

# **SABARAGAMUWA REGIONAL PHYSICAL PLAN**

**2007 – 2030**

**(Draft)**

**NATIONAL PHYSICAL PLANNING DEPARTMENT**

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## Section 1: Introduction

This section introduces the Sabaragamuwa Provincial Plan and describes the background to its preparation, the process of preparation and its purpose. This section also describes the important relationship with the National Physical Plan and Policy (NPPP).

### Background

In 1997 the Presidential Task force on Housing and Urban Development recommended that there should be a National Spatial Plan for Sri Lanka. The National Physical Planning Department was established under the Town and Country Planning (Amendment) Act No. 49 of July 2000 to prepare and implement the National Physical Plan.

A final draft (16 November 2006) of the NPPP has been prepared and awaits approval by the National Physical Planning Council which is headed by the President of Sri Lanka.

Importantly, the NPPP provides a national spatial framework and policies for the physical planning and development of the island as a whole. It is a strategic document and outlines a vision for Sri Lanka to the year 2030. The NPPP is intended to bring together the resources of the Government, the private sector and the community to make decisions to guide the future of Sri Lanka's economy, environment and communities.

Provincial Plans will also bring together a similar range of stakeholders with similar intent. However the Provincial Plan will provide greater detail for the Province. This will help to ensure that the objectives and principles of the NPPP can be implemented for each province and by local authorities through preparation of local Development Plans.

### Purpose

The Sabaragamuwa Region Physical Plan provides a framework to promote the development of the Province. It is a strategic document that outlines a vision, objectives and strategies for the Province to 2030. Its role is to promote and regulate where possible the integrated planning of economic, social, physical and environmental matters related to the development and conservation of land in the Province. The Plan will also provide an integrated land use and infrastructure framework that will enable the Province to make best use of its natural resources. Importantly, the process brings together a wide range of key stakeholders to encourage common agreement regarding the future development of the Province.

### Process for preparation

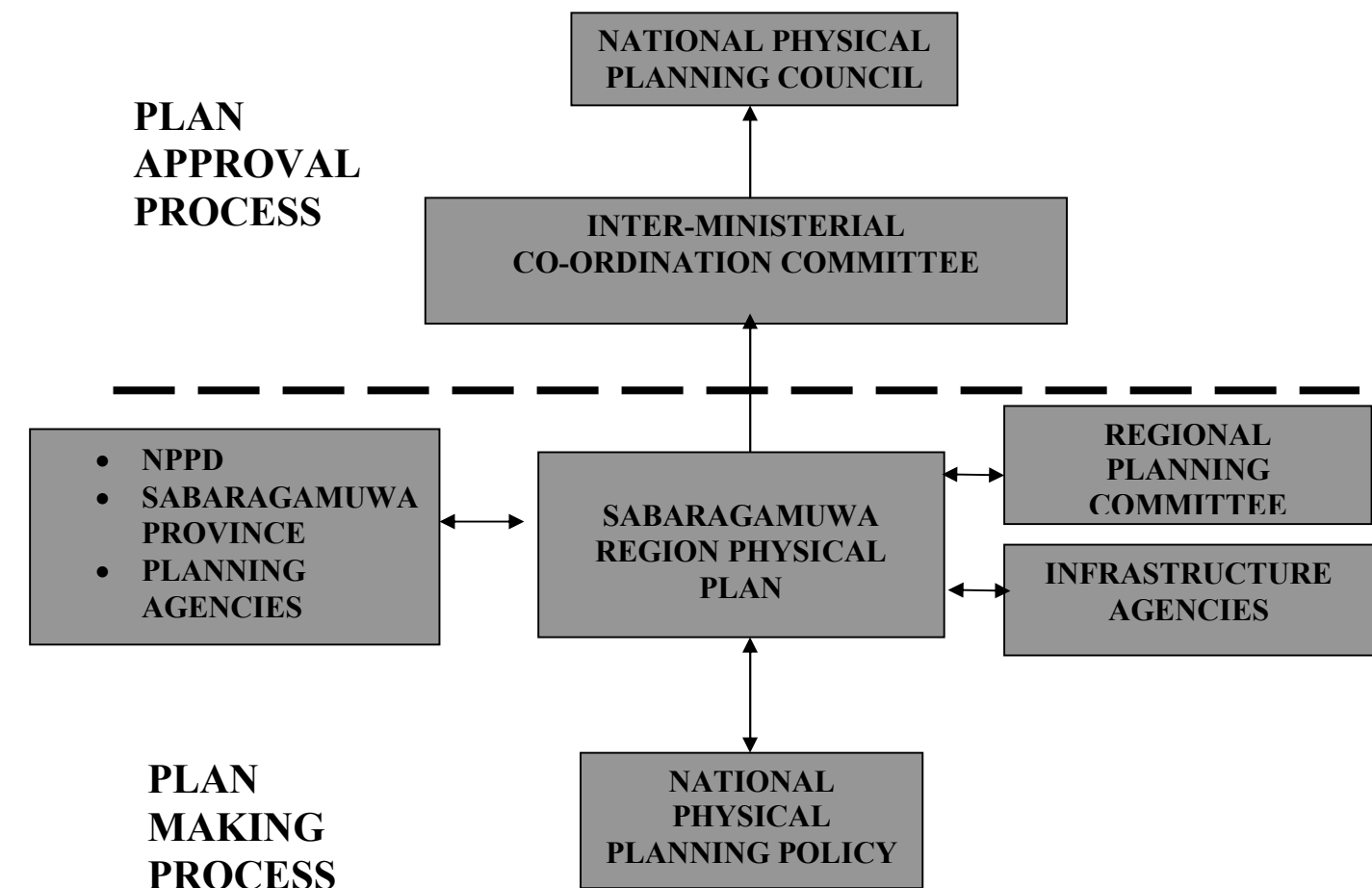
The Provincial Plan for Sabaragamuwa has followed a similar process to the preparation of the NPPP. The research that has informed this document's preparation has involved the input of many government departments and agencies, non-government agencies and research undertaken by the NPPD. As a result, the Sabaragamuwa Provincial Plan is able to provide a single voice for government in the physical planning and development of the Province.

### Legislative requirements

The Town and Country Planning Amendment Act No. 49 of 2000 describes the process that should be undertaken when preparing the National Physical Plan. The process is outlined in Figure 1.

Under the Act, the relevant Province would ordinarily prepare a Regional Plan. However, the province has requested that the Plan be prepared by the National Physical Planning Department (NPPD) and this is allowed for by the Act.

The Regional Plan is prepared with important input from a range of agencies, including infrastructure agencies, with urban and regional planning interests. A Regional Planning Committee has been formed under the Act and has the role of considering the appropriateness of a Regional Plan. Following the approval, subject to any necessary changes, of the Regional Planning Committee, the Plan will be considered by the by Inter-Ministerial Coordination Committee. The National Physical Planning Council ultimately approves the Regional Plan.



**Figure 1:** Plan approval and plan making process

## Guiding principles

The guiding principles for the preparation of this Plan are the same as those for the NPPP. Economic, social and environmental sustainability are the guiding principles and sustainable development requires the effective integration of these considerations, and can be achieved through the implementation of the following:

- *the precautionary principle* – if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason to prevent environmental degradation;
- *intergenerational equity* – the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations;
- *conservation of biological diversity and ecological integrity* should be a fundamental consideration; and
- *improved valuation, pricing and incentive mechanisms* – environmental factors should be included in the valuation of assets and services.

These principles are equally as applicable to the Province as they are for Sri Lanka as a whole and have been a reference point for development of visions, objectives and strategies in this Plan. Resolution of competing or conflicting proposals and prioritization of projects can be facilitated by adherence to these long-term and globally oriented guiding principles. Environmental protection and social integration for example, should be core components of continued economic growth and development. Progress towards the vision and objectives is unlikely to be balanced and equitable if the principles of sustainable development are not fully integrated into the development and implementation of physical planning at all levels.

## Section 2: International, national and regional context

### Introduction

Both international and national influences, as well as local factors combine to shape the development of the Sabaragamuwa Province. The international and national factors are discussed in more detail in relation to Sri Lanka as a whole in the NPPP. Factors such as major global changes towards high productivity commodity production have influenced Sri Lanka's economy through development of the local apparel industry (for example), and potentially good access to international markets provides a positive national and international climate for various forms of trade to assist economic development.

Factors such as these have been identified in the Sabaragamuwa Region Physical Plan and specific strategies have been developed to take advantage of these opportunities (see Section 4).

It is important for the Sabaragamuwa Province to vigorously pursue appropriate economic development opportunities that meet with the visions, objectives and strategies proposed in this Plan and in particular to ensure environmental sustainability.

There is a range of reasons for a vigorous focus on economic development, including the following:

- to help provide the funding for governments and community to invest in social and physical infrastructure, services and facilities; and
- to improve the standard of living for the general community, particularly through providing important employment opportunities.

This development should not be at the expense of environmental and social objectives. For example, the future development of a vibrant tourism industry is a realistic and important opportunity that must be pursued. This draws on national and local competitive advantages including the accessibility to the region, but it will be dependent on the conservation of the natural beauty and important environmental qualities of the Province.

### Strategic location and access

Sri Lanka is well placed geographically to take advantage of international markets and the island is also of a size and shape so that accessibility from most places within the island to key airports and seaports has the potential be relatively easy.

However, for this potential ease of access to be realized it will be necessary to undertake maintenance and improvement of transport infrastructure both within and outside the Province. The strategic location of road, rail, seaport and airport facilities is also required. This is necessary because of the need to move goods off-shore through either air or sea transport and also to support a potentially vibrant tourist industry. The potential for development, in the longer term, of a road or rail link across the Palk Strait would further enhance the international positioning of Sri Lanka and also provide easier access to markets for Sabaragamuwa. This Plan includes strategies that seek to enhance accessibility for the Province.

Sabaragamuwa Province, although not having direct access to port or airport facilities for export purposes, is well located in respect to Colombo where these facilities are available. The proposed new international sea-port and airport at Hambantota will also provide opportunities for access to international markets, particularly from the Ratnapura District. The proposed extension of the Kelani Valley railway line providing a link to Hambantota and Colombo is very important to the future development of the province and also to the well being of the community through access to service and facilities.

There is a wide range of opportunities potentially available for Sabaragamuwa Province to take a greater role in, and advantage of, the national and international economy and access. These are discussed in more detail in the following sections of this Plan.

Many of these opportunities would take much greater advantage of the natural and existing competitive advantages of the region including tourism, agriculture, mining (and especially gemstones) and adding value to products of the region such as tea, rubber and agricultural products.

### Provincial overview

Sabaragamuwa is the 8<sup>th</sup> largest province in Sri Lanka in area and located in the south west of the island. It covers an extent of 4,968km<sup>2</sup> (496,800 ha) which is 7.6% of the total land area of the island.

The province comprises two administrative districts namely Ratnapura and Kegalle. Ratnapura district is larger having an area of 3,275 km<sup>2</sup> (5% of Sri Lanka's land area) while Kegalle covers an area of 1,673 km<sup>2</sup> (only 2.6% of the size of Sri Lanka).

The Province is land locked and surrounded by the districts of Colombo, Gampaha and Kalutara to the west, Kurunagela to the North, Kandy, Nuwara Eliya and Badulla to the east Monaragela, Hambantota, Matara and Galle to the South.

### Population

The Sabaragamuwa population was 1, 787, 938 at the last census in 2001 and was estimated to be 1, 840,000 in 2004, compared to a National population of 19, 359, 000 (2001 Census).

The population growth rate for the Province was below that for the Nation largely because of the significantly lower growth rate in Kegalle District.

**Table 1:** Population Increase Inter census Period 1981-2001

	Census		Increase	% of Increase	Annual Growth rate %
	1981	2001			
Sabaragamuwa province	1,392,031	1,787,938	395,907	28.4	0.9
Ratnapura District	797,087	1,008,164	301,077	26.5	1.2
Kegalle District	684,944	779,774	94,830	13.8	0.6
Sri Lanka	14,846,800	19,359,000	4,512,200	30.4	1.2

Source: Department of Census and Statistics

### Topography

The topography of the Province is characterized by mountains, valleys, rolling and undulating land in the north, eastern, central and south western parts while relatively flat low lands are found particularly in south, eastern, central and south western parts. The elevation ranges from 20 meters to 2140 meters above the mean sea level (MSL).

The Province's northern and north eastern boundary is the escarpment of the central high lands.

### Rainfall

Based on the topography and rainfall the province has divided into six agro/ecological zones.

- The wet zone low country
- Wet zone mid country
- Wet zone up country
- Intermediate zone low country
- Intermediate zone mid country
- Dry zone

In the wet zone, as defined by the above categories, the rainfall averages more than 2500mm annually, the intermediate zone 1500mm to 2500mm annually and the dry zone less than 1500mm annually.

### Economy

The tables below compare the GDP of the various Provinces. Sabaragamuwa has a relatively low share of the Sri Lankan GDP (approximately 7%). Agriculture, industry (including the gem industry) and services are all important contributors to the economy.

