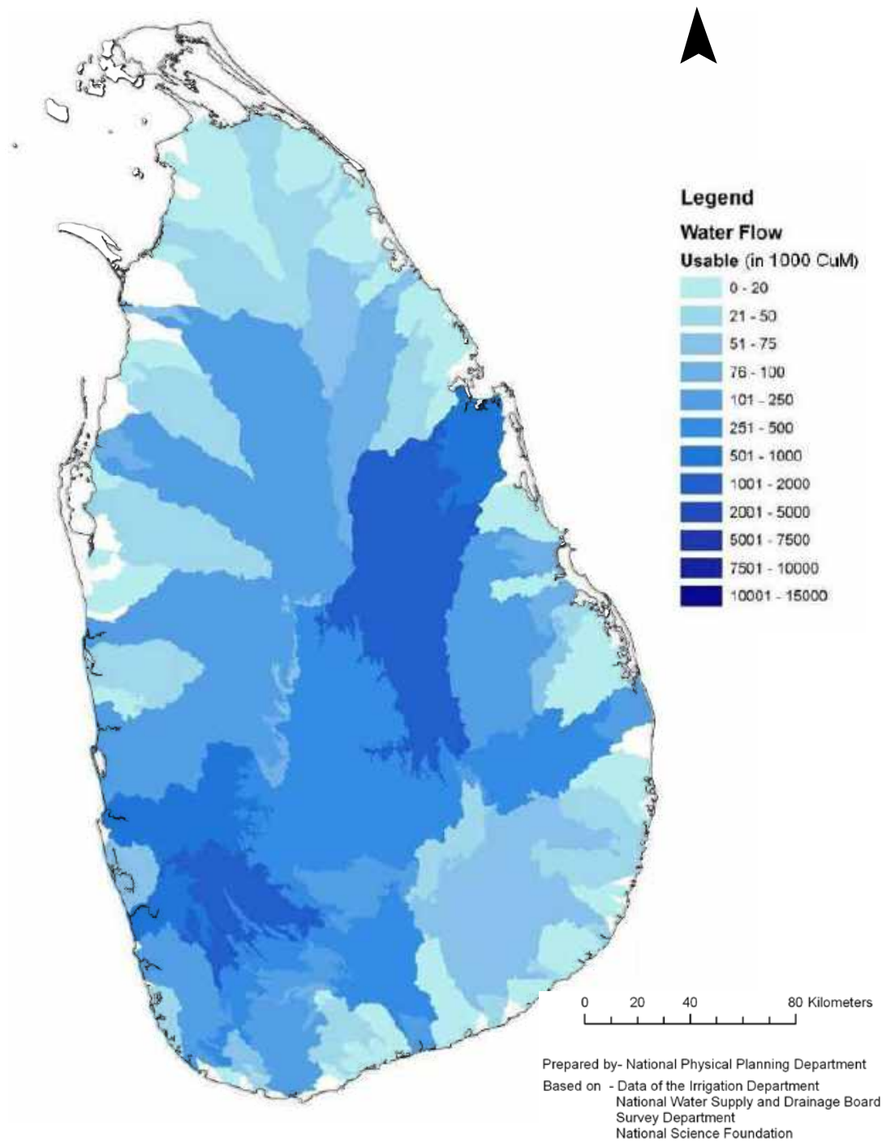
Appendix 4.3.1.g : Agricultural Land Uses



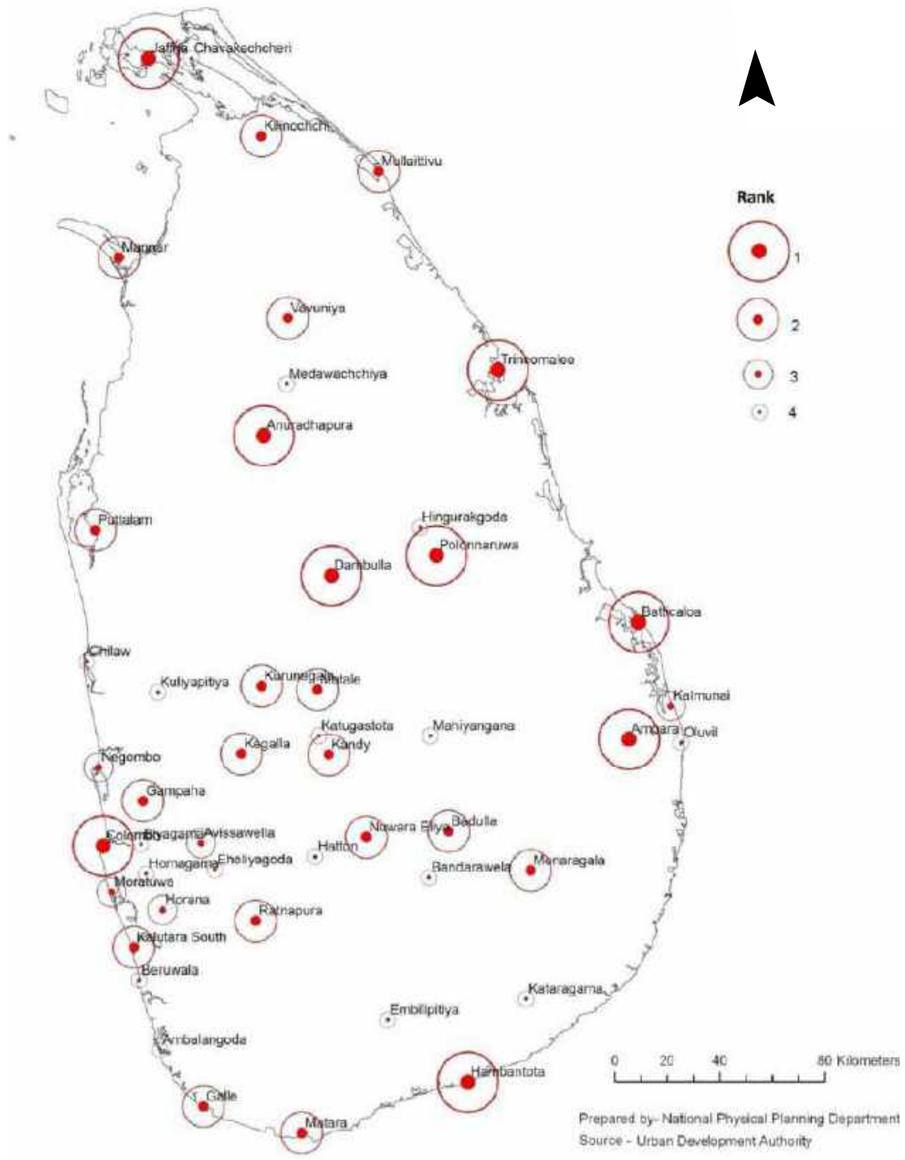
Appendix 4.3.2.a : Lands with Development Constraints



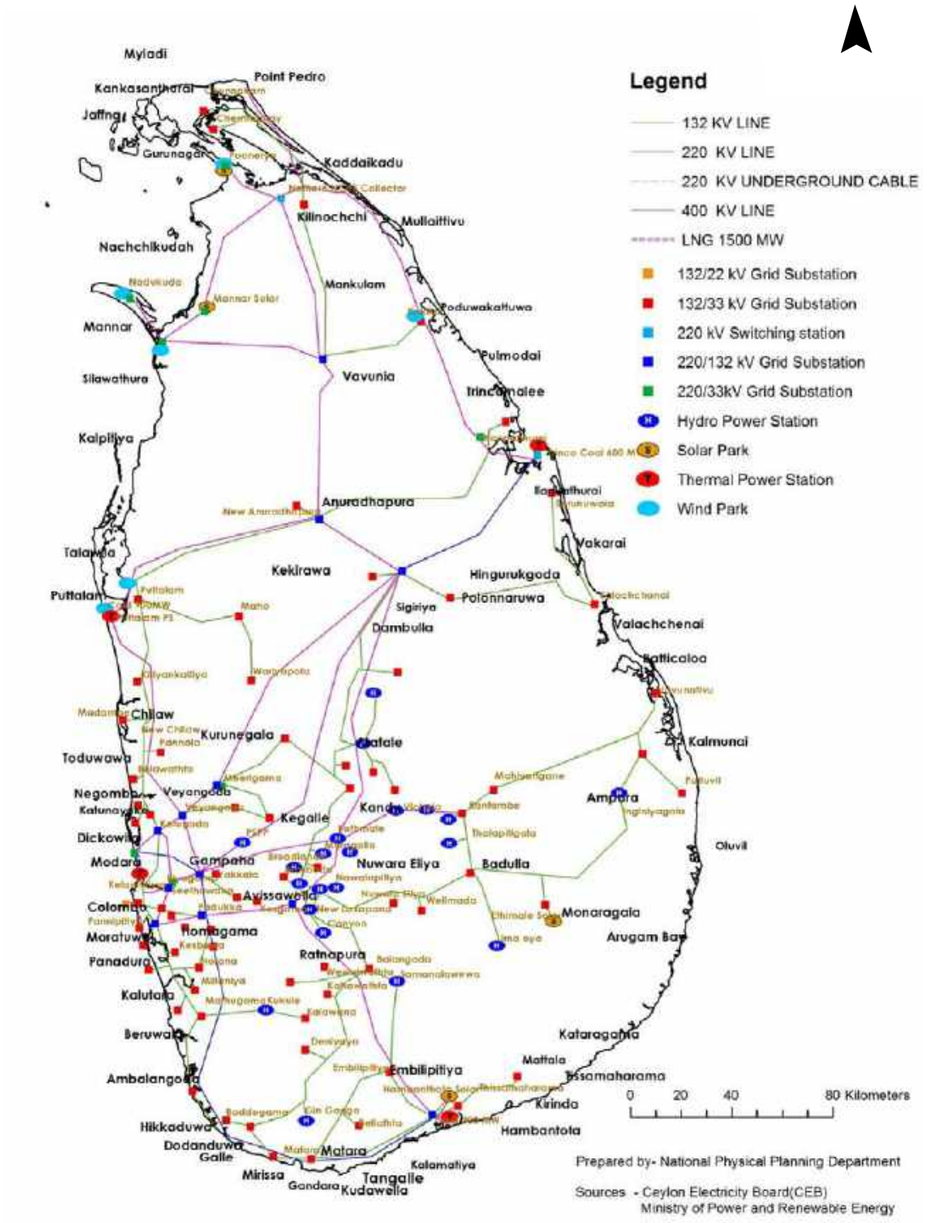
Appendix 4.3.2.b : Availability of Safe Drinking Water and Water for Other Needs (present and future availability of water in the respective river basin) - Availability for Further use (Discharge- Use)