**Table 2:** Individual Sector Contribution to Province's GDP - 2006

Province/Region	GDP Share	Sectoral Contribution %		
		Agriculture	Industry	Service
1. Western Province	1,066,495.00	2.79	32.03	65.18
2.Southern	187,115.00	31.40	22.32	46.28
3.Central	177,241.00	34.06	19.35	46.59
4.North Western	186,964.00	24.13	30.75	45.12
<b>5.Sabaragamuwa</b>	<b>133,199.00</b>	<b>29.44</b>	<b>29.40</b>	<b>41.16</b>
6.Uva	92,827.00	49.22	14.20	36.58
7.North Central	89,691.00	44.95	12.14	42.91
8.Eastern	100,457.00	27.58	25.51	46.91
9.Northern	64,004.00	24.77	7.79	67.45

Source : Central Bank Report, 2006

**Table 3:** Sectoral Contribution to GDP - Sabaragamuwa Province (2006)

Sector	National GDP Rs.Mn.	Sabaragamuwa GDP Rs. Mn.	Percentage of Sabaragamuwa From National GDP (%)
Agriculture	362797	39209	10.81
Industries & Mining and Constructions	569020	39163	6.88
Services	1166187	54828	4.70

Source: Central Bank Report 2006

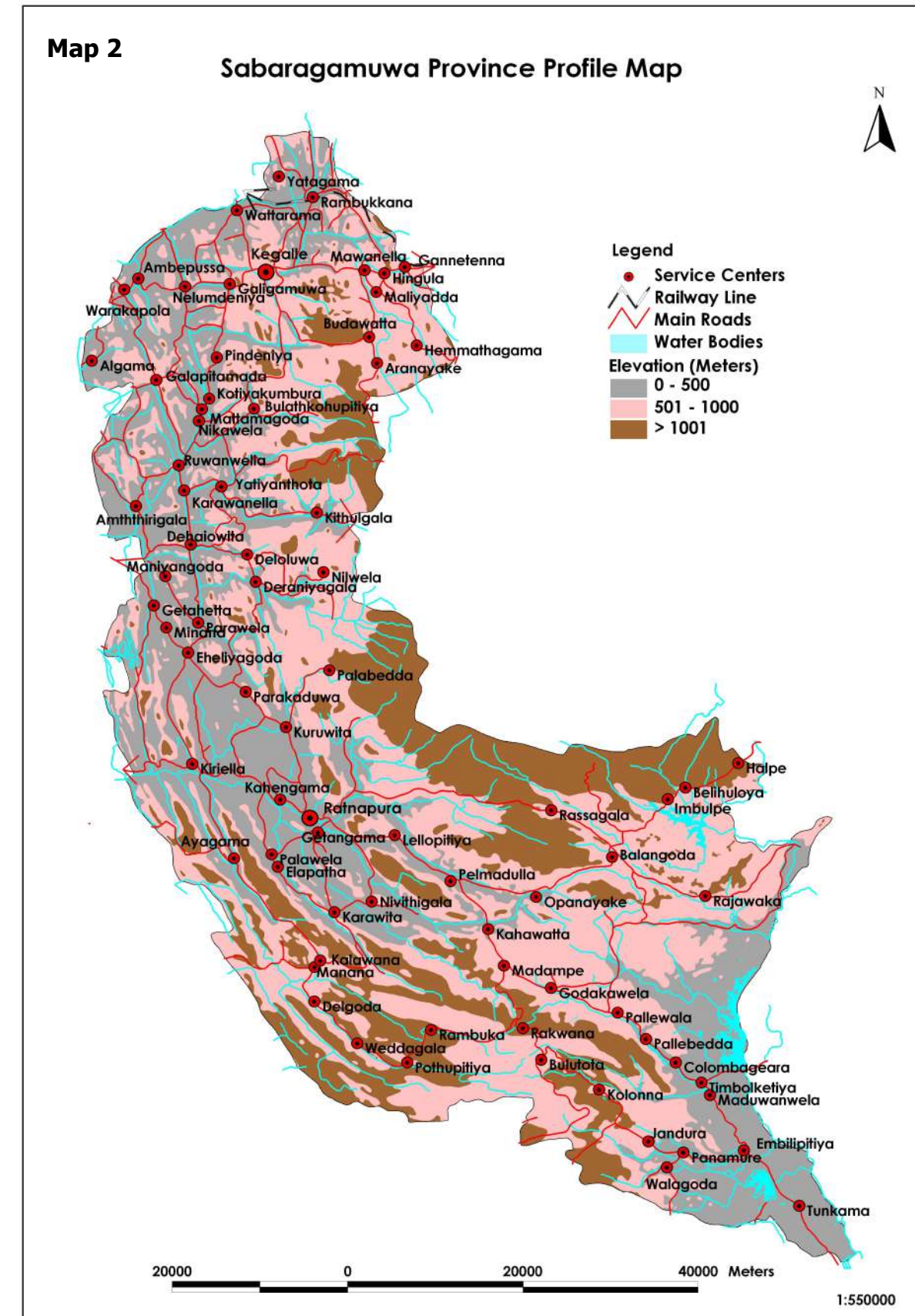
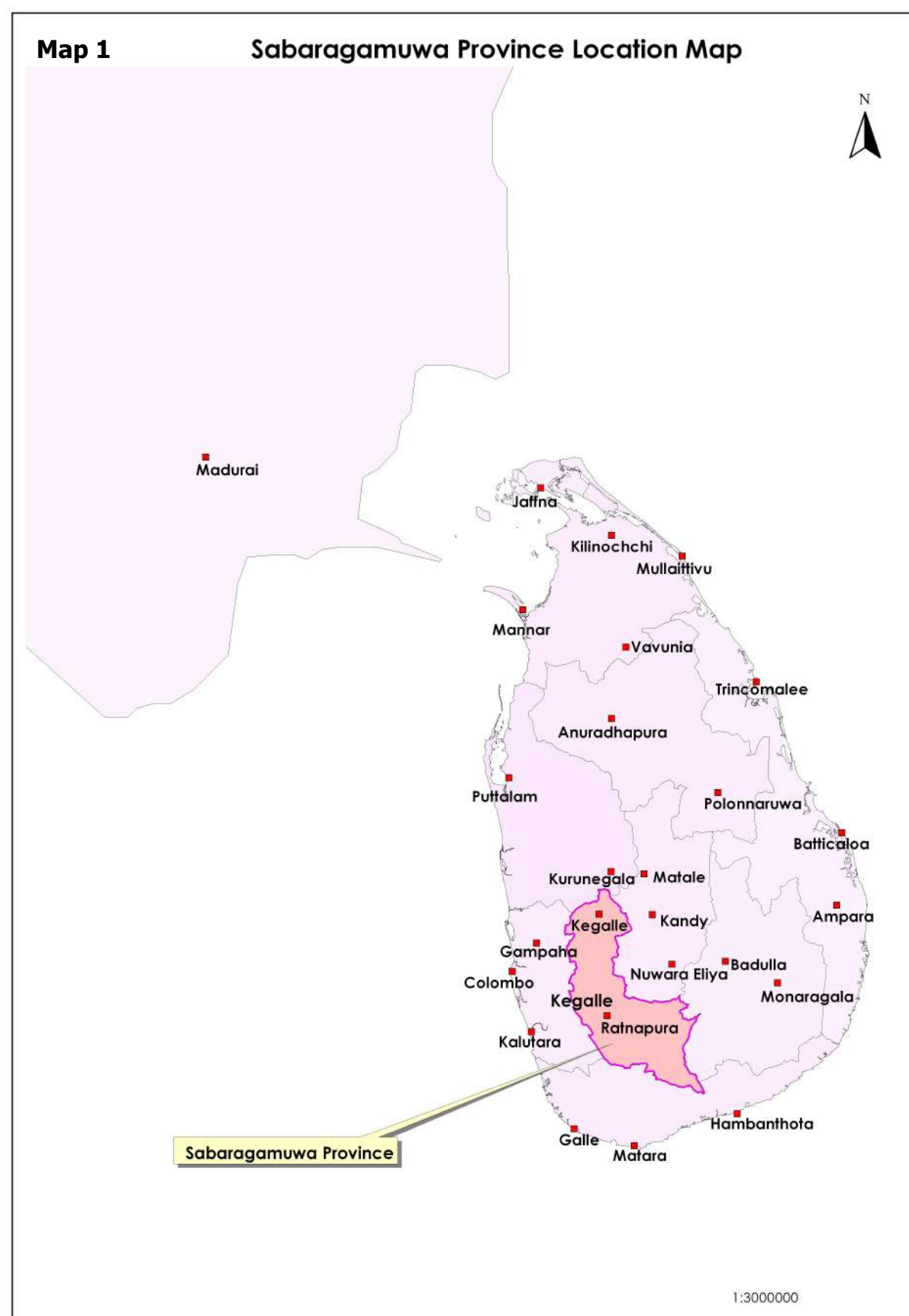
The Sabaragamuwa Province economy generally does not compare well against national indicators as is suggested by the GDP figures above. Other features of the Sabaragamuwa economy include:

- high levels of poverty compared to the national averages
- higher unemployment than the nation as a whole
- strong reliance on gem mining and agriculture as industries.

### Administration

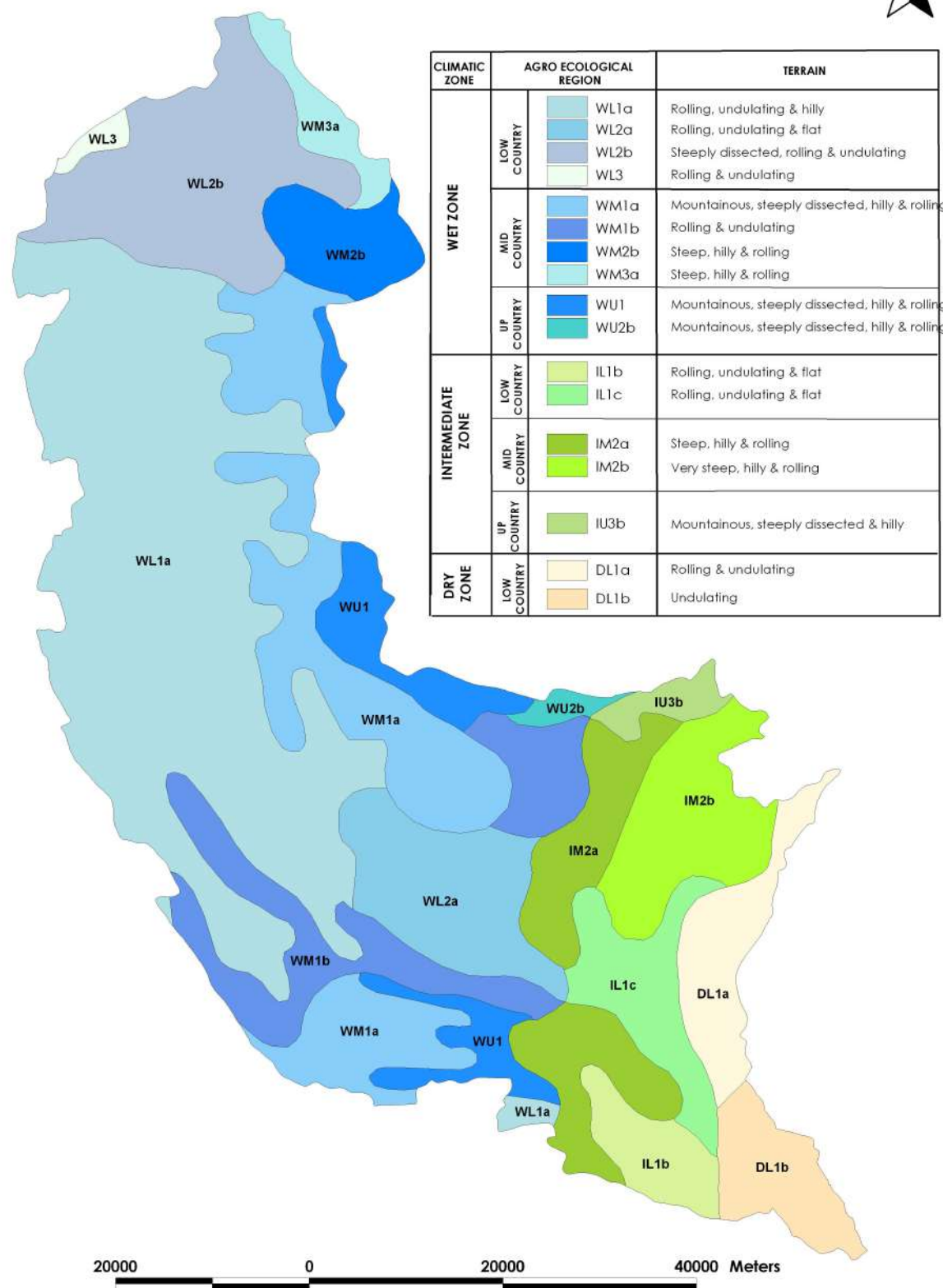
The Province is divided into two, the Districts of Kegalle and Ratnapura, with the towns of Kegalle and Ratnapura as the capitals. Administratively the Province and the 2 districts are divided into 28 Divisional Secretarial (DS) Divisions, 17 in Ratnapura and 11 in Kegalle. Total numbers of Grama Niladari (GN) divisions are 1148 (575 in Ratnapura and 573 in Kegalle). This consists of 3618 villages; 1941 in Ratnapura and 1677 in Kegalle.





Map 3

Sabaragamuwa Province Agro Ecological Zones





## Section 3: Vision and Objectives

### Introduction

The vision and objectives for the Sabaragamuwa Province describe the long term aspiration for the whole of the Province. It is based on the outcomes of a workshop held in Sabaragamuwa Province Administration Centre in Ratnapura on Tuesday 3 April 2007.

The workshop was arranged by the National Physical Planning Department (NPPD) and jointly hosted by the Sabaragamuwa Province and the NPPD. Approximately fifty-five stakeholders attended the workshop representing most of the public sector institutions (refer to appendix 3).

Key intentions of the workshop were to:

- provide important information to officials about the National Physical Plan and the implications for the Sabaragamuwa Province;
- to involve the stakeholders in the preparation of the Physical Plan for the Sabaragamuwa; and
- To obtain important information from participants regarding desired Visions for the future of the Region and also to obtain information regarding the strengths, weaknesses, opportunities and threats (called a SWOT analysis) for the future development of the Province.

### Vision

At the workshop participants were divided into groups after some opening presentations. The participants were asked to prepare visions and undertake a SWOT analysis. The workshop findings were summarised and have been developed into the Visions below. The participants, while foreseeing significant challenges for the Province were optimistic about the future and could see that there are many positive attributes that will contribute to a bright future.

*By 2030 Sabaragamuwa Province will be recognised throughout Sri Lanka for:*

- *the beauty of its **environment** and impressive **natural tourist attractions***
- *a **strong economy** and the success of its **key industries and employment opportunities** including **agriculture, mining** and international recognition of the achievements of the **Sabaragamuwa tourist industry***
- *the ease and comfort of **access for the community**, particularly using **public transport including railway**, to key facilities such as health and education*
- *the attractiveness of towns and **quality of life in urban areas** throughout the Province*

### SWOT Analysis

Workshop participants were asked to identify the strengths, weaknesses, opportunities and threats for the future development of the Province. A wide range of responses was received and have been concisely summarised as follows:

#### Strengths

- a diverse agricultural sector including a range of export crops
- diverse natural environmental assets, high biodiversity and wide climatic range and attractions such as Sinharaja World Heritage tropical rain forest, rivers, lakes, waterfalls and mountains
- a large number of nationally and internationally known historical and archaeological sites such as Sripada Mountain, Saman Devalaya and numerous others.
- Rich cultural heritage and in particular Sabaragamuwa Traditional Dancing and Kandyan Dancing.
- Availability of gems and a significant range of other mineral resources.
- The National University (University of Sabaragamuwa) and technical colleges.
- Central location of the Province with access to all surrounding provinces, particularly with the A4 Badulla Road and the A2 Kandy Road.