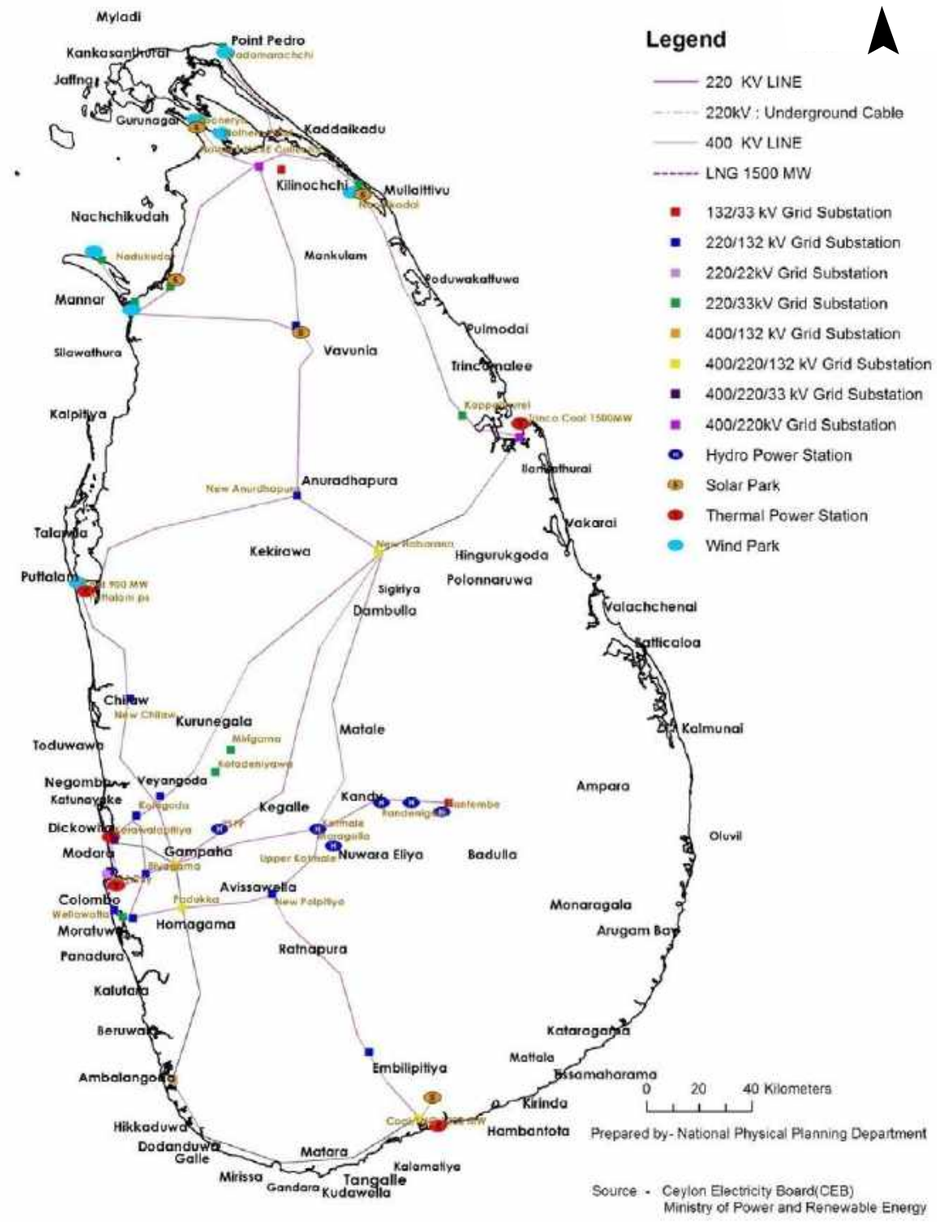
Appendix 4.3.2.c_1 : Major Urban Centers (Existing Urban Hierarchy)



Appendix 4.3.2.d_1 : Access to Electricity (Transmission System of Electricity -2027)

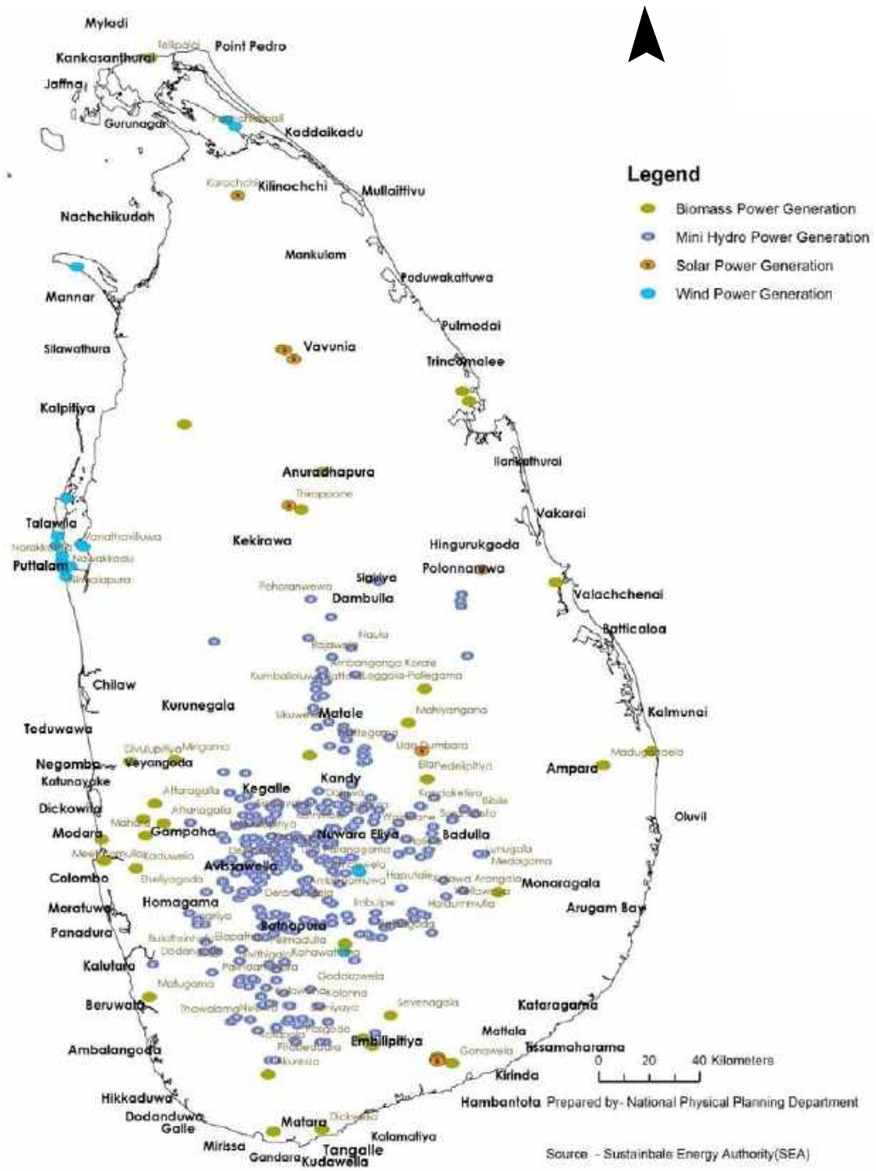


Appendix 4.3.2.d_2 : (Transmission System of Electricity -2037)