#### Weaknesses

- Natural disasters associated with land slides, floods, droughts and thunderstorms.
- Human intervention destroying the natural environment though illegal mining of gems, clay and sand and illegal deforestation and encroachment on reserves.
- Environmental pollution due to improper use of chemicals and lack of a proper solid waste management system.
- Poor infrastructure, in particular road access, and the lack of rail transport as well as inadequate funds at the Provincial level to fund infrastructure.
- Lack of suitable land for urban settlements due to the steep terrain and flooding in settlements at the base of valleys.
- High suicide rates and drug addiction among youth and distraction from higher education due to opportunities available in the gem mining industry for quick income.
- High levels of poverty and a spread of infectious diseases particularly in the plantation sector.
- Agriculture becoming less attractive due to inadequate marketing facilities and absence of value-adding processes located in the Province.
- Absence of an integrated plan covering all sectors of the Province leading to a lack of coordination, waste of funds and delays in decision making.

#### Opportunities

- The proposed Colombo to Hambantota railway line would improve access for visitors and to outside markets.
- Increasing development in Hambantota will provide another market for products of Sabaragamuwa Province.
- Extensive opportunities to attract investment from a variety of sources related to a range of industries including tourism, agriculture and mining as well as a number of others.



### Threats

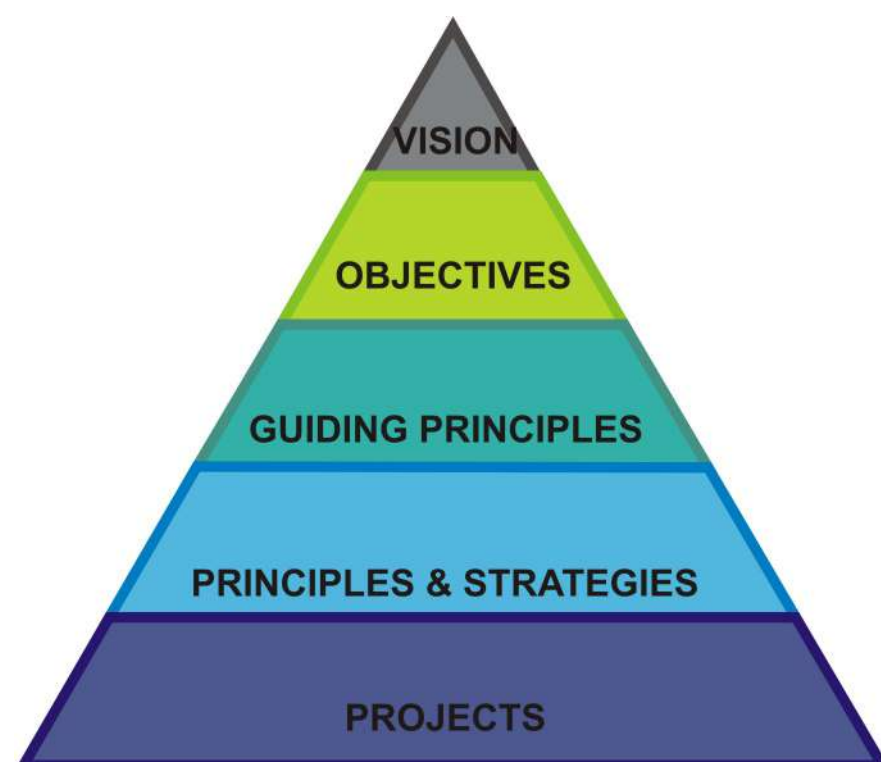
- Absence of political commitment at the National level to development of the Province.
- Dependency on outside institutions for decisions related to development activities.
- Potential for out migration related to future development of Hambantota.
- Negative impacts related to the close proximity of the Western Province.

It is notable that the number of opportunities and threats identified at the workshop is significantly less than the strengths and weaknesses. This is probably related to time restrictions at the workshop and the greater ease with which strengths and weaknesses were identified by workshop participants. There are clearly more opportunities and threats and some of these have been discussed in the introductory sections to Policies and Strategies in the following pages.

The visions, strengths, weaknesses, opportunities and threats have been used extensively to guide the development of the following objectives and in the development of policies and strategies. The objectives have also been guided by the National Physical Plan.







## Objectives

To achieve the Vision the Sabaragamuwa Region Physical Plan will guide future development through the following objectives (note that the objectives are not listed in order of priority):

### Objective 1: Protect the environment

Protect the environment through limiting development in the Central Fragile Area, the Protected Area Network and areas of local, regional and national environmental significance.

### Objective 2: Reducing vulnerability to natural disasters

Ensure that the people of Sabaragamuwa Province live in areas safe from natural disasters.

### Objective 3: Human Settlement development

Create a strong network of compact cities, towns and villages in the Province that provide a high quality of life, an appropriate range of services and facilities and diverse employment opportunities.

### Objective 4: Access and infrastructure facilities

Provide social and physical infrastructure facilities for Sabaragamuwa and good access including efficient and comfortable public transport, to services and facilities to support cities, towns, villages, economic activities and a healthy lifestyle.

### Objective 5: Water resource protection and management

Protect water catchments, water resources and tanks / reservoirs in Sabaragamuwa to improve water quality. Ensure sufficient supply of water for domestic, agricultural and industrial activities and power generation. Direct surplus water supplies to areas of water scarcity.

### Objective 6: Economic Development

A thriving, diverse and sustainable economy for Sabaragamuwa with a wide range of employment opportunities for local people, including a substantial tourism industry

**Figure 2:** Policy pyramid

The policy pyramid illustrates the hierarchy of policy in this document:

The **vision** establishes a picture of what the Province would like achieve with future development.

The **objectives** (or goals) are formed base to achieve the **vision**.

The **guiding principles** are located in the introduction (Section 1) and provide a fundamental basis for making key decisions about strategies and projects.

The **principles and strategies** in Section 4 are prepared to achieve the objectives and through achieving those objectives to reach the vision.

## Section 4: Principles and Objectives

### Protecting the environment

#### Objective 1

**Protect the environment through limiting development in the Central Fragile Area, the Protected Area Network and areas of local, regional and national environmental significance.**

#### Introduction

The majority of the Sabaragamuwa Province is considered to be environmentally sensitive.

Key features of the region from an environmental perspective include the following:

- The large number of forests, forest reserves, and wildlife reserves which is an indicator of its high biodiversity.
- The variety of topography and climatic conditions, from mountains and rainforests in the Kegalle District, to undulating land and dry forests in Ratnapura District.
- The variety of agro-ecological zones with potential for a diversity of agricultural activities.
- The high rainfall characteristic and consequently the number of water courses, particularly in Kegalle.
- The generally natural beauty of the undeveloped areas and the scenic qualities of agricultural areas which provide potential for a significant tourism industry.
- The region is a major part of the Central Fragile Area.
- There are significant parts of the region that form part of the Protected Area Network, comprising forest and wildlife reserves.

#### The Central Fragile Area

Nearly two-thirds of the Region is within the Central Fragile Area (CFA). The CFA is defined in the NPPP. The 300 metre contour has been used to define the lower limits of the CFA. The CFA defines an area that is environmentally sensitive and has high biodiversity. Partly due to the high rainfall, the headwaters for a number of major rivers are in the area and there is a large contribution to aquifer recharge. Also due to the rainfall and high gradient of large areas in combination with vegetation clearance there are concerns and high potential for soil erosion and land slides.

The CFA is largely unsuitable for urban or agricultural development as a consequence of the environmental sensitivity of the area. To effectively implement the NPPP there is further detailed work required to assess the area and determine the appropriateness of various activities. For example, there is a need to consider the suitability of land for various purposes and clearly identify the areas which should not be used or should be limited in their use. This will be necessary to ensure that there is an adequate basis for local councils to prepare local Development Plans and include land use zoning. These Development plans should be given a high priority to prevent ongoing inappropriate development.

#### Protected Area Network

The Protected Area Network (PAN) is also an important environmental asset for Sri Lanka and there are significant areas of the region that fall within the PAN comprising wildlife and forestry reserves. The PAN is divided into Category 1 and Category 2 areas:

- Category 1 areas will be protected from any new development and include areas such as forests, wildlife habitats, areas of high biodiversity, water catchments and areas with strong historical, cultural religious or aesthetic values.
- Category 2 areas are those where current sustainable development / activities, where appropriate, will be allowed to continue where appropriate, and new activities will be discouraged.

#### Key Issues

The NPPP identifies a number of key issues driving the protection of the natural environment including:

- 'Loss of rare ecosystems, species and biodiversity that is unique to Sri Lanka;
- loss of areas of natural beauty;
- soil erosion;
- landslides;
- reduced water quality and supply;
- sedimentation of reservoirs due to deforestation, development and agricultural production in the catchment area; and
- a history of no clear policy direction or implementation to protect sensitive areas.'

The issues identified by the NPPP are also highly relevant for the Region. The key environmental issues identified for the region are as follows:

- Deforestation due to illicit felling of commercially valuable trees and forests and also to allow for mining of gems and valuable minerals.
- Fires in forest scrub particularly in Kolonne and Balangoda Pradeshiya Sabhas.
- Sand mining and gem mining in river basins.
- Water pollution in rivers streams and water bodies, (this has been particularly noted during 'Sri Pada' season) with faecal pollution on the rise in many watercourses due to poor sanitary facilities and poor stormwater drainage and maintenance.
- Development of settlements in inappropriate locations.
- Improper and poor solid waste management of many local authorities and illegal disposal of waste.
- Loss of biodiversity due to human encroachment in forests and forest reserves.
- Natural hazards due to anthropogenic effects such as land slides, erosion and flooding.
- Hazards caused by illicit gem mining and bad mining practices, excavation of clay and quarrying.
- Threats to archaeological reserves, historical sites and places of scenic beauty.



## **Principle**

### **1.1 Protect the Central Fragile Area**

#### **Strategies**

- 1.1.1 Undertake a detailed analysis of the Central Fragile Area (CFA) as a high priority to follow the initial study undertaken by the National Physical Planning Department.
- 1.1.2 The study should break the area down into a number of land use categories with a focus on suitability of land for future conservation and development.
- 1.1.3 Examples of factors that need to be considered in determining the categories include:
  - gradient
  - rainfall
  - soil conditions
  - agricultural capability
  - vegetation types
  - conservation values (including biodiversity)
  - buffering requirements (from sensitive areas)
  - potential for flooding, land slides and erosion
- 1.1.4 The further CFA study should provide sufficient detail to clearly guide the preparation of Development Plans which will include detailed definition of zones for the CFA.
- 1.1.5 The study should also include recommendations regarding the following:
  - the range of appropriate uses including those that are prevented/prohibited; those that may be appropriate provided they satisfy certain conditions; and those that should be allowed / permitted for particular areas.
  - those existing uses that should be ceased, for example growing vegetables on slopes greater than 60%
  - economic and social evaluation of the impacts of removing existing land uses such as vegetables gardens and any other land uses if necessary, with recommendations regarding implementation.

## **Principle**

### **1.2 Regulate development in the Protected Area Network**

#### **Strategies**

- 1.2.1 Follow the recommendations of the National Physical Plan in regard to the Protected Area Network by:
  - preventing / prohibiting new development in the area identified as Category 1
  - regulating new development to ensure that new development in the area identified as Category 2 is appropriate.
- 1.2.2 Adopt the principle of conservation and sustainable use in Category 2 areas rather than protection only. Areas that have remained largely in their natural state should be conserved or protected particularly in Category 1 areas, however areas where there has been ongoing sustainable use of resources (for example the extraction of treacle from trees) may be appropriate for limited sustainable use.
- 1.2.3 Providing clear indication / markers of the boundaries of Protected Areas Network.
- 1.2.4 Establish separation / buffers around areas like wildlife reserves and forests.

- 1.2.5 Strictly enforce laws preventing illegal use and tree removal in forestry and wildlife areas.

## **Principle**

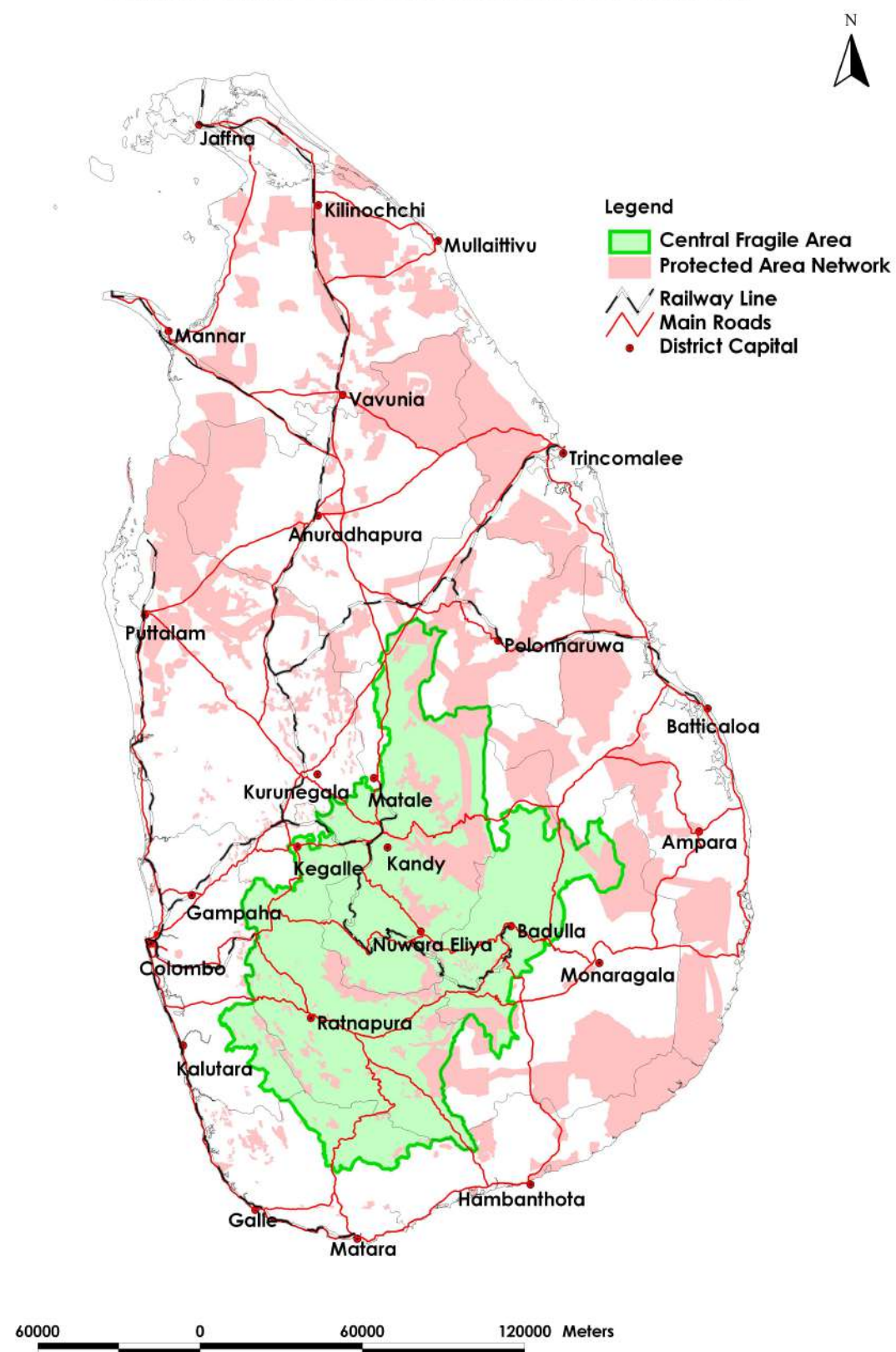
### **1.3 Prevent future environmental concerns and remediate existing environmental degradation**

#### **Strategies**

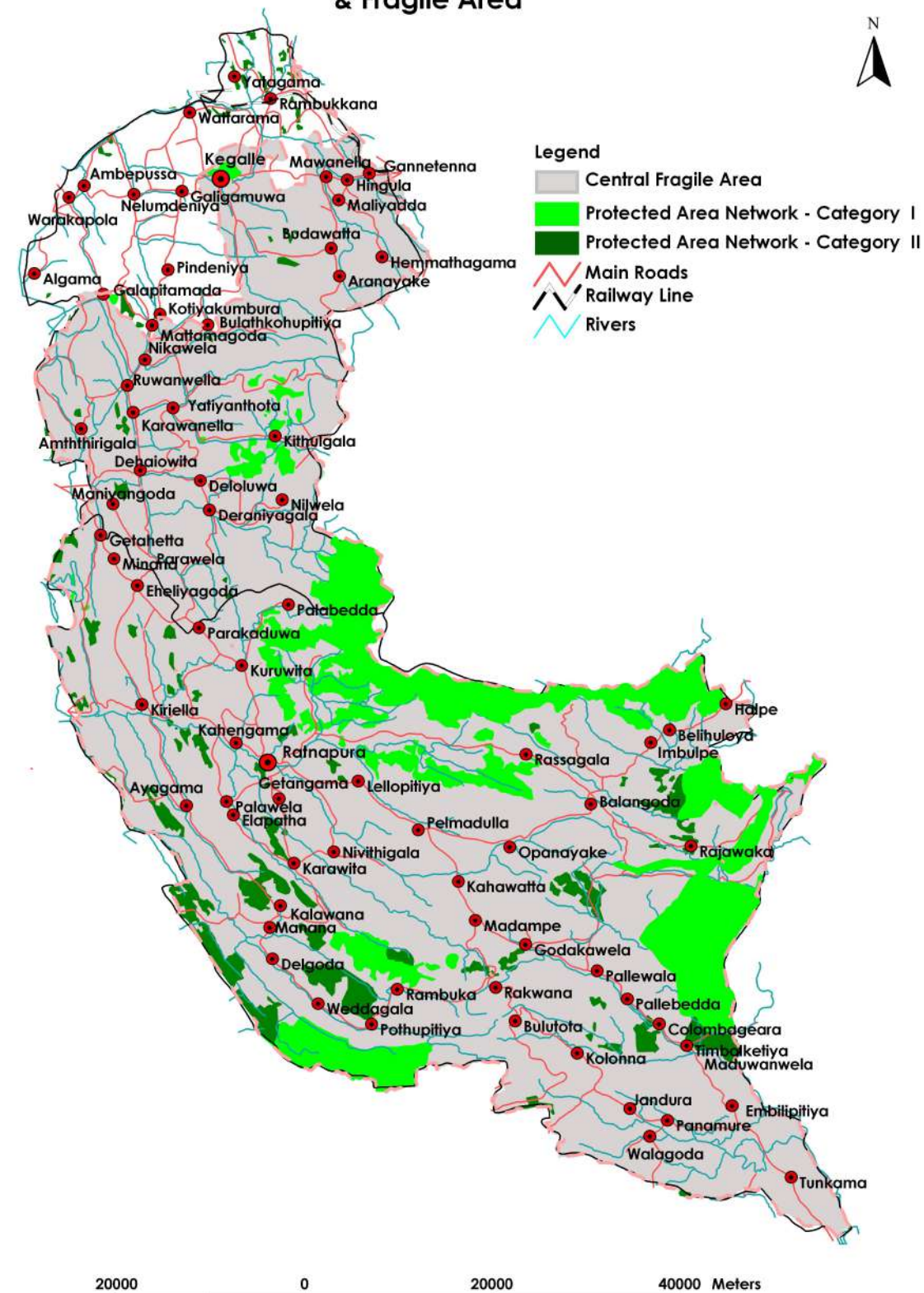
- 1.3.1 Maintain and prevent development in forest and scrub areas in close proximity to river systems and particularly those areas (such as watersheds) in close proximity to rivers or streams that feed reservoirs or tanks.
- 1.3.2 Examine the potential to introduce legislation that prevents indiscriminate removal of native / natural vegetation on privately owned land. This legislation would require that approval is sought for removal in defined areas, including land referred to in 1.3.1.
- 1.3.3 Ensure that in the design of roads and location of infrastructure such as power generation facilities, that an appropriate level of environmental impact assessment is undertaken (considering a range of options), dependent on the scale and location of the proposed facilities.
- 1.3.4 Ensure that environmental considerations are paramount in future development of urban areas including issues such as:
  - reducing future dependence on motor vehicles and encouraging use of public transport
  - avoiding discharge of sewage to rivers and streams through establishing reticulated sewerage systems
  - establishing water sensitive urban design and stormwater drainage systems, which prevent or reduce the discharge of contaminants to water courses and make better use of water.
- 1.3.5 Prevent mining of sand and any other minerals in rivers and streams.
- 1.3.6 Strictly enforce laws preventing unauthorised mines, particularly in close proximity to roads and towns and enforce proper mine remediation.
- 1.3.7 Examine the potential to establish a 'community watch scheme' where the community provides information to authorities regarding illegal or indiscriminate activities harming the environment.

Map 4

# Central Fragile Area & Protected Area Network



Map 5 Sabaragamuwa Province Protected Area Network & Fragile Area





## Reducing Vulnerability to Natural Disasters

### Objective 2

**Ensure that the people of the Sabaragamuwa Province live in areas safe from natural disasters**

### Introduction

The majority of the Sabaragamuwa Province is located in the Central Fragile Area (CFA) which is characterised by extensive areas of mountainous and steep topography and the limited availability of developable land in the low lying valleys of mountainous areas, particularly in the Kegalle District.

These characteristics and high rainfall contribute to the Region being prone to land slide and flooding. This is a particular concern where there has been inappropriate development that has not adequately taken into account the potential vulnerability of development in many locations in the Province. Areas in the Districts of Kegalle and Ratnapura are both prone to land slides, while the District of Ratnapura is most prone to flooding.

### Key Issues

#### Vulnerability to land slides, earth slips and soil erosion

Both the District of Kegalle and the District of Ratnapura include substantial areas that are prone to landslides as follows:

- 36.4% of Kegalle is prone to landslides (27.1% with high risk)
- 33.4% of Ratnapura is prone to landslides (24.1% with high risk)

Source: Land Use Policy Unit Offices – Ratnapura and Kegalle

While land slides occur naturally and due to a variety of factors, the probability of land slides and earth slips is increased by human interference which reduces the stability of the soil or geological formation. A common trigger is a high rainfall event where the weight of the soil, increased when the soil is saturated, creates a force too great for the soil or geological structure to support. Typical land uses that are likely to increase the probability of this result are construction of houses or road construction requiring cutting into a hillside and agriculture involving the clearance of vegetation.

Soil erosion above that which occurs in natural conditions is often created through the clearance of vegetation, particularly on steep slopes, and the use of land for activities where inadequate soil coverage is maintained such as vegetable growing on steep slopes.

### Flooding

There are significant flooding concerns in some urban areas of the Province. Flooding is largely created by developments located in low lying areas which are subject to periodic inundation. Often the early development that takes place in towns is on land that is reasonably removed from flooding risk. However, there is limited land available in close proximity to many towns in the Province that is not above flood plains and not on steep slopes. As good land becomes

scarce, land that is low lying such as paddy-fields or steeper land that is sometimes subject to potential for land-slides, is used for development.

Development in low lying areas may also be on land which is environmentally sensitive or on land that functions naturally to accommodate flood waters. Land is often filled to lift it above flood levels or to reduce the risk of flooding. Where land is filled in this manner, there is the potential for the capacity of the river or stream to accommodate the flood waters to be reduced. This may increase the flood risk to other areas, increase the water speed and create additional downstream erosion.

Climate change brings with it uncertainties regarding future rainfall and the likelihood of more extreme weather conditions. The possibility of increased flooding or larger flood events related to climate change demands a cautious approach to future development.

Natural hazards and the environmental sensitivity and biodiversity of large areas of land in the Province, and particularly in the Central Fragile Area, are major factors in the establishment of important policies in the NPPP to focus development in areas without these hazards and development constraints.

### Principle

#### 2.1 Focus new development away from areas at risk of flooding.

#### Strategies

- 2.1.1 Prepare detailed mapping of flood prone areas for the Province as a high priority (also note that detailed topographic mapping is required for key areas and particularly areas that may be subject to future development).
- 2.1.2 Establish a standard for flood risk that is acceptable for future development (for example a maximum risk of 1 in 100 Average Recurrence Interval) taking into account the potential for changes to the level of risk as a consequence of the impacts of climate change.
- 2.1.3 Prevent the filling of land in flood prone or potentially flood prone areas to avoid the displacement of the flooding to other areas and to avoid increased downstream erosion.
- 2.1.4 In the absence of adequate flood mapping for potential urban growth areas great caution should be exercised in the location of new development. Development should be located so that it is well above areas known to have been, or which appear to be vulnerable to flooding or inundation.
- 2.1.5 Ensure that local Development Plans include maps and policies that prevent future urban development and the development of infrastructure in areas below an agreed minimum flood level.

## **Principle**

### **2.2 Prevent inappropriate development including urban settlements and agriculture in areas affected by landslide, landslip and soil erosion.**

#### **Strategies**

- 2.2.1 Ensure that local Development Plans incorporate zoning maps and policies to reflect the areas affected or potentially affected by land-slide, soil-slip or soil erosion and prevent inappropriate development in these areas.
- 2.2.2 Incorporate development guidelines into Development Plans in accordance with the requirements of the National Building Research Organisation (See the Guidelines for Construction in Landslide Prone Areas) to ensure that any development that does occur minimises the risk. Such Development Plan guidelines should include details regarding:
  - site clearance, including vegetation retention
  - site drainage requirements
  - earthwork requirements
  - the circumstances where specialist geotechnical advice should be sought
  - the location of roads and preventative measures required
  - the circumstances where specialist geotechnical advice should be sought.
- 2.2.3 Ensure that new tea plantations and agriculture such as vegetable growing are not established on land with a gradient greater than 60%.
- 2.2.4 Existing tea plantations may remain but should incorporate strict land management practices such as ensuring drainage of the land.



## Human Settlement Development

### Objective 3

Create a network of compact cities, towns and villages in the Sabaragamuwa Province, that provide a high quality of life, an appropriate range of services and facilities and diverse employment opportunities.

### Introduction

#### The National Physical Plan

The National Physical Plan proposes a network of urban settlements for Sri Lanka that will, over a period of time, significantly change the pattern of urban development in the country. The NPPP will also have a significant effect on future urban development patterns in the Sabaragamuwa Province.

The NPPP recognises a number of key factors that have been taken into account in establishing a proposed new pattern of development.

#### **CONSIDER INSERTING A PLAN OF THE REVISED PATTERN FOR THE COUNTRY (MAP 13) BUT HIGHLIGHT THE PROVINCE BOUNDARY**

The proposed pattern recognises that Sri Lanka has a relatively small land area and a growing population and that it is important to establish a pattern of development that will be sustainable in the long term. Some of the issues associated with current patterns of growth that are also relevant for the Province include:

- the use of environmentally fragile areas for urban settlements
- a pattern of dispersed low density settlements where it is difficult to adequately provide infrastructure, social services and public transport needed by the community
- loss of good agricultural land to urban development and sprawl
- location of settlements on land that is vulnerable to natural disasters such as landslides and flooding
- entrenching regional economic and social disparities

#### Population Growth

Population in the Province grew by 0.9% per annum between 1981 – 2001 (an increase of approximately 400, 000 people). This was slightly lower than the national annual average growth rate of 1.2% (an increase of approximately 4.5 million people for the Nation) between the years 1981 and 2001.

**Table: 4**

**Population Increase: Inter census Period 1981-2001**

	Census		Population Increase	% Increase	Annual Growth rate %
	1981	2001			
Sabaragamuwa province	1,392,031	1,787,938	395,907	28.4	0.9
Ratnapura District	797,087	1,008,164	301,077	26.5	1.2
Kegalle District	684,944	779,774	94,830	13.8	0.6
Sri Lanka	14,846,800	19,359,000	4,512,200	30.4	1.2

Source: Department of Census and Statistics

The District of Ratnapura had the same rate of growth as the National average over the same period, while the population growth in Kegalle was half this rate at 0.6 percent per annum.

The disparity in growth within the Region may be related to a number of factors which favour population growth and urban development in Ratnapura including:

- topography in some areas is more suited to urban development (not as mountainous as Kegalle)
- attraction of additional people to new infrastructure and facilities in the Embilipitiya area
- opportunities in the area related to agriculture
- population increases in two reservoir based settlements (Uda Walawe and Chandrika Wewa).

Table 3.2 illustrates other significant features of the Sabaragamuwa population as a whole including:

- a declining young population (below the age of 14)
- a rising population between 15 to 64
- a rising population (over 65 years of age)

The decline in the young population is greater in Kegalle. Ratnapura actually had a decline in the number of older people which was counterbalanced by the rise in the older age group in Kegalle. The middle age range rose significantly in both Districts which suggests a longer term rise in the older age groups. This has significant implications for social services and from an economic perspective in terms of the potential for a long term reduction in the labour force.