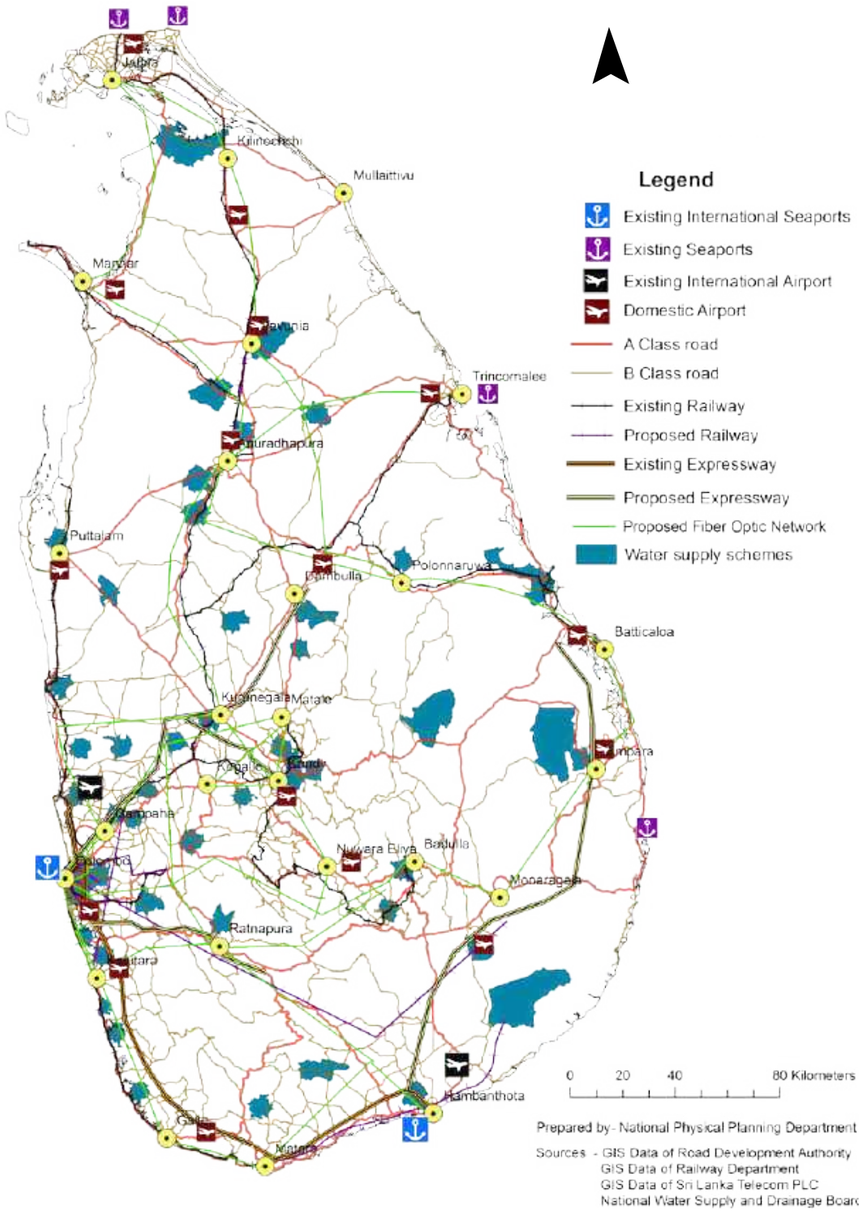


Appendices

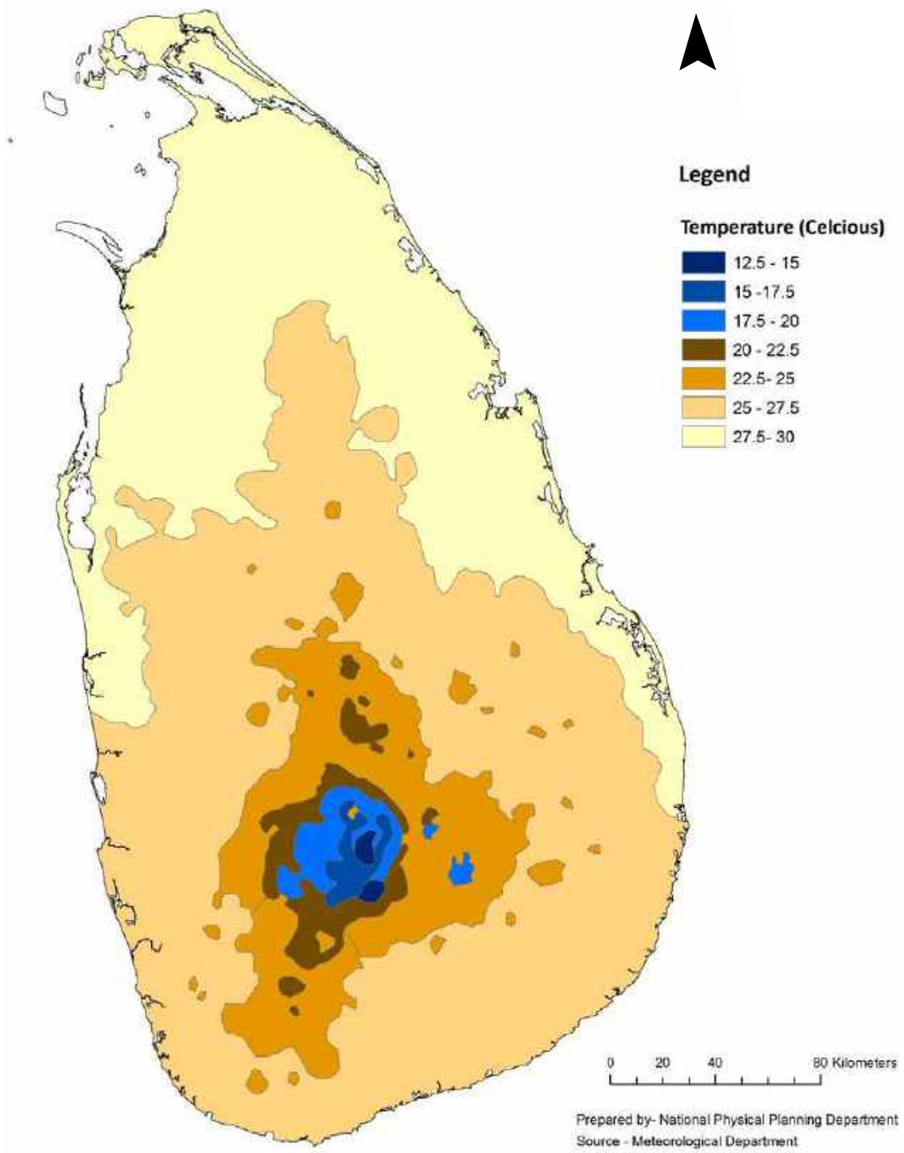
Appendix 4.3.2.d_3 : Proposed Projects for the Renewable Energy Sector



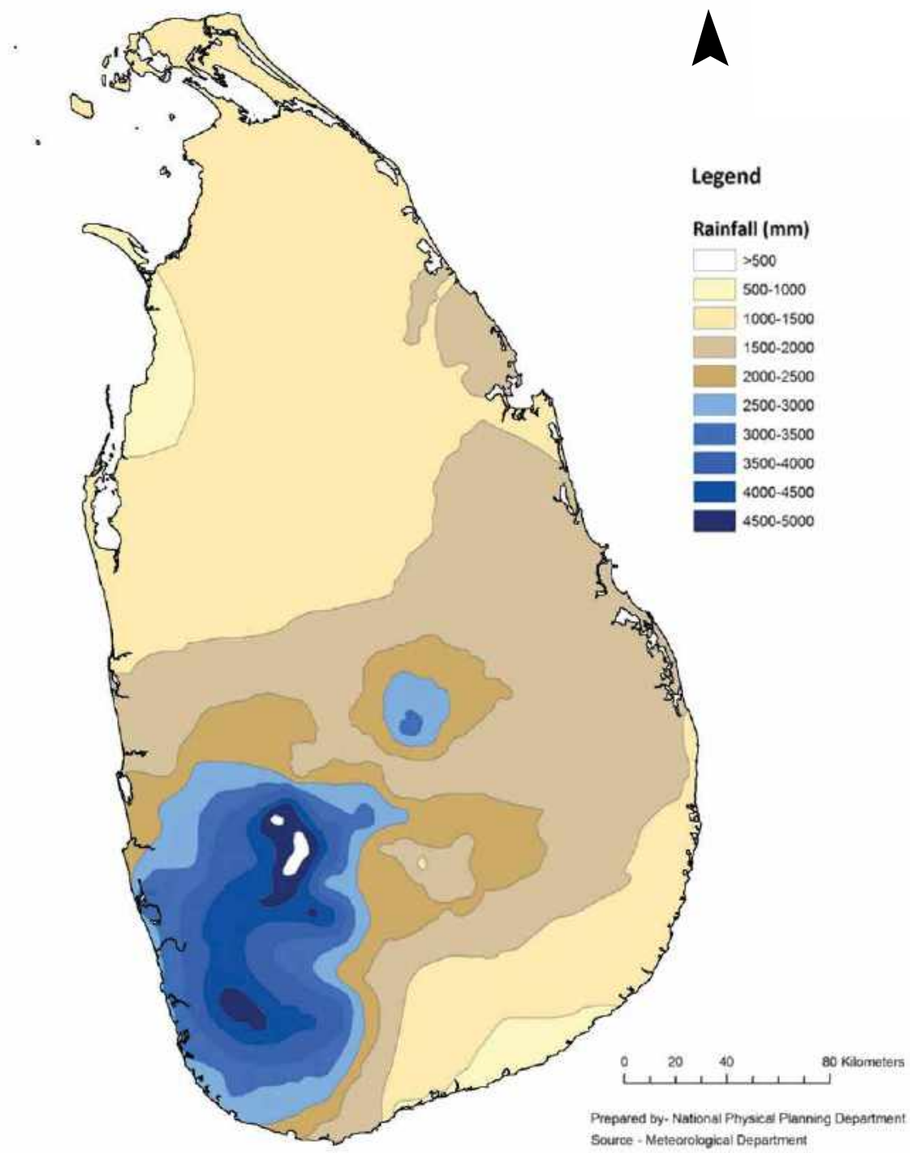
Appendix 4.3.2.e : Major Infrastructure Developments



Appendix 4.3.2.f : Average Day Time Temperature

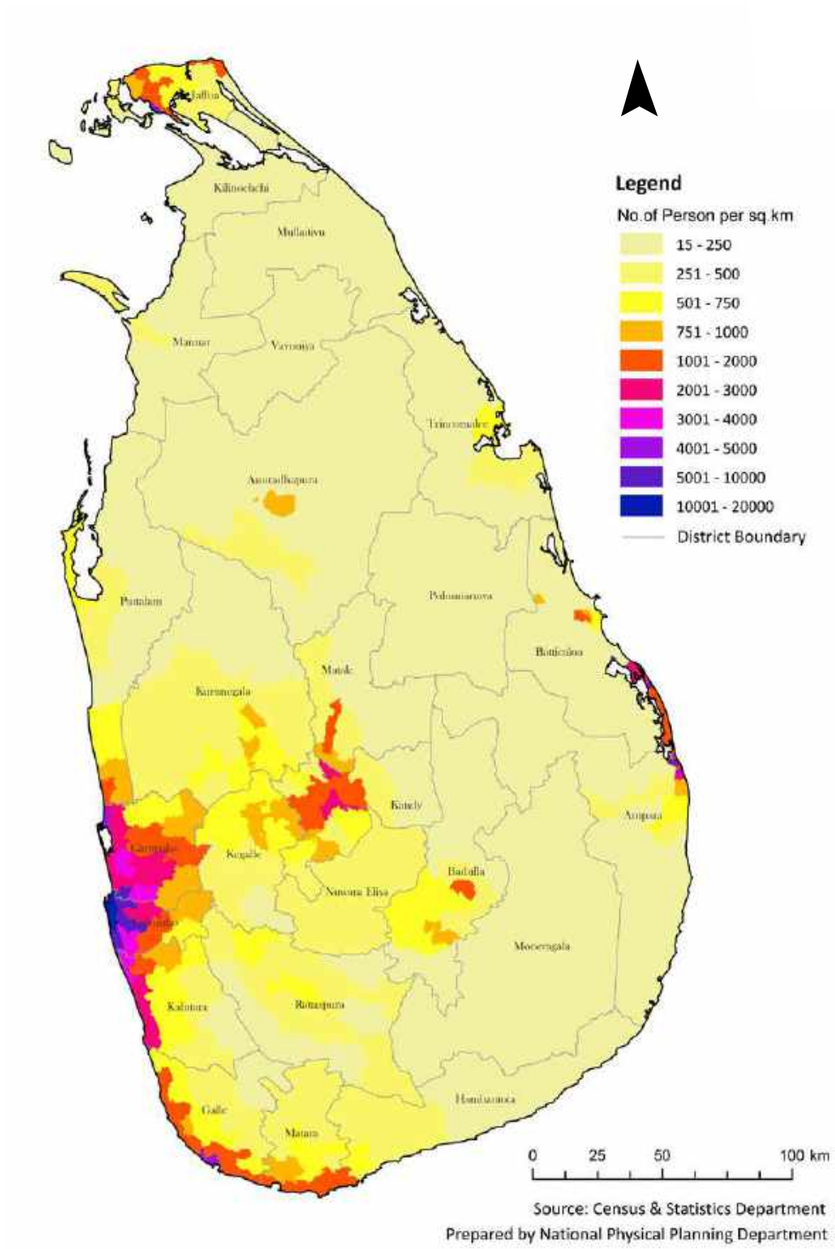


Appendix4.3.2.g : Annual Average Rainfall (2000-2012)