**Table 5:**  
**Population Composition by Age – Sabaragamuwa**

	Census year					
	1981			2001		
	Sabaragamuwa Province	Ratnapura District	Kegalle District	Sabaragamuwa Province	Ratnapura District	Kegalle District
Population below the age 14 years	34.3	35.0	33.7	28.2	29.8	26.6
Population between 15-64 years	61.0	60.5	61.5	64.5	64.0	65.1
Population over 65 years	6.8	8.8	4.8	7.2	6.2	8.3

Source: Department of Census and Statistics, 2001

### **Proposed settlement pattern for Sabaragamuwa**

The settlement pattern proposed by the NPPP recognises the issues and proposes that most new development should be located away from the Central Fragile area, which forms a major part of the Sabaragamuwa Province, and away from the narrow coastal strip. The majority of new development will occur in proposed 'Metro Regions' and 'Metro Cities'. For example, in the proposed North Central Metro Region there are to be four 'Metro Cities' each of one million people comprising the 'Metro Region' by 2030.

Significantly, and in acknowledgement of the constraints making urban development problematic in many parts of Sabaragamuwa, there are no 'Metro Regions' or 'Metro Cities' proposed for the Province by the NPPP.

The highest order towns proposed by the NPPP for Sabaragamuwa are the existing District Capitals of Kegalle and Ratnapura. Population growth of most urban areas is also to be restrained. The NPPP also proposes that most other towns located in the Central Fragile Area within the Sabaragamuwa Province should not be allowed to grow beyond their current boundaries. The series of maps (map 7 to 12) illustrates the rationale behind the limitation of development in the Central Fragile area, due to a range of constraints including, slope, land-slide risk and wildlife and forest reserves. Map 10 combines these constraints into a single Map. Map 13 illustrates the Central Fragile Area which was developed to protect these sensitive areas.

Map 12 illustrates the proposed hierarchy of centres in the Province and provides guidance regarding the proposed level of facilities for each. Many urban centres are located in the Central Fragile Area and will therefore be prevented from expanding their boundaries outward. However, there is a need to ensure they provide an adequate level of facilities to service the local community. The hierarchy has been adopted from the NPPP on an interim basis and may

need to be reconsidered as more detailed analysis is undertaken of the potential for development in the Province in accordance with the Principles and Strategies outlined below.

The southern end of the Province around Embilipitiya has additional potential for development and its inclusion in the Central Fragile Area should be reassessed in a careful and cautious manner.

While generally there will be a need to focus any major new services and facilities in the District Capitals Kegalle and Ratnapura and also in Embilipitiya, there will also be a need to maintain and upgrade existing facilities in the other urban centres. There are many examples of services and facilities that require upgrading. These include facilities like sewage and water supply as well as public transport and social services.

### **Urban design and planning issues for towns**

Urban design combines architecture and town planning matters to help improve the identity; character and image of an area; environmental sustainability; helps to facilitate thriving economic activities; and in particular to provide a quality of life for those who live in an urban area.

Inadequate attention is being given to both planning and urban design and as a consequence there are substantial issues in most towns in the Province. Some of these issues include the following:

- the need for precinct planning to determine the most efficient distribution of functions throughout towns and to establish the character and individual design of each precinct
- developing a road hierarchy to distribute traffic efficiently
- little consideration of the most efficient and effective location of important facilities such as bus stations
- lack of planning for pedestrians and footpaths in urban centres
- unplanned streetscapes and in particular, unplanned frontages to roads
- absence of landscaping, trees and shade within streetscapes and public open space
- lack of parks and sporting facilities and open space linkages between parks and open space areas
- lack of staging of development to enable efficient extension of infrastructure and services
- the need for assessment and heritage listing of many landmarks, buildings of historic and architectural importance and areas of unique character or historic importance.

### **Principle**

**3.1 Prepare urban plans in accordance with the settlement pattern proposed by the National Physical Plan for the Central Fragile Area and for the Province as a whole.**

### **Strategies**

- 3.1.1 Cities and towns within the Central Fragile Area and throughout the Province are to be developed in accordance with the hierarchy proposed by Map 12.

- 3.1.2 Central Fragile Area towns should not expand beyond existing boundaries, without there being detailed analysis in accordance with Principle 3.2 below, with the exception of Opanayaka which has some potential for additional development.
- 3.1.3 Embilipitiya in the south of the Province is well located for future urban expansion and to service a significant hinterland located between Ratnapura and Hambantota. The Town of Opanayake in the Central Fragile Area is appropriate for limited urban expansion. Detailed analysis of the potential for future development of Opanayake, particularly taking into account flooding and landslide hazards, should be undertaken and incorporated into structure planning, urban design and Development Plans for the town.
- 3.1.4 Undertake detailed population and growth analysis for significant urban settlements and in particular larger settlements and those that are designated for future growth or increases in population such as Embilipitiya and the District Capitals and make use of this in determining the need for management of growth.
- 3.1.5 The southern end of the Central Fragile Area around Embilipitiya (and some other smaller areas) should be reassessed to consider potential for development. This could be undertaken as part of the proposed Stage 2 study on the Central Fragile Area.
- 3.1.6 All significant towns in the Province should have structure plans and urban design plans prepared for them, implemented through the preparation of Development Plans which include land use controls.

## **Principle**

### **3.2 Identify areas for future urban expansion**

#### **Strategies**

- 3.2.1 Undertake more detailed analysis, particularly of the Central Fragile Area, to identify areas suitable for urban expansion.
- 3.2.2 Obtain relevant data such as detailed flood mapping and detailed contour mapping in relevant areas to enable the detailed analysis of suitability of land for urban expansion.
- 3.2.3 Review the location of the Central Fragile Area boundary in Sabaragamuwa, particularly at the southern end of the Province including Embilipitiya.
- 3.2.4 In undertaking detailed planning at District and Local level in preparation for local authority Development Plans, consideration should be given to any required changes to the hierarchy proposed in the Plan. This information can then be considered when the NPPP and the Sabaragamuwa Region Physical Plan are reviewed.

## **Principle**

### **3.3 Undertake comprehensive planning and urban design to establish compact, efficient urban development which provides for a good quality of life.**

#### **Strategies**

- 3.3.1 Prepare structure and urban design plans for all significant towns, which incorporate the following features:
  - sequencing and programming of urban development to enable efficient provision and extension of infrastructure and services
  - precinct plans to ensure the effective distribution of services, facilities and housing throughout each urban area
  - a road hierarchy to distribute traffic safely and efficiently
  - designation of locations for medium to higher density housing in close proximity to services and facilities, shops and public transport
  - parks, sporting fields and linkages between significant areas of open space
  - pedestrian routes and footpaths
  - landscaping, trees and shade in streetscapes and public open space
  - the assessment and protection of key items of heritage such as buildings of historic or architectural importance and urban areas of unique character or historic importance.
- 3.3.2 Key urban facilities such as hospitals bus stations, markets and other public facilities requiring regular access by members of the community should be carefully located to maximise accessibility, preferably in accordance with a structure and urban design plan.
- 3.3.3 In areas where it would be inappropriate to develop medium to high density housing, opportunities for infill housing should be examined. For example, large allotments or vacant land that is unsuitable for agricultural use may be appropriate, provided this land is within existing urban boundaries, and not potentially flood or land slide affected.
- 3.3.4 Linear urban development extending along main roads adjacent to towns and cities should be prevented and development should follow structure and urban design plans which promote compact urban development.

## **Principle**

### **3.4 Provide adequate social and physical infrastructure to urban areas in accordance with the desired hierarchy of urban centres, with Kegalle, Ratnapura and Embilipitiya as key 'hubs' for major facilities**

#### **Strategies**

- 3.4.1 Most new major services such as government departments and agencies, university campuses and teaching hospitals should be located within the District Capitals Kegalle and Ratnapura. Ratnapura is the Provincial Capital and the administrative centre of the Province.
- 3.4.2 The City of Embilipitiya should expand its population and services as the third major centre within the Province, but should not include the major government



and administrative facilities like those in the District Capitals and in particular Ratnapura.

- 3.4.3 The Cities of Kegalle, Ratnapura and Embilipitiya should act as key hubs with public transport designed to enable easy access to major services and facilities in these towns.
- 3.4.4 Analysis of the population structure and growth trends for all significant urban settlements should be undertaken, as a basis for service provision and to inform planning and sequencing of development of future urban areas.

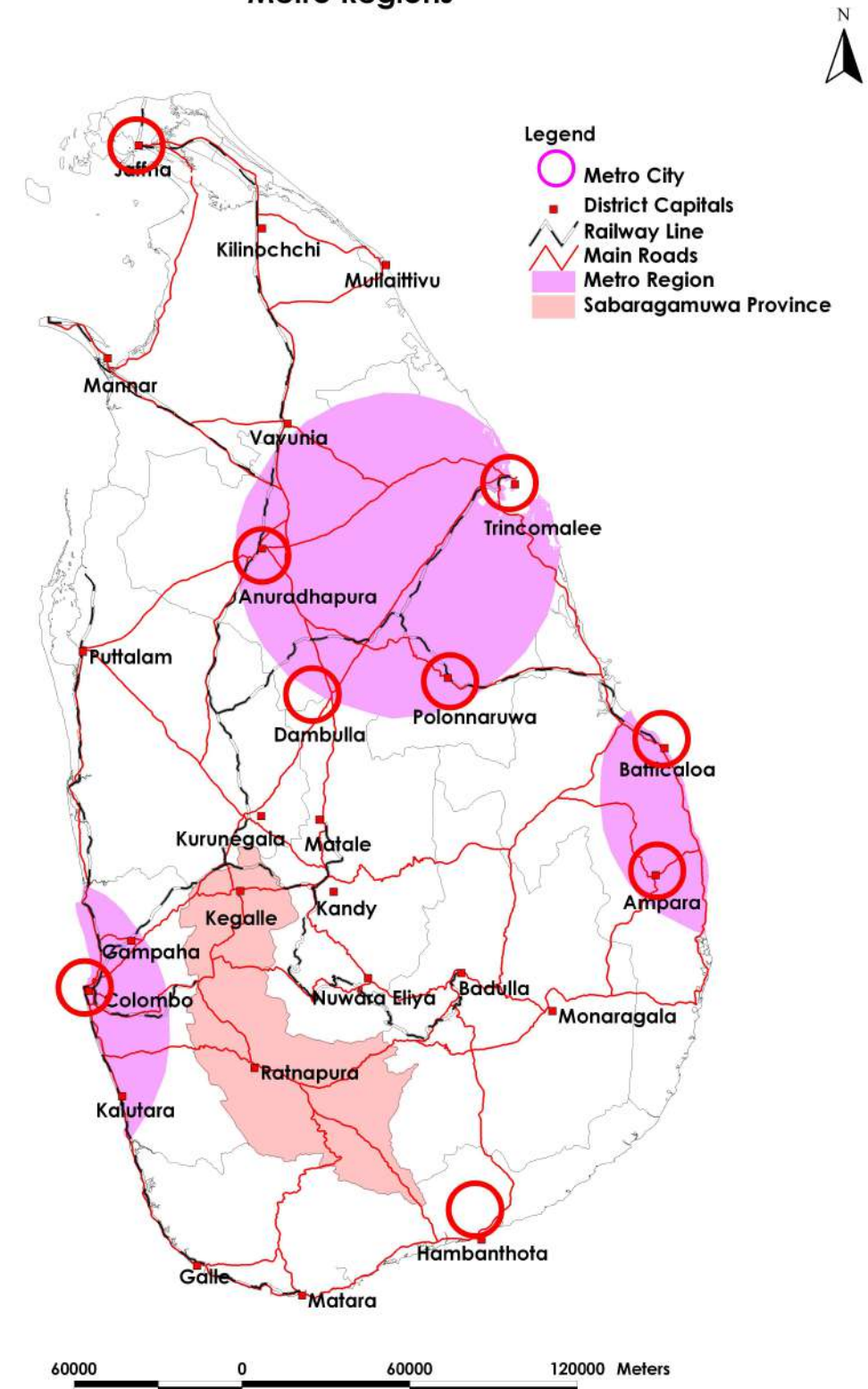
## Principle

### 3.5 Protect good quality agricultural land, conserve environmentally sensitive areas and avoid hazardous areas in developing urban areas.

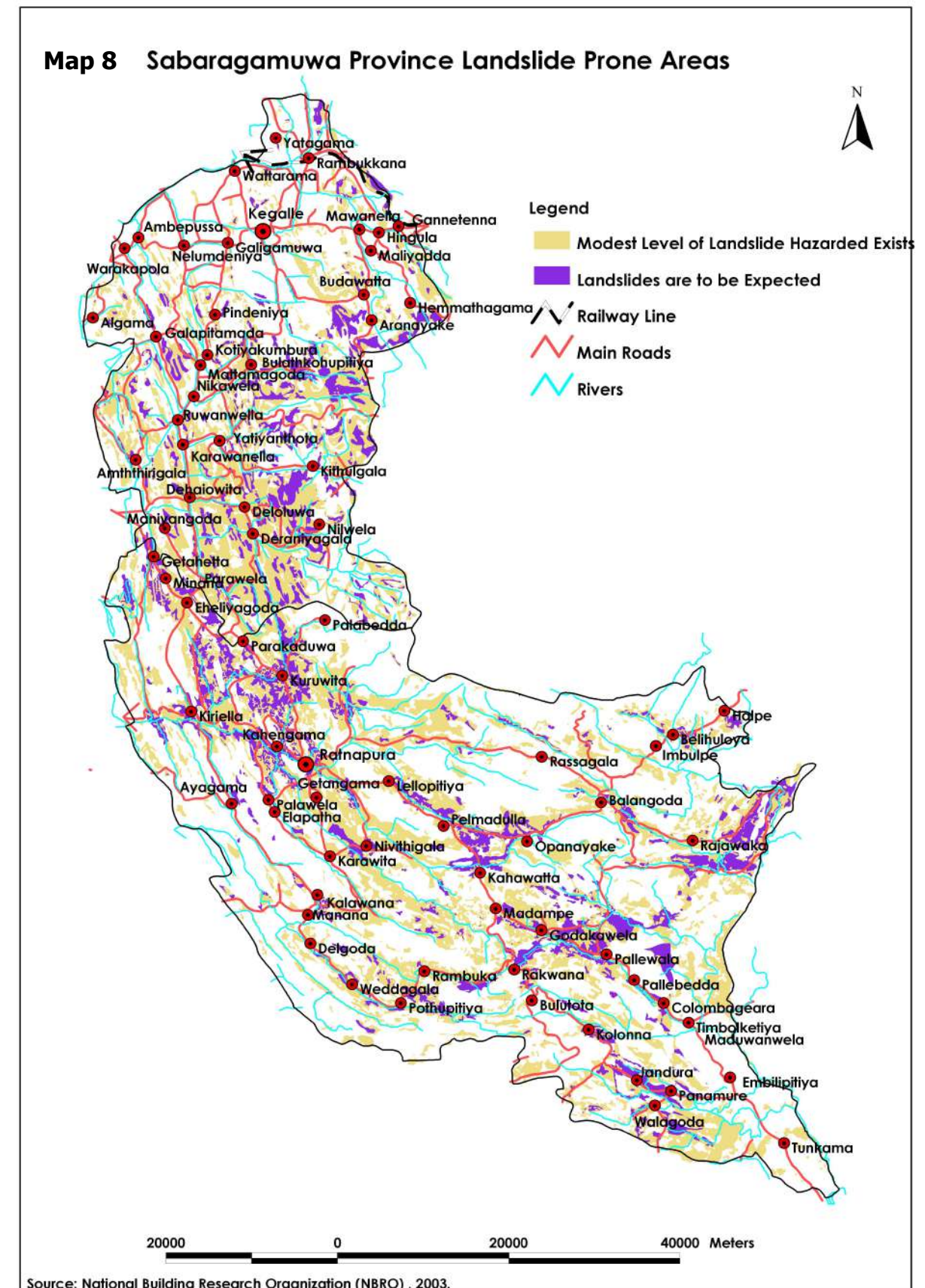
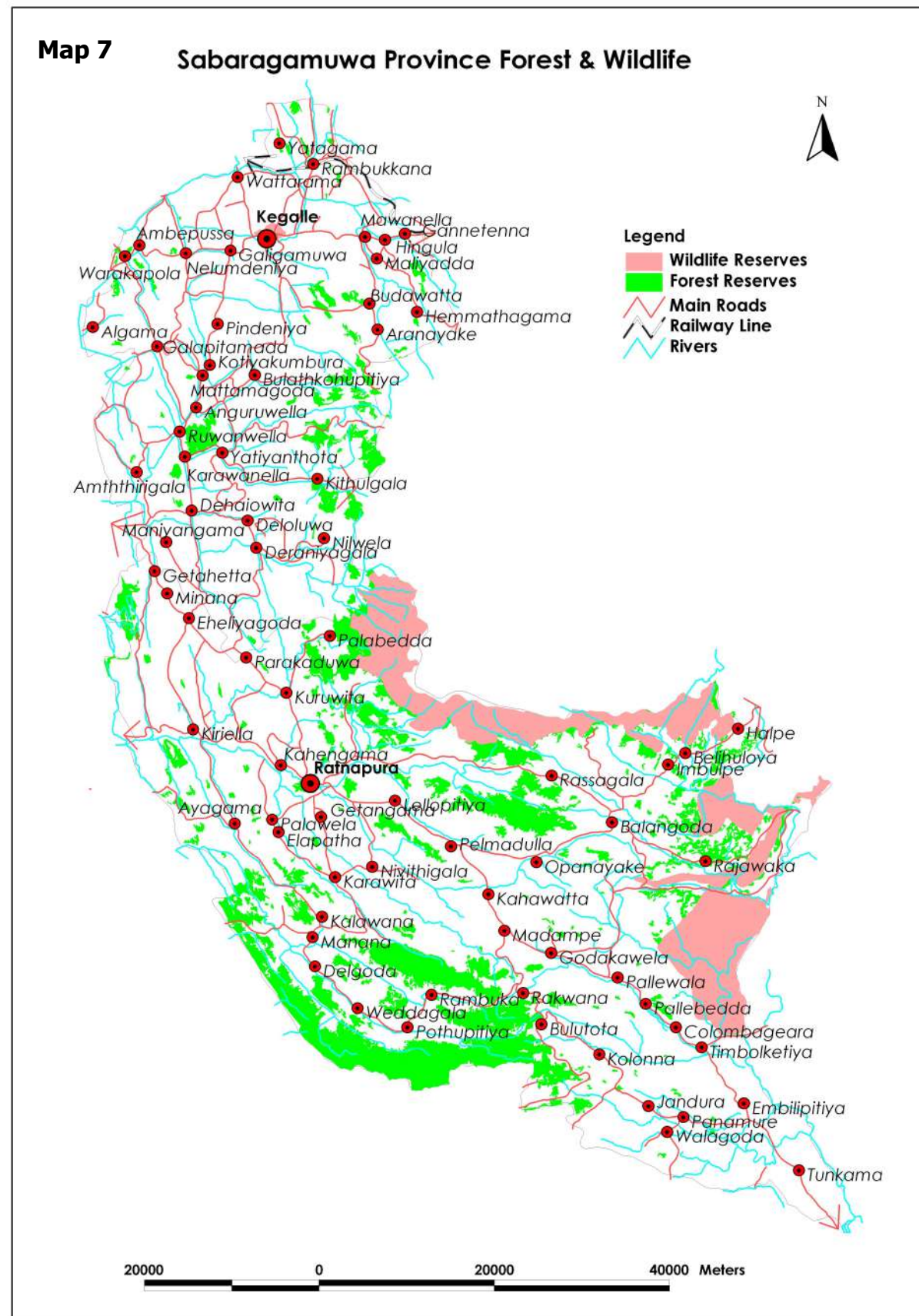
## Strategies

- 3.5.1 Analysis of areas for urban expansion should include assessment of land around towns and its suitability for future agricultural use and its environmental value.
- 3.5.2 Good quality land which has a future for agricultural use should be zoned, preserved and made available for this purpose.
- 3.5.3 Environmentally sensitive land should be retained in public ownership wherever practical, or alternatively retained as part of agricultural land holdings provided it is not used for agricultural purposes.

**Map 6 Settlement Pattern 2030 and Schematic Location of Metro Regions**





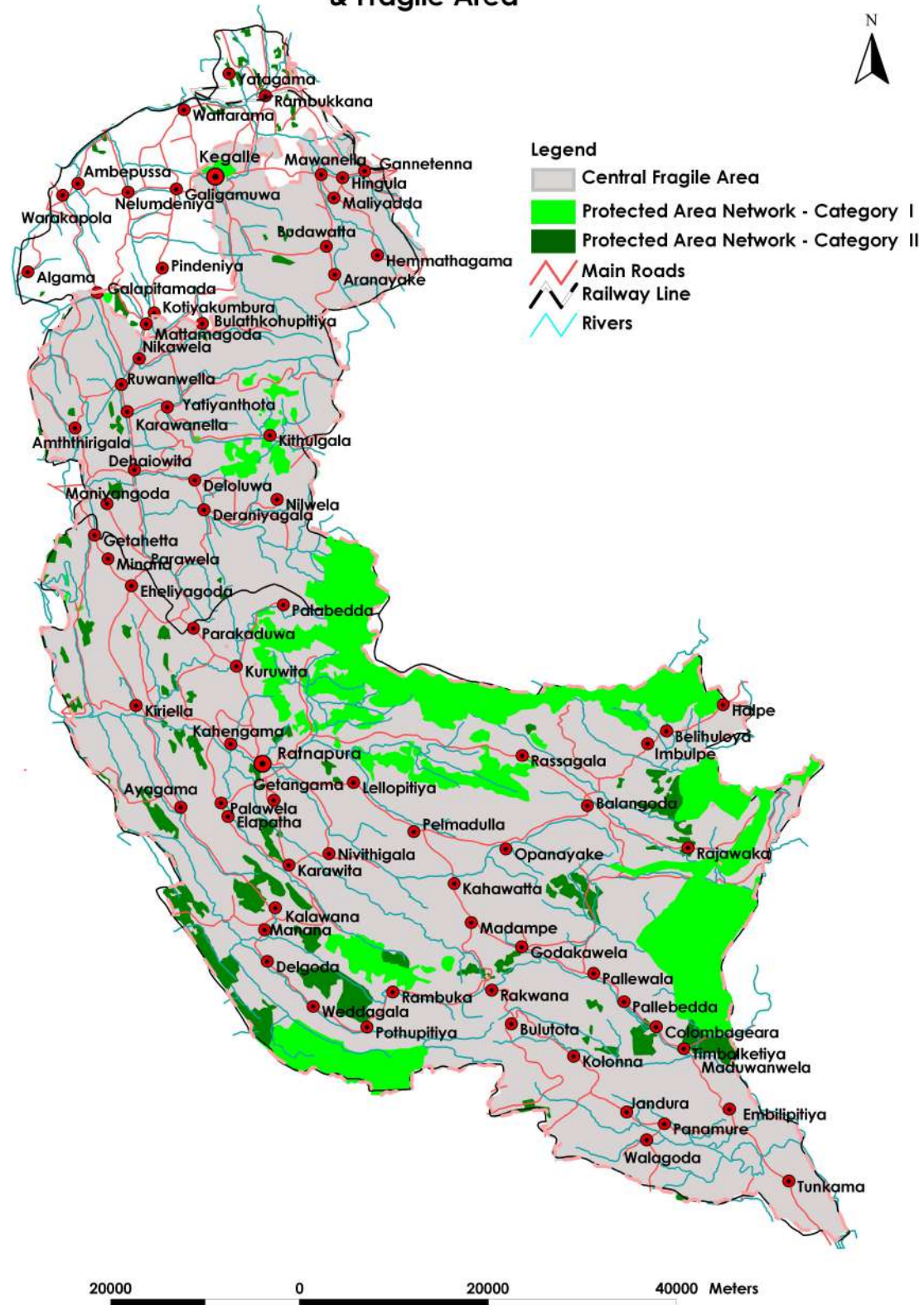




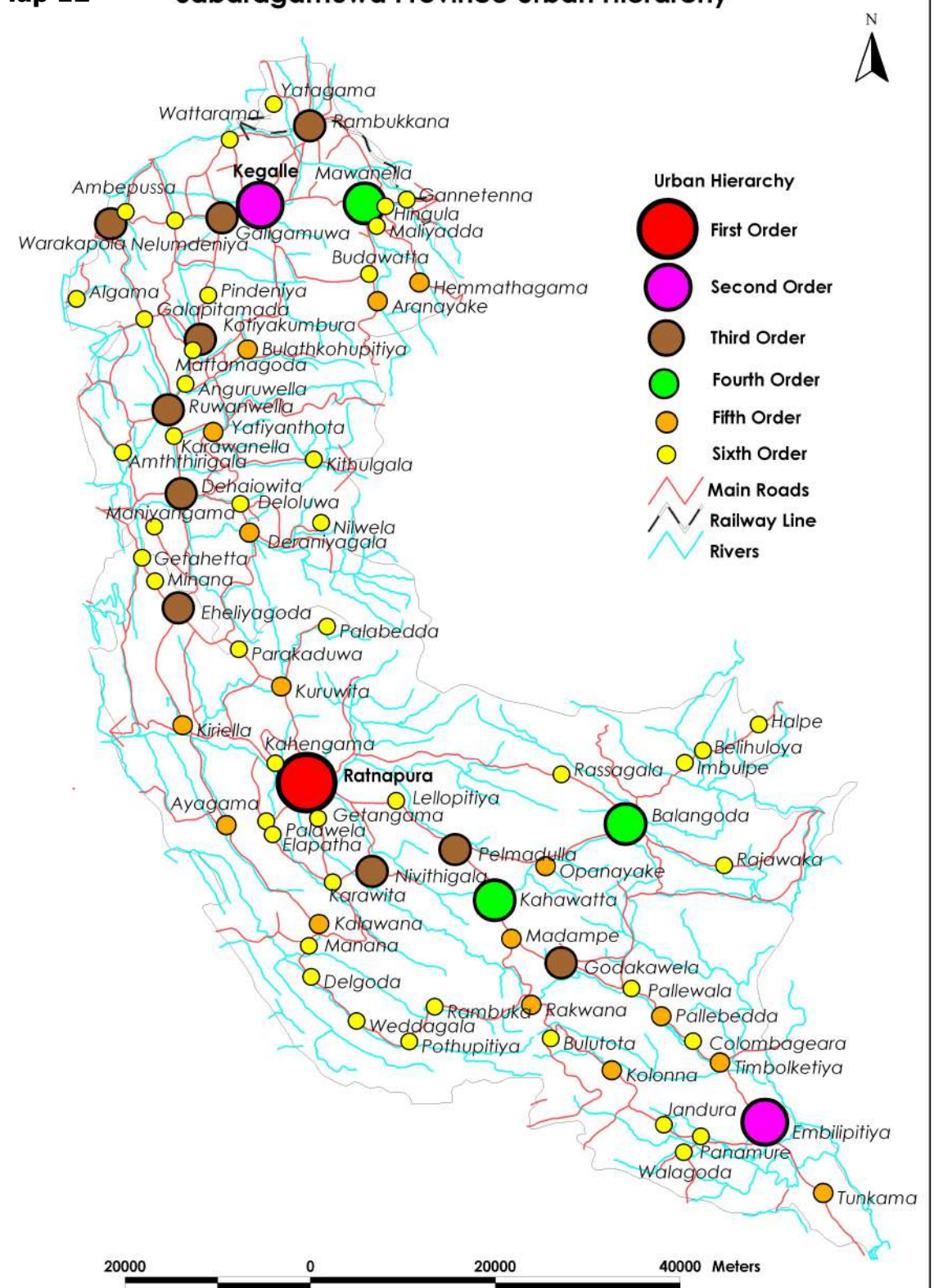




**Map 11 Sabaragamuwa Province Protected Area Network & Fragile Area**



**Map 12 Sabaragamuwa Province Urban Hierarchy**



# Infrastructure facilities

## Objective 4

**Provide social and physical infrastructure facilities for Sabaragamuwa, and in particular good access to services and facilities that will support cities, towns, villages, economic activities and a healthy lifestyle.**

## Introduction

The NPPP provides a broad infrastructure framework for the country and indicates that good quality infrastructure is important for a wide range of environmental, social and economic reasons.

The most significant infrastructure proposal of the NPPP for the Sabaragamuwa Province is a highway linking Kegalle with Colombo. This will significantly improve road access to and from the northern part of the Region from the Capital. A proposed new international airport and international seaport at Hambantota will both provide a potential alternative for the export and import of goods, in addition to the existing port and airport facilities in Colombo.

There is a wide range of infrastructure constraints affecting the country affecting virtually all forms of infrastructure. The NPPP identifies these constraints as being with freight and passenger transport, water and electricity supply, solid and sanitary waste disposal and telecommunications.

Some of the issues faced in the Sabaragamuwa Province with the general provision of infrastructure include:

- low density development and sprawl of urban development
- ribbon type settlement patterns along main roads
- inadequate financial resources of urban local authorities to invest in infrastructure facilities
- poor operation and maintenance capabilities of the implementation agencies.

The above diagram illustrates the vicious cycle that local authorities find themselves in through poorly funded or deteriorating infrastructure. This is not helped by poor urban planning which allows ribbon development, sprawl and low density development (and hence greater cost and difficulty in providing infrastructure) and through poor operation and maintenance of facilities that are established.