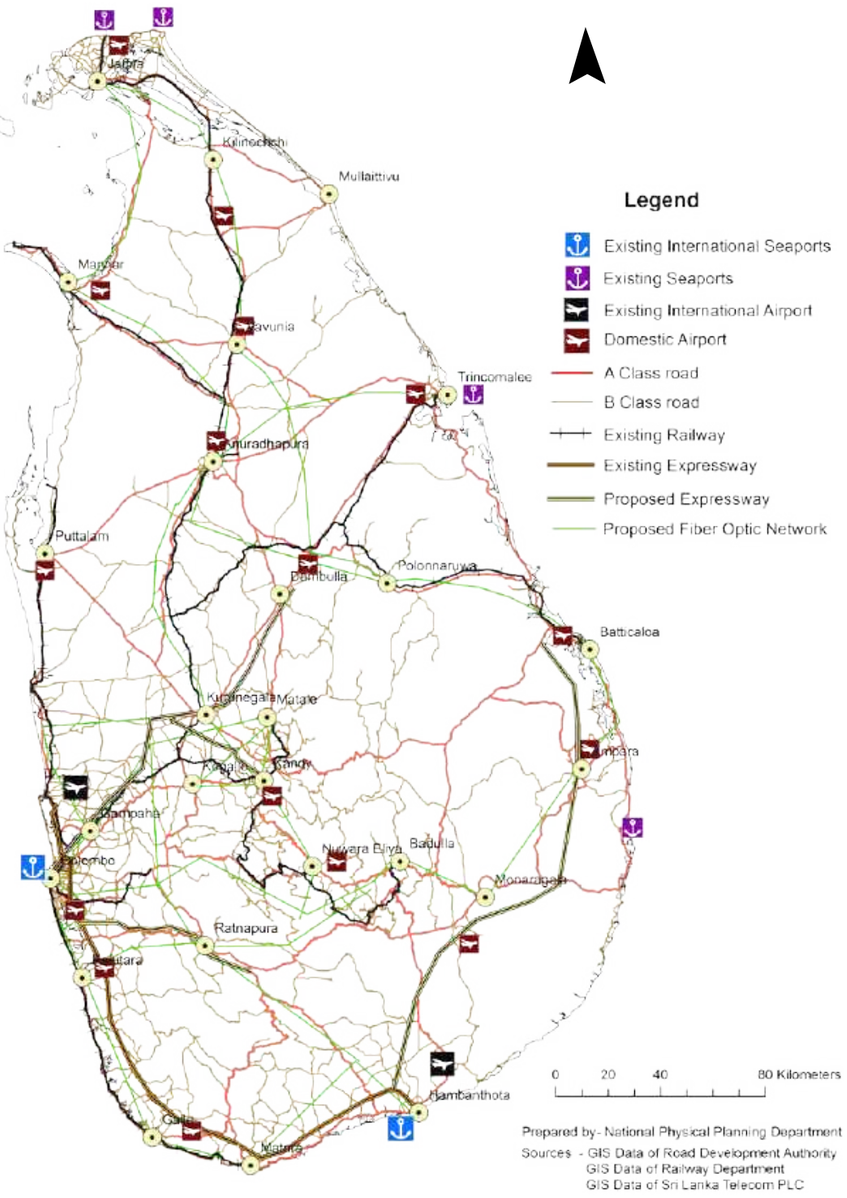


Appendices

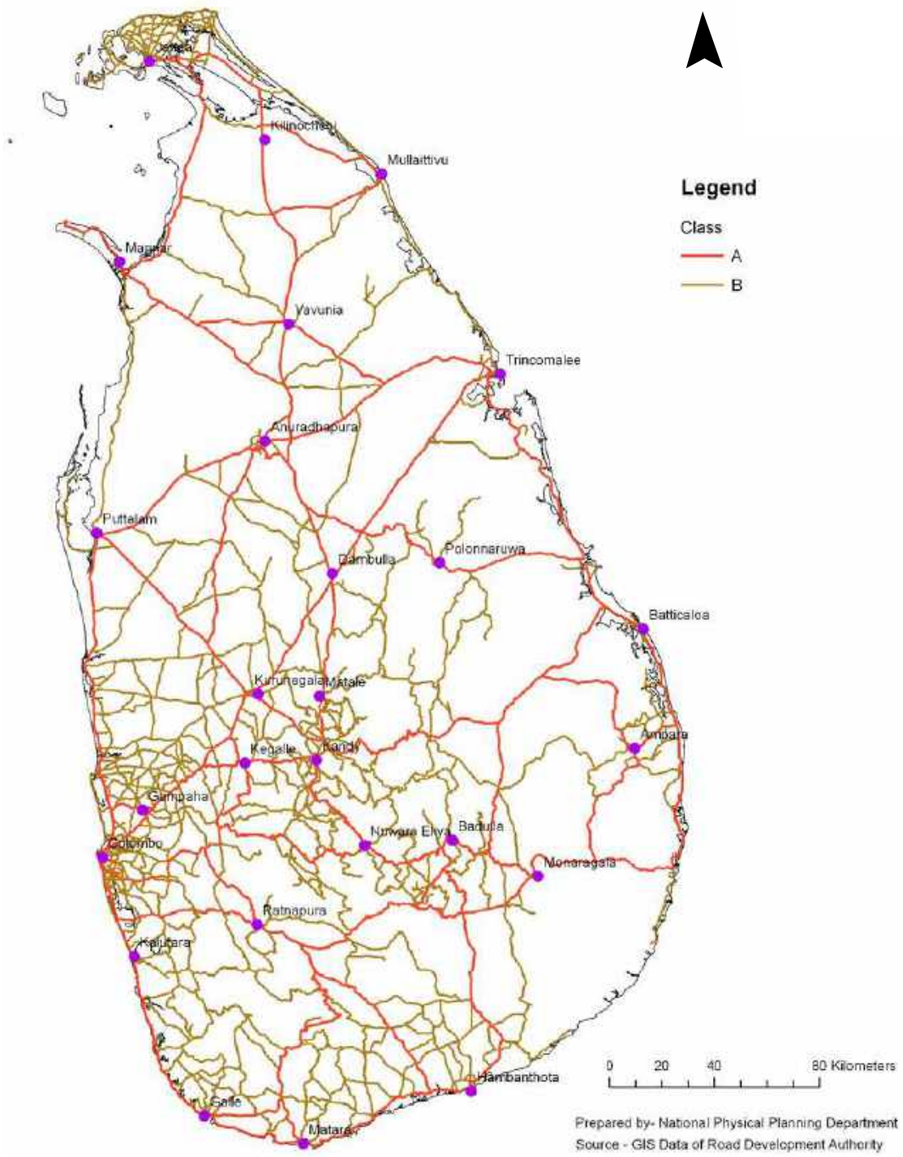
Appendix 4.3.3.a : Population Density by DS Divisions 2012



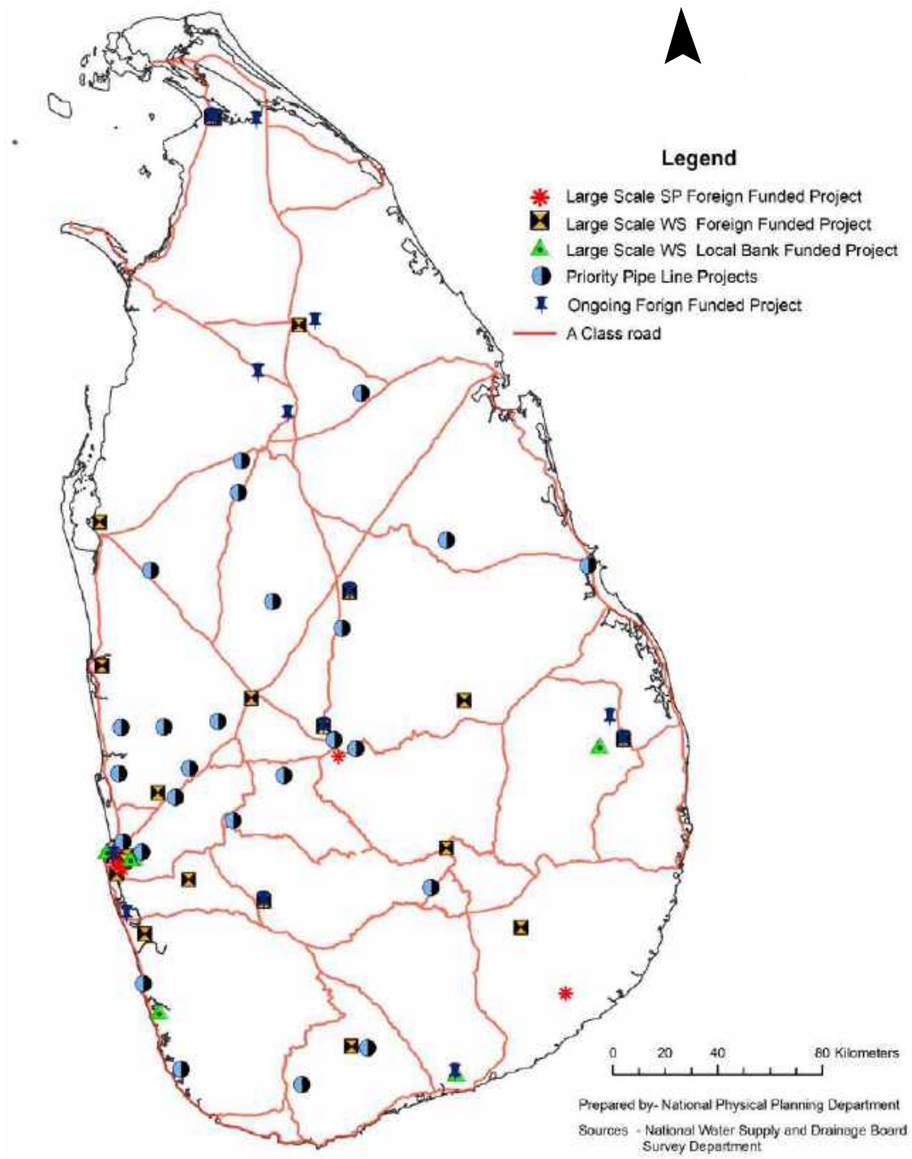
Appendix 4.3.3.b : Existing Transportation Infrastructure