## Road Network

While Sabaragamuwa has an extensive road network and some improvements and extensions have been made in recent times, most roads were built in colonial times. There are many roads and bridges in a deteriorated condition and in need of rehabilitation and improvement. Poor road conditions are also contributing to a high rate of road accidents. The condition of roads impacts on farmers and rural communities in particular (agriculture being the largest economic contributor) that need to transport their produce to market, and also can impact on the ease of access to facilities such as schools and other important facilities. This is a significant issue given that most schools are located in towns while there is a large proportion of the population who live in rural areas.

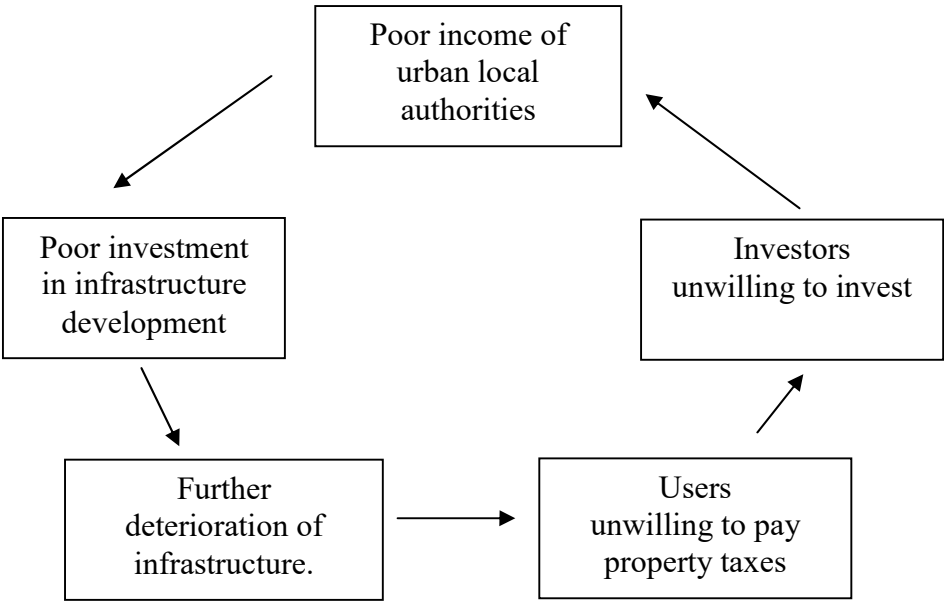
From an urban planning perspective, encroachment of buildings on road reserves and lack of systematic urban planning including the establishment of a road hierarchy also creates difficulties in widening and upgrading roads.

## Rail and bus networks

Sabaragamuwa is considered to be the most neglected region in regard to rail transport. There is less than 5 Kilometres (3 Miles) of rail in the Province and the rail does not service any of the main towns. A narrow gauge line servicing the Province was established by the British in colonial times, but was dismantled in the late 1960s. The lack of a rail service is a significant constraint for the province and creates a strong reliance on road transport.

Given the absence of a rail transport system the majority of the population rely on bus transport. There is a relatively slow increase in private vehicle transport in the Province related to affordability and relatively low income levels.

While statistics for the District of Ratnapura were unavailable, bus passenger numbers increased in the District of Kegalle between 2001 and 2003 from approximately 65.8 million to 73.6 million despite a decrease in Kilometres covered by the buses in the same period (due to unavailability of buses for a variety of reasons). This is despite an increase in private vehicle ownership.



**Figure 3:** Infrastructure vicious cycle



## General Transport and Traffic Issues

General transport issues include:

- Lack of footpaths and pedestrian crossings (or occupation by hawkers and vendors)
- Illegal road side parking (especially three wheelers)
- No priority schemes for buses and other public transport
- Lack of sufficient parking
- Low average speeds on National and Provincial Roads

## Solid waste disposal

The current practices related to disposal of solid waste in the Province are poor and the disposal of solid waste has created environmental pollution and health hazards in all urban areas.

Given that the majority of the Province is in the environmentally sensitive and biologically diverse Central Fragile Area, proper disposal methods are even more critical especially in locations near to water courses.

## Electricity system

The Ceylon Electricity Board (CEB) runs the electricity system in Sri Lanka, however CEB's generation through its own capacity, while it is still the majority of production, has declined while power generation commissioned by CEB from private sources has increased.

Thermally generated power (oil and coal) comprises about 60% of the power generated, while hydro power is about 40%. The National grid contains 220kv and 132 Kv high tension lines while only a 132 Kv supply is provided to the Sabaragamuwa Province.

**Table 6:**  
**Percentage of House holds with Power Supply**

	<b>From the National Grid %</b>	<b>From alternative energy sources %</b>	<b>Total %</b>
Sabaragamuwa Province	57.69	2.56	60.25
Ratnapura District	52.64	2.88	52.52
Kegalle District	64.01	2.56	66.57

Source: Provincial Statistics Hand Book, PPU

A central issue is ensuring that the high proportion of households without adequate power supplies, whether from the National grid or from other sources, is given the opportunity to access electricity.

## Telecommunications

Telecommunications, and in particular telephone access is an indicator as well a determinant of the extent of development. Telecommunications in Sri Lanka have improved substantially since 1996 when Sri Lanka telecom was incorporated and with private mobile phone providers offering services.

A significant issue is line shortage and the high cost of wire-line transmission which have impaired the access of rural areas to telephone facilities. This has a particular impact in the Sabaragamuwa Province. There is a low national rate of fixed line telephones at 4.9 per 100 per people, while there is a good level of exchange capacity to provide additional fixed line services. Industrial areas in the Province are provided with a good level of service.

## Social Infrastructure Issues for Sabaragamuwa

### Education

There are discrepancies with the distribution of schools within the Province when compared to the National standards, however some of these may be brought about by physical and topographic reasons limiting the ability to provide facilities and low population densities making the provision of these facilities difficult to economically provide.

Literacy in the Province is 88%, slightly below the National average of 90%. Primary school completion in the Province is 93% compared to the national average of 92%, while secondary school completion is 70% for the Province compared to 62.5% average for the Nation.

There are also a number of other issues with education in the Province:

- lack of physical and human resources in the Province including a lack of qualified teachers. The current number of teachers in the Province is approximately 950 below the approved number for the Province, particularly because of the difficulty finding teachers for remote schools where facilities are not good.
- a decline in student numbers is probably related to the decline in the younger population as indicated in table 5 under Human Settlement
- an uneven distribution of facilities between schools, with schools in remote areas in particular having poor access to facilities
- closure of schools due to decreasing enrolments
- high student absenteeism especially in rural areas due to a variety of reasons including poverty, parent migration and loss of parents for overseas work, distance to higher grade schools, transport difficulties, lack of teachers and facilities
- poor educational attainment rates in the Province

### Health

The health sector consists of two main systems based on western health and indigenous medicine. Western health is more popular and takes the greater proportion of investment.

Most development and administrative functions are managed by the Province with the national health Ministry being responsible for setting policy and coordinating overall development of the sector.

There have been a range of health issues identified for the Province including:

- unsatisfactory status of maternity and child health care for example a high infant mortality rate and malnutrition among mothers and children
- an increase in the instance of communicable diseases
- concerns in the 'estate' health sector due to less coverage than is provided through the Provincial Health Department
- increases in mental illnesses through changing patterns of living, socio-economic problems and natural disasters
- ageing of the population and an increased percentage of dependants related to the low population growth rate and increased life expectancy
- overcrowding in most health facilities and poor coordination and integration amongst institutions
- lack of infrastructure and facilities including medical and other equipment.

There is a wide range of infrastructure needs in the Sabaragamuwa Province. Many of these are important to improving the quality of life for the people of the Region. While health and education facilities are clearly important, it is also important that people are able to readily access these facilities. The public transport system is a vital component which needs to be maintained and improved to avoid over reliance on private forms of transport. A good public transport system will reduce impacts on the road system including congestion and maintenance and add to the quality of life for those using the system.

## **Principle**

### **4.1 Maintain and rehabilitate the existing Sabaragamuwa road network and construct new regional highways**

#### **Strategies**

- 4.1.1 Implement a comprehensive road maintenance and rehabilitation program for the Province. Prioritise work and seek funding on the basis of the program.
- 4.1.2 Establish the Colombo to Kandy Highway.
- 4.1.3 Ensure that a road hierarchy is established for towns and included in Development Plans.
- 4.1.4 Provide by-passes around towns where ongoing traffic congestion is unable to be remedied and the route is nationally or regionally important.
- 4.1.5 Enforce planning regulations and ensure that building encroachments onto roadways are avoided and where necessary that illegal buildings are removed, thus enabling appropriate use of road reservations and road widening where necessary.
- 4.1.6 Establish and enforce motor vehicle parking requirements in towns to minimise the contribution of car parking to traffic congestion.
- 4.1.7 Provide footpaths and pedestrian crossings, particularly in town and city centres and ensure they are kept clear of obstructions.

- 4.1.8 Establish exclusive bicycle lanes on main thoroughfares when constructing new roads.

## **Principle**

### **4.2 Provide comfortable and convenient public transport which remains the dominant form of transport in the Province, including the establishment of a regional rail link serving the Province**

#### **Strategies**

- 4.2.1 Extend the Kelani Valley Railway Line to Hambantota via Ratnapura, Embilipitiya and Sooriyawewa (noting that this is a key economic and social infrastructure facility).
- 4.2.2 Ensure coordination in times between a future train service and bus services throughout the region to provide an integrated transport service
- 4.2.3 Ensure the ongoing maintenance and efficiency of busses and bus services, particularly in the absence of the Kelani Valley rail link. Bus services are a critical service for the community economically and socially.
- 4.2.4 Establish efficient bus / rail interchanges in towns and cities in close proximity to proposed future railway stations. Stations and interchanges should be located conveniently for pedestrian access to town facilities wherever practical.
- 4.2.5 Investigate and trial the provision of bus priority lanes, particularly at road intersections and where dual lanes are available or can be provided in road widening.

## **Principle**

### **4.3 Ensure the sustainable management, treatment and disposal of solid waste and sewerage in Sabaragamuwa**

#### **Strategies**

- 4.3.1 Establish a solid waste management strategy for the Province which accords with the National Waste Management Strategy and include policies to reduce, reuse and recycle waste, to minimise the amount of land fill created.
- 4.3.2 Identify a range of sites throughout the Province for future carefully managed land-fill sites and ensure these sites are in locations away from where they will have the potential to contaminate water resources (either aquifers or rivers and streams).
- 4.3.3 Develop a program to provide sewage treatment systems for the major cities and towns in the Region, prioritised on the basis of the potential for contamination of water resources.
- 4.3.4 Allocate and reserve sufficient land and provide adequate buffers / separation in urban structure plans to ensure that future sewage treatment plants can be established without impacting on current or future development.

## **Principle**

### **4.4 Improve the availability and reliability of energy supply to Sabaragamuwa and encourage the development and use of renewable energy sources**

#### **Strategies**

- 4.4.1 Develop a provincial energy plan, working closely with the Ceylon Electricity Board, to facilitate systematic development of appropriate sources of energy throughout the Province, including investigation of alternate and renewable sources of power such as solar and wind which may be suited to the terrain and environment of the Province.
- 4.4.2 Focus on the provision of power to rural areas where there is a low proportion of households with power connected.

## **Principle**

### **4.5 Enhance telecommunications in the Region**

#### **Strategies**

- 4.5.1 Work closely with Sri Lanka Telecom to identify ways in which the Region can assist improvements to the telecommunications network, particularly in terms of the level of service provision to rural communities.
- 4.5.2 Ensure that urban planning for all towns takes into account the specific needs for installation of communication technology, particularly through the provision of adequate land.
- 4.5.3 Continue with the program of installing pay-phone booths in every town and in every post office.

## **Principle**

### **4.6 Provide good quality health and education facilities to the whole Province**

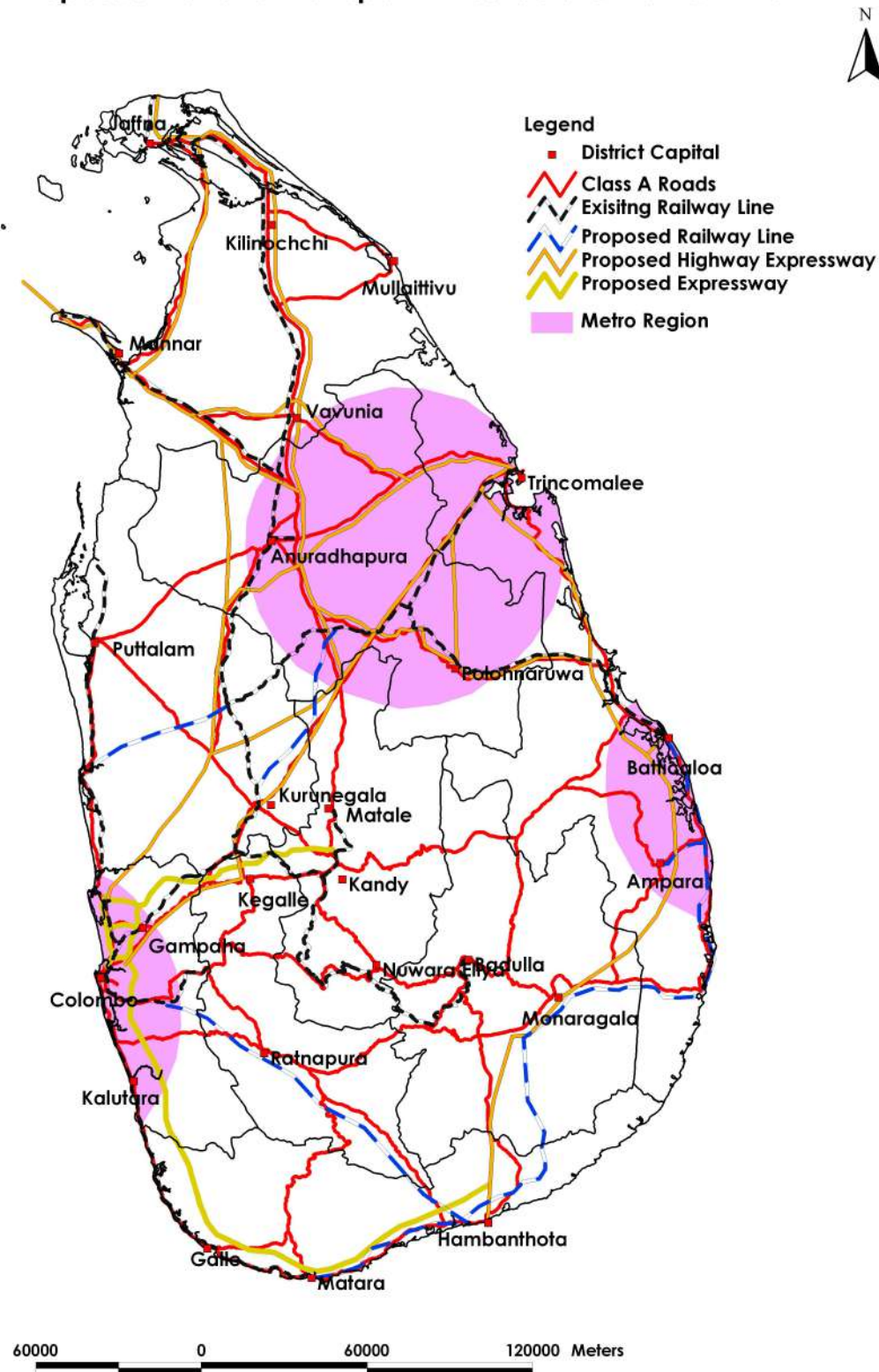
#### **Strategies**

- 4.6.1 Develop service delivery models for health and education that aim for the equitable delivery of good quality services across the Province.
- 4.6.2 Provide services which aim to provide greatest accessibility to the population as whole while maximising the quality of services provided.
- 4.6.3 Consider focussing the major high quality health services on cities such as Kegalle, Ratnapura and Embilipitiya which can service a wide catchment and can be readily accessed.
- 4.6.4 Distribute good quality basic health services (both curative and preventative sectors) throughout the Province, with coordinated referrals to higher level services in the larger cities / towns.
- 4.6.5 Ensure that adequate land is set aside for health and education services throughout the Province by designating sites in structure plans for towns and cities.
- 4.6.6 Ensure that sites for health and education facilities sites are accessible to public transport for example by locating in close proximity to bus stations, public transport interchanges or future railway stations.