Appendix 4.3.3.c : Distribution of A and B Class Roads



Appendix 4.3.3.d : Existing and Proposed Water Supply Projects



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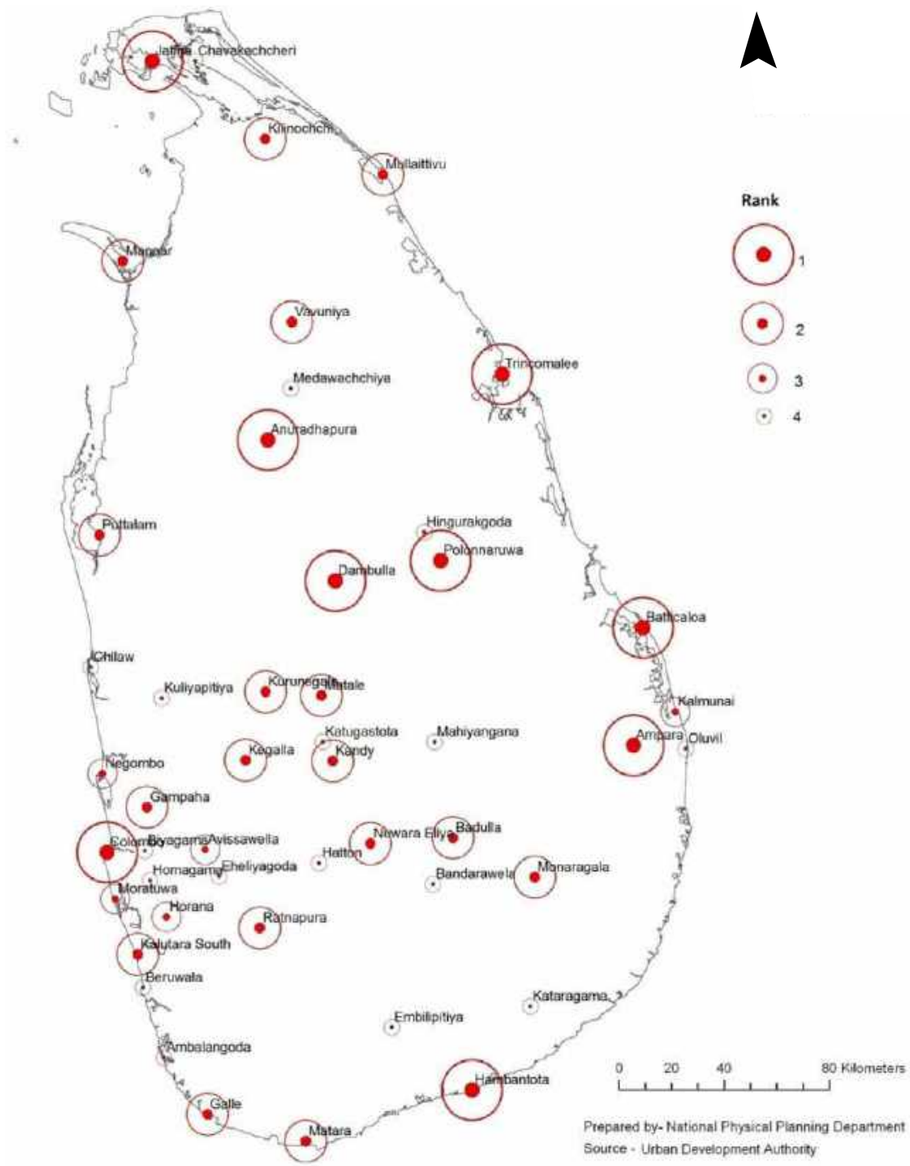
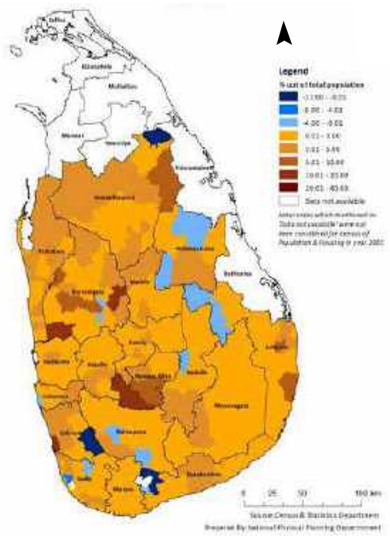
Appendix 4.3.3.e : Order of Distribution of Social Infrastructure

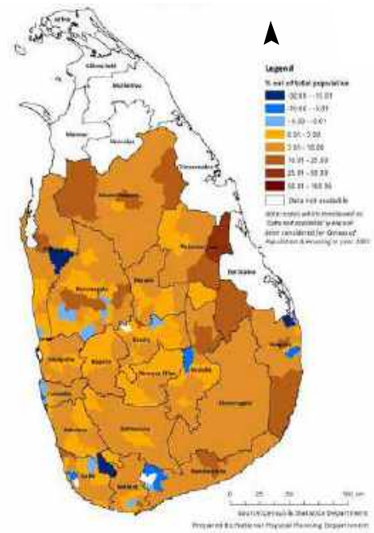


Appendix 4.3.3.f : Availability of Human Resources

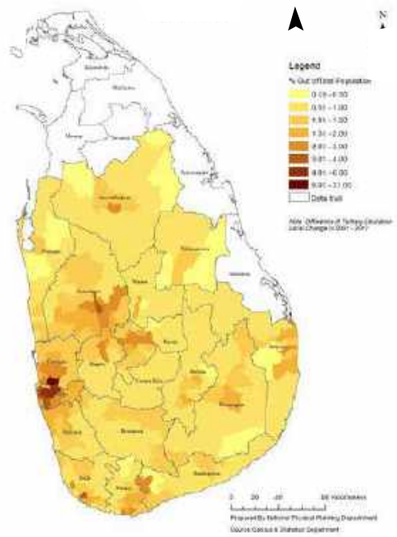
Primary Educational Level Change by DSD
2001–2012



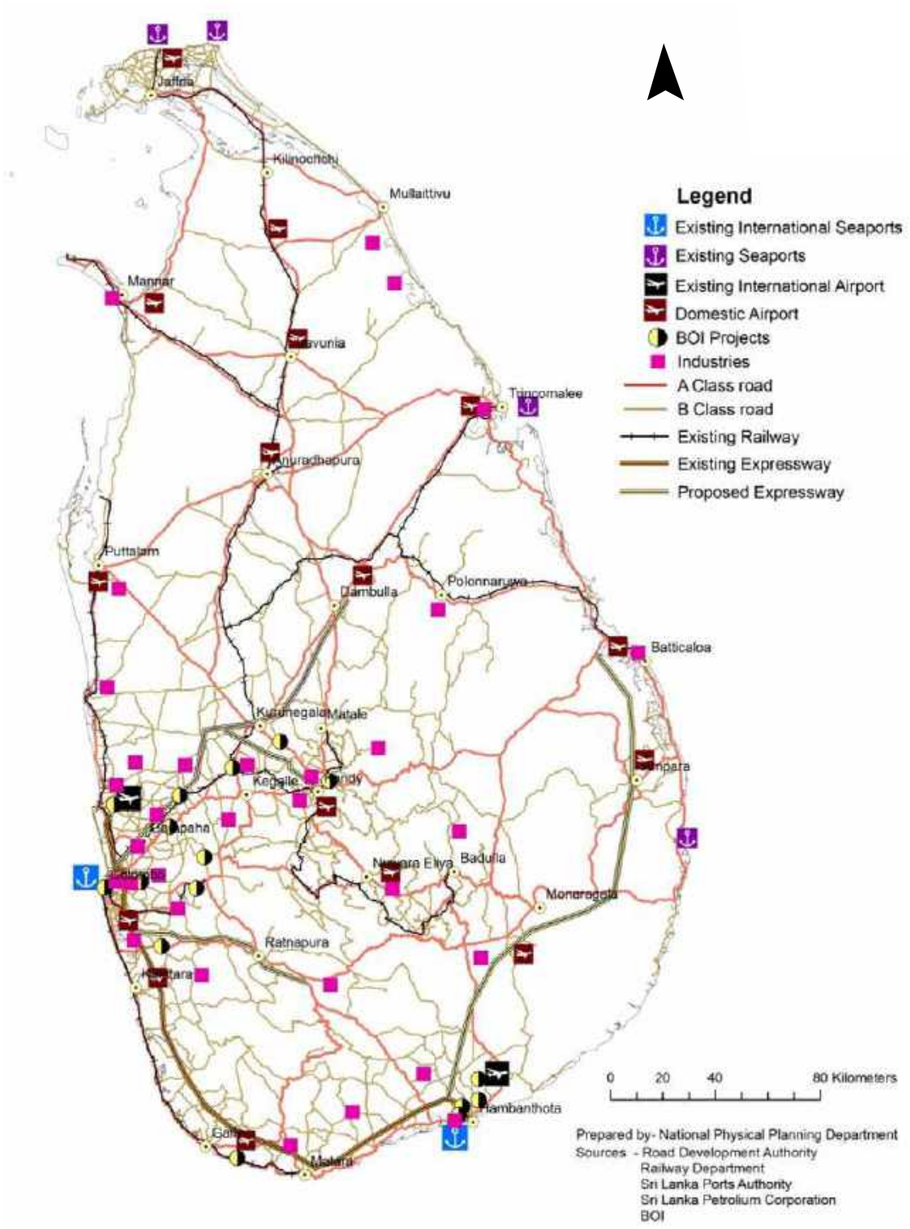
Secondary Educational Level Change by DSD
2000–2012



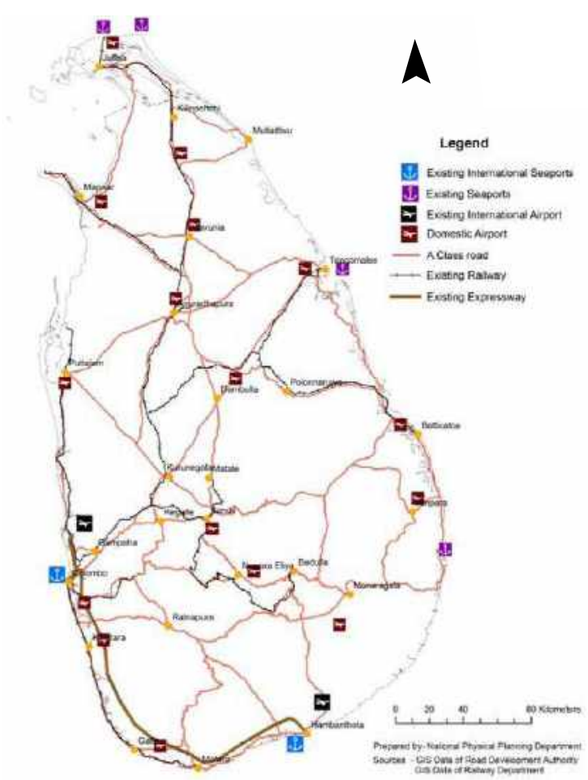
Tertiary Educational Level Change by DSD
2001–2012

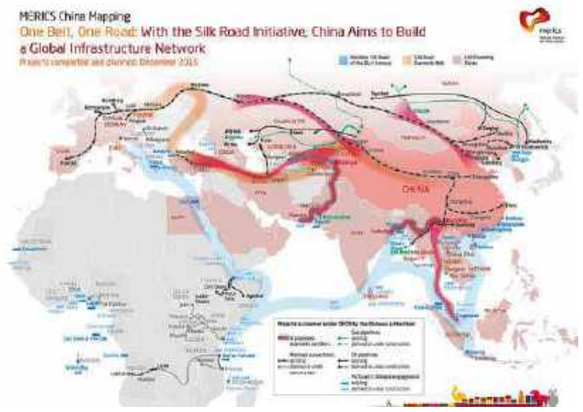


Appendix 4.3.3.g : Existing Industries Related Infrastructure



Appendix 4.3.4.a : Possibility of Linking with International Trade Routes





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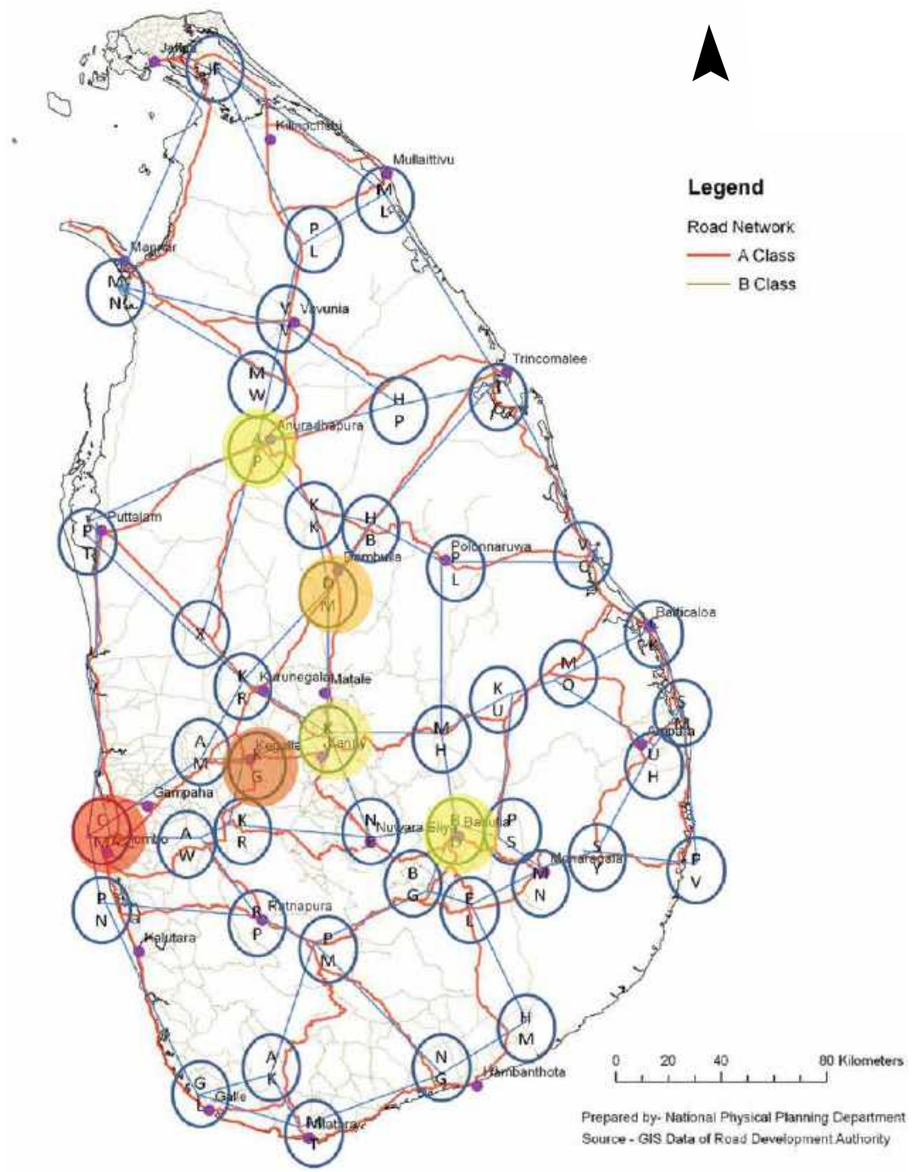
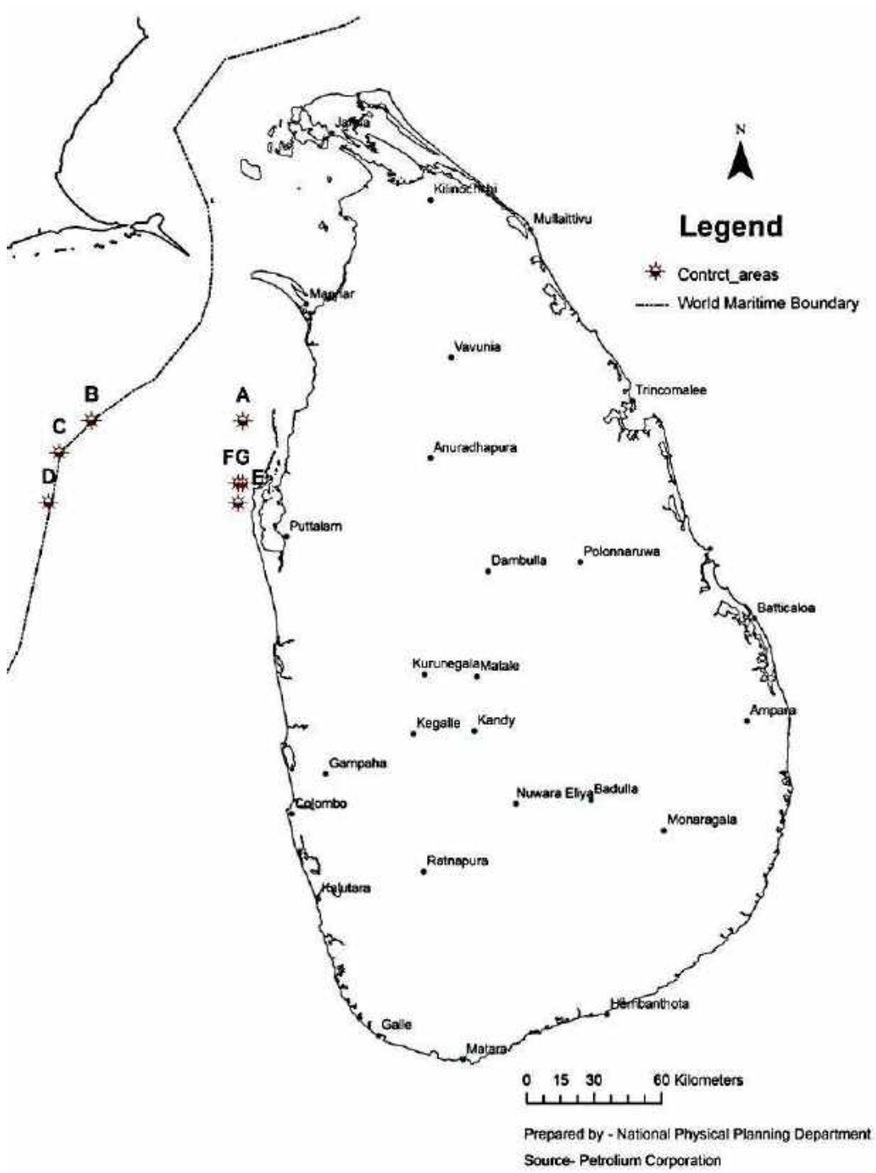
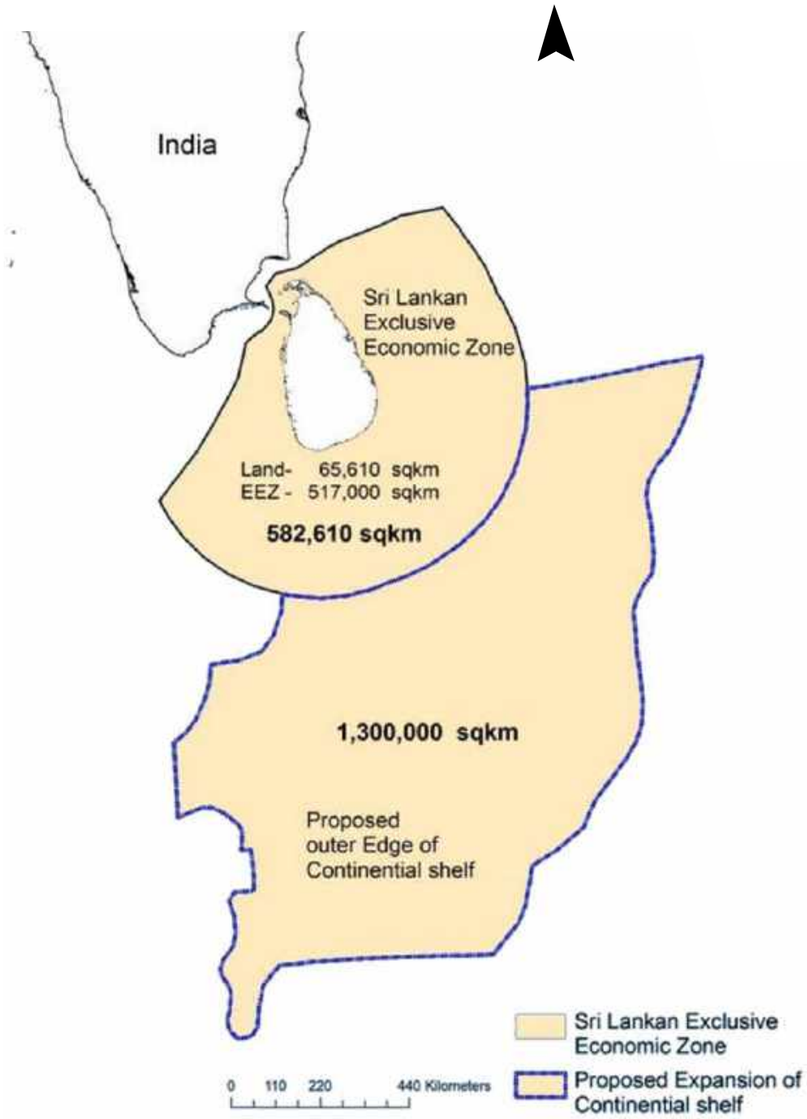
Appendix 4.3.4.b : Level of Internal Connectivity



Appendix 4.3.4.c_1 : Accessibility to Untapped Resources



Appendix 4.3.4.c_2 : Sri Lankan Exclusive Economic Zone (EEZ)



Appendix 5.1.2.a : Sensitive Areas those needing Special Attention in Planning for Development due to Landslides and location of Catchment of major rivers.

	Province	District	D.S. Division	Land extent (km2)
1	Central	Kandy	Akurana	30.32
2			Delthota	51.17
3			Doluwa	100.17
4			Ganga IhalaKorale	88.92
5			Kandy Four Gravets&Gangawata	50.07
6			Harispattuwa	64.96
7			Hatharaliyadda	58.69
8			Kundasale	80.82
9			Medadumbara	190.35
10			Minipe	249.28
11			Panwila	91.95
12			PasbageKorale	121.9
13			Pathadumbara	48.96
14			Pathahewaheta	83.5
15			Poojapitiya	58.34
16			Thumpane	49.93
17			Udadumbara	90.6
18			Udapalatha	277.07
19			Udunuwara	67.23
20			Yatinuwara	69.79
21		NuwaraEliya	Ambagamuwa	487.91
22			Hanguranketha	228.62
23			Kothmale	223.72
24			NuwaraEliya	483.57
25			Walapana	321.52
26		Matale	AmbangangaKoralaya	55.38
28			Galewela	198.6

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	Province	District	D.S. Division	Land extent (km2)
29	Central	Matale	Laggala - Pallegama	373.84
30			Matale	72.9
31			Naula	285.17
32			Pallepola	81.54
33			Rattota	105.23
34			Ukuwela	77.91
35			Yatawatta	65.62
36	Uva	Badulla	Badulla	49.29
37			Bandarawela	70.06
38			Ella	109.37
39			Haldummulla	415
40			HaliEla	170.14
41			Haputhale	70.33
42			Kandaketiya	152.62
43			Lunugala	141.81
44			Meegahakiwula	108.72
45			Passara	137.28
46			Rideemaliyadda	135.92
47			Soranathota	438.28
48			UvaParanagama	80.89
49			Welimada	193.9
50		Moneragala	Badalkumbura	235.99
51			Bibile	483.52
52			Madulla	722.52
53			Medagama	241.14
54			Moneragala	292.54
55	Southern	Galle	Neluwa	152.29
56			Thawalama	174.15
57		Matara	Kotapola	179.33
58			Pasgoda	153.94
59			Pitabeddara	136.56

	Province	District	D.S. Division	Land extent (km2)
60	Western	Kalutara	Palindanuwara	283.23
61			Agalawatta	89.76
62			Bulathsinhala	209.39
63		Colombo	Seethawaka	145.85
64	North Western	Kurunegala	Mawathagama	109.62
65			Rideegama	222.54
66	Sabaragamuwa	Kegalle	Aranayaka	124.42
67			Bulathkohupitiya	127.25
68			Dehiowita	193.24
69			Deraniyagala	222.08
70			Galigamuwa	127.5
71			Kegalle	109.06
72			Mawanella	114.9
73			Rambukkana	130.33
74			Yatiyantota	178.07
75		Rathnapura	Ayagama	157.69
76			Balangoda	274.16
77			Ehaliyagoda	141.93
78			Elapatha	86.85
79			Godakawela	155.75
80			Imbulpe	255.26
81			Kahawatta	102.68
82			Kalawana	384.75
83			Kiriella	79.57
84			Kolonna	183.03
85			Kuruwita	174.67
86			Nivithigala	157.91
87			Opanayake	75.88
88			Pelmadulla	144.84
89			Ratnapura	326.79

Appendix 5.1.2.b : Coastal Conservation Zone

"The Coastal Zone is defined in the Coast Conservation Act as that area lying within a limit of three hundred meters landwards of the Mean High Water Line and a limit of two kilometers seaward of the Mean Low Water Line. In the case of rivers, streams, lagoons, or any other body of water connected to the sea, either permanently or periodically, the landward boundary extends to a limit of two kilometers, measured perpendicular to the straight base line drawn between the natural entrance points and includes waters of such rivers, streams and lagoons or any other body of water so connected to the sea" (Figure 01).

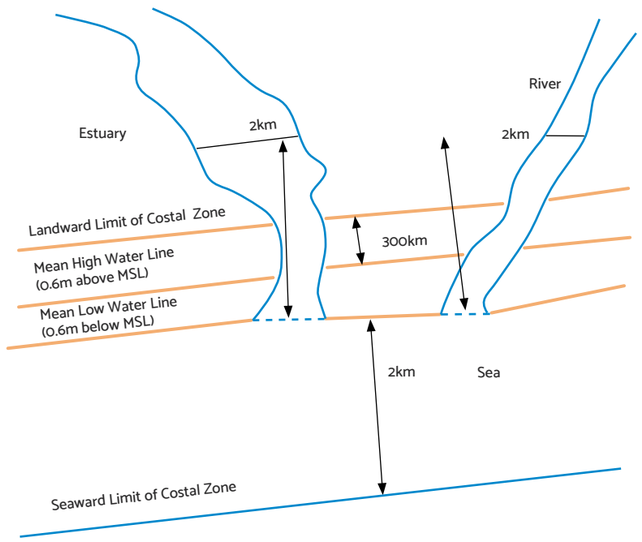
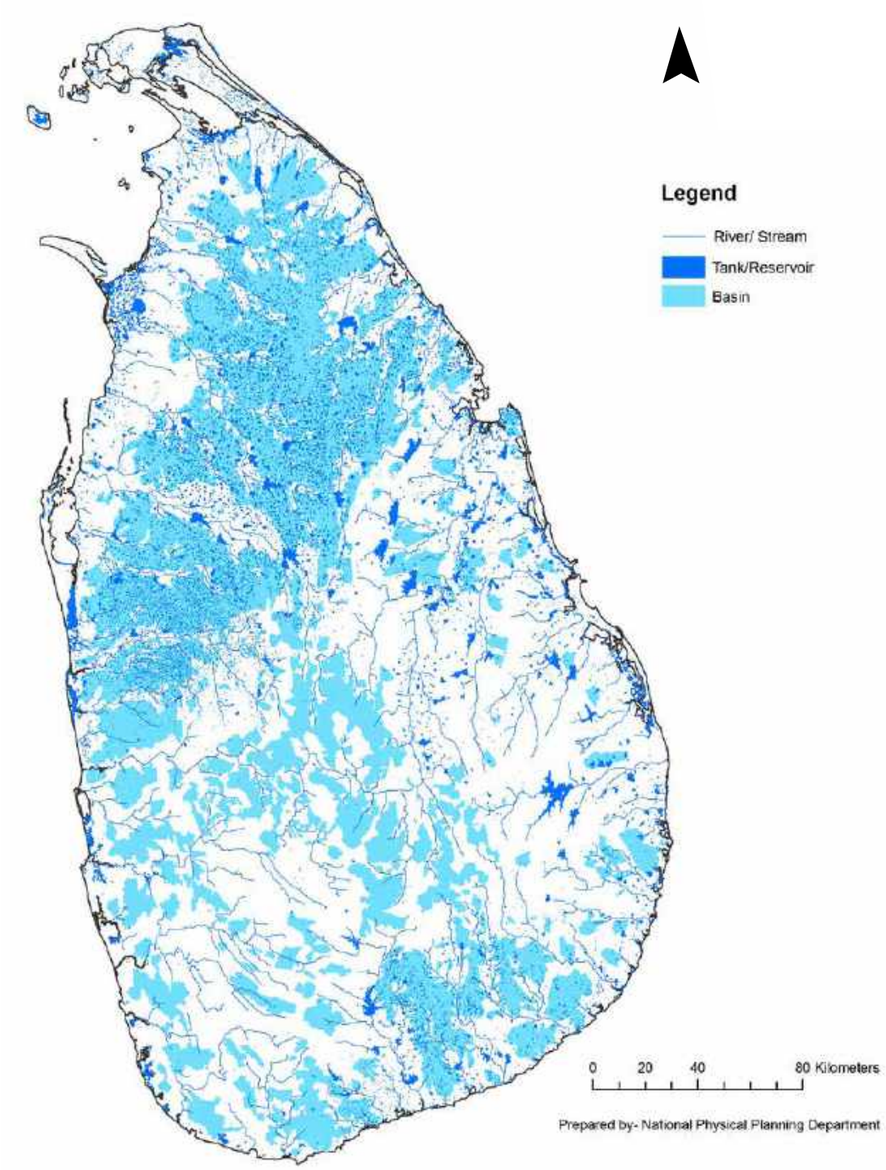
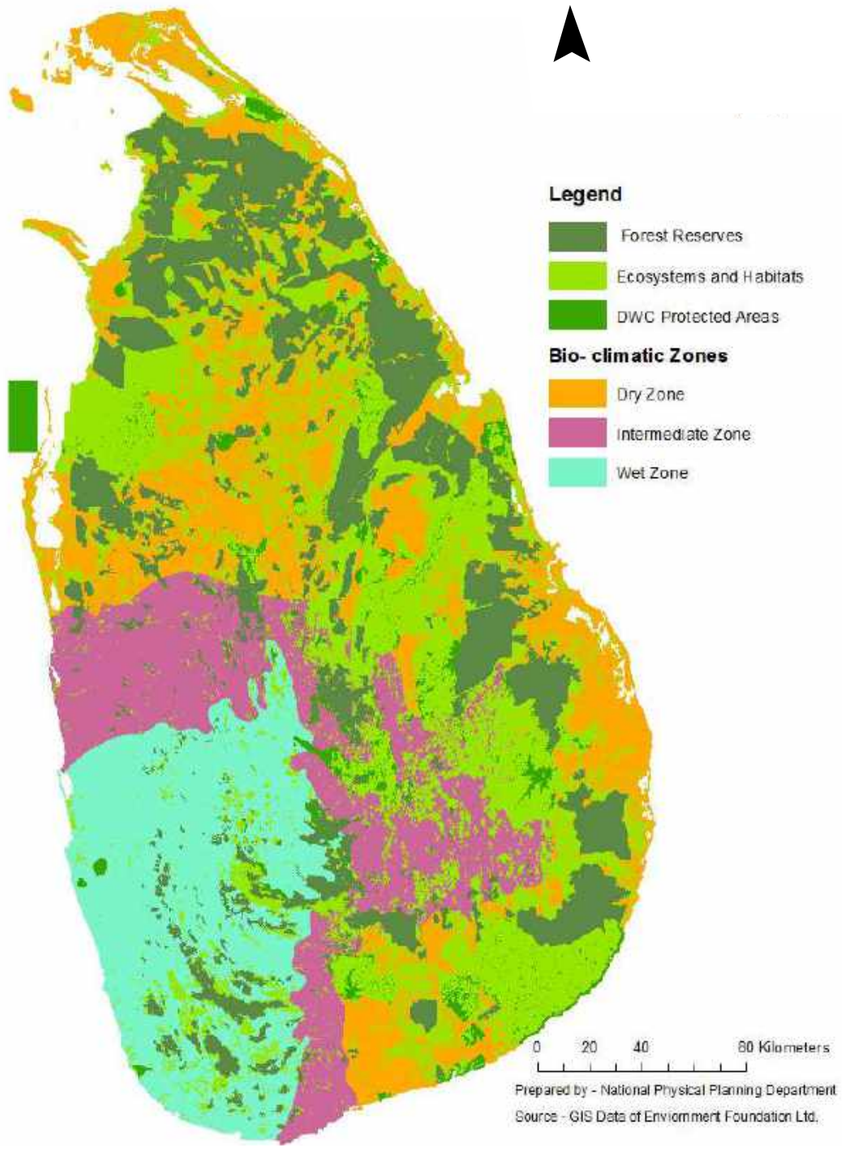


Figure 01

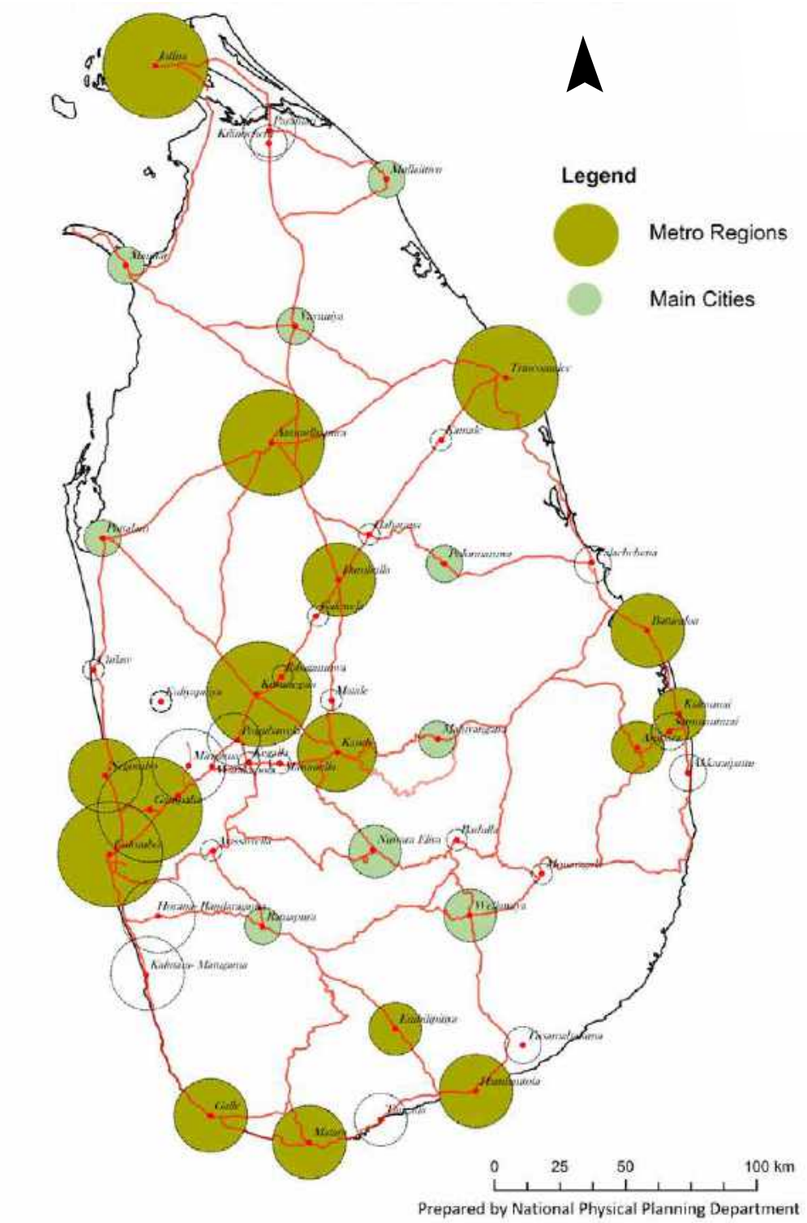
Appendix 5.1.2.c : Areas under Water Cascading Systems



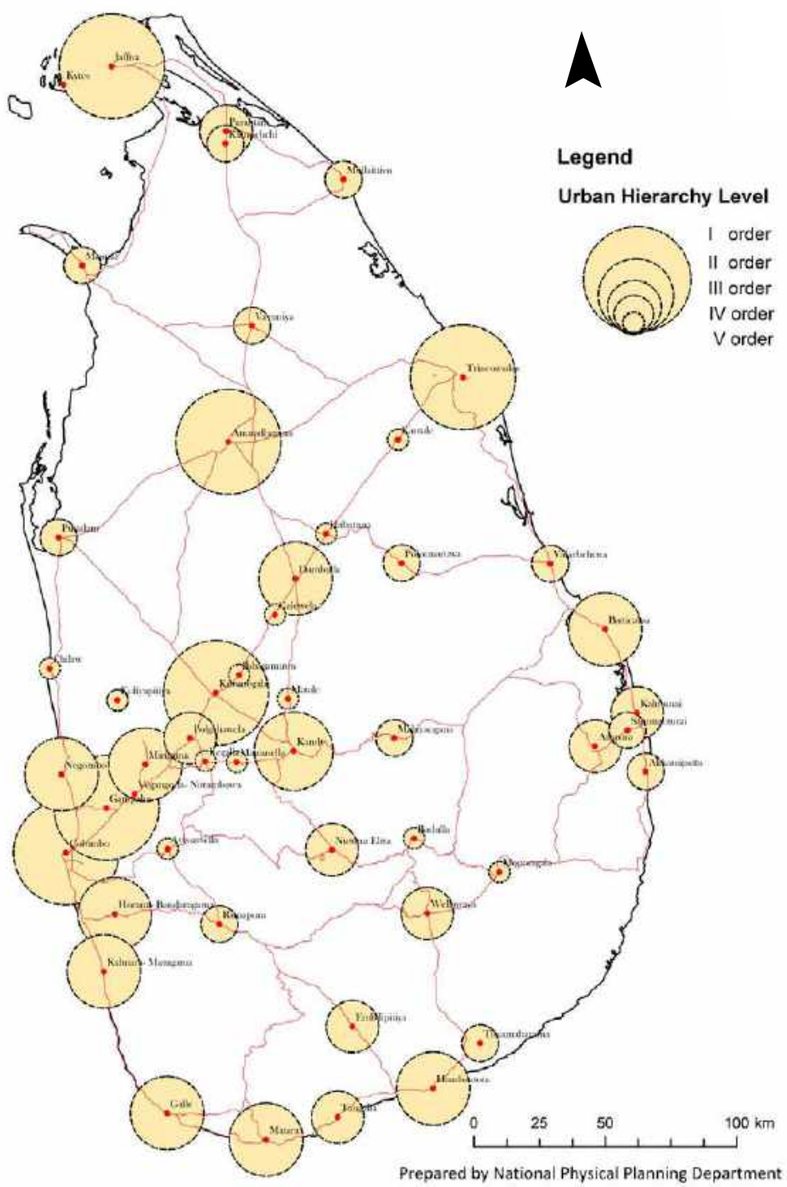
Appendix 5.1.2.d : Forest Conservation Zones



Appendix 5.1.2.e : Proposed Metro Regions and Main Cities



Appendix 5.3.2.f : Proposed Urban Hierarchy – 2050



Appendices

Annexure 06 : Policies related to the Eco Conservation Zone

Forest

National Forestry Policy – 1995

Wildlife

The National Policy on Wild Life Conservation - 2000
National Policy on Elephant Conservation – 2006

Biodiversity

National Biodiversity Strategic Action Plan 2016-2022

Fishery

The National Fisheries and Aquatic Resources Policy (2006)
Coastal zone and coastal resource management plan - 2016

Air resources

National Air Quality Management Policy – 2000

Environment

National Environment Policy – 2003
National Policy on Wetlands – 2005

Mineral

National Policy on Sand as a Resource for the Construction Industry – 2006
Draft national policy on mineral resources - 2017

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