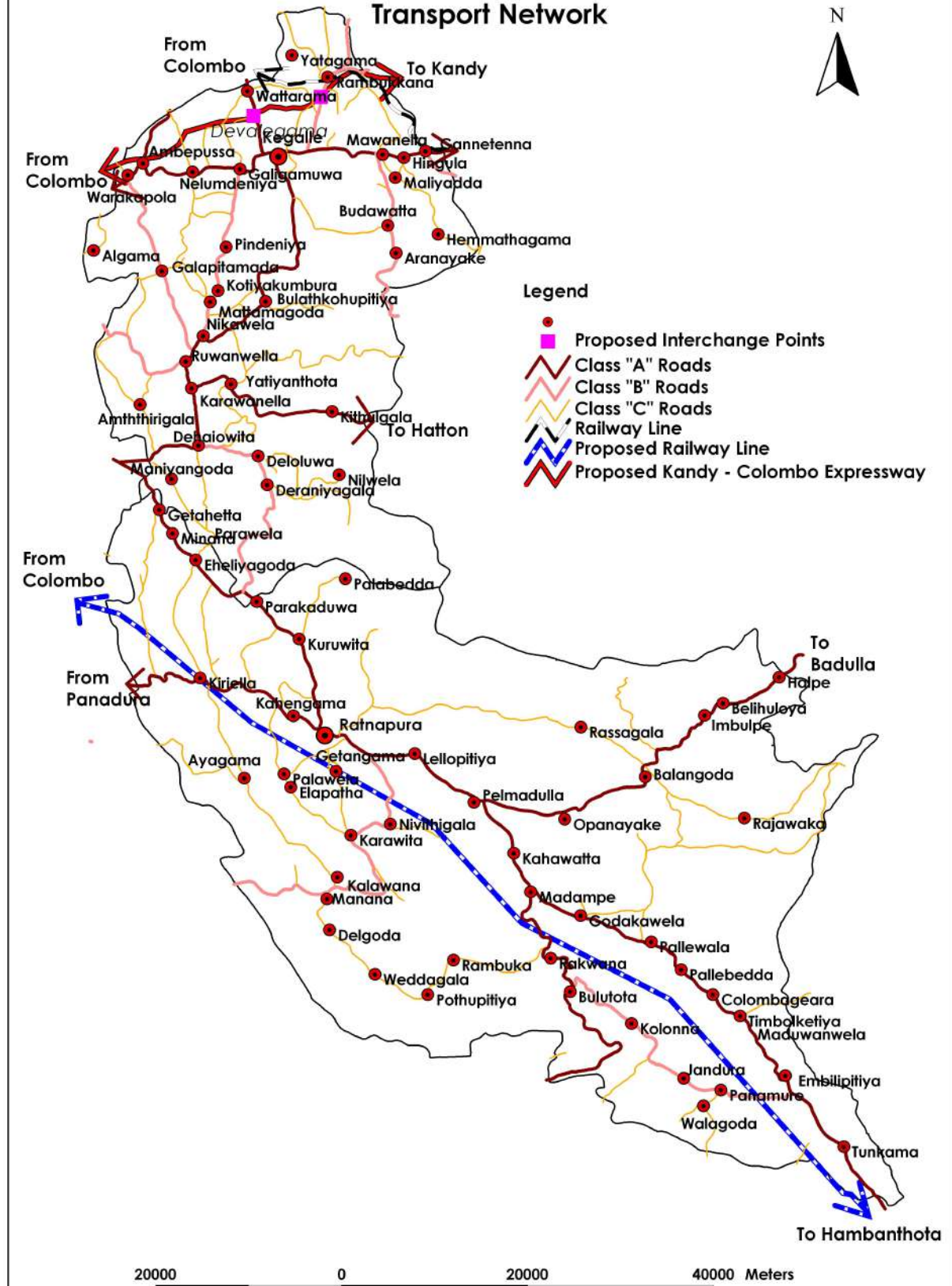
- 4.6.7 Prioritise road maintenance and upgrades with consideration to the need for good access to health and education facilities.



**Map 13 Proposed National Transport Infrastructure Network Plan**



**Map 14 Sabaragamuwa Province Proposed Transport Network**





## Water Resource Protection and Development

### Objective 5

**Protect Water Catchments, water resources and tanks / reservoirs in Sabaragamuwa to improve water quality and ensure sufficient supply of water for domestic, agricultural and industrial activities and power generation. Surplus water should be directed into areas of water scarcity.**

### Introduction

Protection and sustainable use of water resources in Sabaragamuwa is critical environmentally, socially and economically. The use of water resources must ensure that interference with natural processes is minimised and sustainable. Land use should take into account the proximity to water courses and must include measures to ensure that the quality and volume of discharge to water courses is satisfactory.

Maintenance and further development of irrigation schemes is important to agriculture and many industrial processes are highly dependent on water resources. Both agricultural and industrial developments are critical to employment and economic development.

Availability of water for domestic purposes is a basic human need. However, availability of good quality reticulated drinking water to houses is also important socially as it removes the need for carrying of water and makes additional time available for education or employment for all household members.

A large proportion of the communities of the Districts of Kegalle and Ratnapura do not have access to safe drinking water. A 2004 survey indicated that approximately 44% and 55% of the populations respectively do not have access to safe drinking water, which is a serious health concern. The situation with regard to provision of sanitary facilities is somewhat better with 10.8 percent of housing without adequate sanitary facilities (national figure is 13.5 percent). Ratnapura is close to the National average with 13.1 percent, while Kegalle has only 8.5 percent without proper sanitation.

The Sri Lankan Government has established a National Water Resources Policy which is based on a range of principles that recognise the critical importance of water resources. The NPPP also recognises water resources and the fundamental relationship with land use as a critical element from a National planning perspective.

### Key Issues for Sabaragamuwa

There is a large range of issues for the Province many of which are in common with National water issues, as follows:

- inadequate control of land uses and management of watershed areas, including encroachment on water courses and reservations, affecting water quality
- shortage of safe drinking water in urban and rural areas and lack of reticulated water supply to many areas

- additional (more than natural) sedimentation of tanks, reservoirs and river beds due to deforestation and agricultural activities in catchment areas and sand mining in river beds
- an inadequate legal framework
- poor maintenance of irrigation schemes
- poor management of stormwater
- discharge of sewage into rivers
- improper disposal of hard waste, contributing to water pollution
- absence of a comprehensive water resources development plan for the Province
- insufficient funds for water supply development.

Some of the solutions or strategies to deal with these issues are addressed elsewhere in this Plan. For example, the environmental principles and strategies include management of the Central Fragile Area which incorporates many catchment areas for rivers. The principles and strategies for these areas include preventing further urban development in most of the CFA, preventing sewage discharge to water courses and preventing clearance of forests and scrub in water catchment areas. These are fundamental matters that need to be addressed.

The response to many other issues will be long term and requires coordination through a comprehensive provincial water resources plan and appropriate funding. Due to the high dependence of the environment and Province on water resources, it is important that this is undertaken.

## Principle

### 5.1 Protect water catchments and water courses

#### Strategies

- 5.1.1 Ensure that appropriate land use policies are established for all water courses and water catchment areas and in particular those within the Central Fragile Area (also see Section 4: Principles and Strategies, Objective 1 - Protecting the Environment).
- 5.1.2 Prevent development from being located any closer than 20 metres from the river banks. Greater distances from water courses will be appropriate in many circumstances dependent on the circumstances (for example, whether the catchment is upstream of tanks and reservoirs, potential for flooding and other matters such as vegetation and topography).
- 5.1.3 In catchments areas upstream from tanks and reservoirs vegetation removal should be prevented and in areas where there has been vegetation removed, this should be replanted.
- 5.1.4 Prevent sand mining (and other forms of mining) in or adjacent to watercourses.
- 5.1.5 Development should not be established on flood plains or areas subject to periodic inundation and wherever possible establishment of flood protection levees should be avoided.

## **Principle**

### **5.2 Ensure sufficient water supply for agriculture, domestic, industrial and power generation uses**

#### **Strategies**

- 5.2.1 Undertake a detailed assessment of future water requirements for supply to agriculture, domestic use, industrial development and power generation. Prepare a staged implementation program for this work.
- 5.2.2 Ensure that the full capacity of reservoirs and tanks is available, through removal of silt and rehabilitation in conjunction with upstream reduction of silt sources.
- 5.2.3 Develop and promote the use of crops that require less water (i.e. are more water efficient).
- 5.2.4 Provide reticulated water to all urban settlements in a staged manner to all urban settlements throughout the Province.
- 5.2.5 Establish new tanks and reservoirs in areas where there is potential for additional storage without undue environmental impact and conduct environmental impact assessments of these proposals.

## **Principle**

### **5.3 Manage stormwater drainage, effluent disposal and disposal of solid waste in an environmentally sustainable manner.**

#### **Strategies**

- 5.3.1 Separate systems for stormwater and effluent disposal should be developed for urban areas throughout the whole Province. Installation should be prioritised with consideration for current environmental impacts, so that the most serious water contamination circumstances are dealt with first. These systems should be designed to ensure that there is no disposal of waste directly into water courses and that any water that enters rivers and streams has been appropriately treated.
- 5.3.2 Implement water sensitive urban design in new development and where stormwater systems are being established in existing areas:
  - reduce peak flows and runoff (therefore reducing erosion and flooding) by implementing local retention and detention.
  - protect and improve water quality by filtration (for example with use of swales) and retention before discharge into watercourses.
  - integrate stormwater treatment into the landscape by using natural corridors and open space links rather than using concrete lined drains.
  - in areas where there is a shortage of water consider:
    - the use of enclosed rain water tanks attached to buildings to capture stormwater
    - investigate the potential for aquifer storage of stormwater.
- 5.3.3 Particular attention should be given to remediation of situations where there is drainage of sewage directly from septic tank systems in close proximity to watercourses.

- 5.3.4 Develop solid waste disposal systems in locations that avoid filling of areas in close proximity to watercourses or contamination of ground water resources.
- 5.3.5 Legislate for dual water supply systems which use 'grey water' (non-drinking water) for toilet flushing and other requirements that do not require potable water.

## Economic Development

### Objective 6

**A thriving, diverse and sustainable economy for Sabaragamuwa, including a substantial tourism industry, with a wide range of employment opportunities for local people**

### Introduction

#### National Physical Plan and Policy

The NPPP identifies that Sri Lanka has many economic opportunities and assets which it can build upon. Sabaragamuwa is in a similar position to the Nation as a whole with a range of opportunities that need to be recognised and developed to the advantage of the Province.

The NPPP also raises a range of issues that face the Sri Lankan economy including the following that are relevant for the Province:

- low levels of agricultural productivity
- a weak industrial sector
- a high level of unemployment
- the persistence of poverty
- weak international links
- environmental degradation
- a slow rate of economic growth

#### Economic issues for Sabaragamuwa

Most economic issues that face the country are more pronounced in Sabaragamuwa. While the region is approximately 10.8% (2001 Census) of the island's population, the Gross Domestic Product of the region is approximately 7% (2003, Finance Commission) of the overall product of the Nation. Poverty in the region is high with approximately 30.1% and 37.5% of the population in Ratnapura and Kegalle falling below the poverty line respectively, compared to a national figure of 19.2%.

The unemployment figures for the year 2003, indicate that at that time unemployment was 9.8% (Kegalle 10.6%, Ratnapura 9.2%) compared to the national figure of 8.8%.

However, it should be noted that the region has great economic potential and will benefit from a strong focus on some clear strategies. In particular, improvements in agriculture, industry (including mining) and in tourism have the potential to bring large benefits to the Province and its people.

Features of the Sabaragamuwa Province economy that are worth noting include:

Agriculture, livestock and cropping

- While the Provincial economy relies strongly on agriculture, there is relatively little value adding to the primary production.

- Agriculture has substantially reduced in its importance to the National economy, but has remained relatively stable in Sabaragamuwa.
- Limited use of agricultural produce as raw materials for industries in the industrial sector
- The subsistence nature of many agricultural and livestock practices and the need for a greater focus on commercial scale production on larger land areas.
- Unsecured ownership of land by agricultural producers and uneconomical small land parcels (through land fragmentation) that reduces the economic potential of production.
- Decreasing paddy lands due to land filling and usage for the gem industry.
- Supply driven agricultural production (rather than responding to the market demand).
- A low level of knowledge and poor adoption rates of new technology.
- Lack of high quality seeds and production materials.
- Lack of effort to improve the quality of tea produced.

#### Industry

- Only 1.8% of the registered industries on the island are located in Sabaragamuwa
- Gem mining, while one of the leading economic activities in the Province, has not taken advantage of potential value adding including activities such as cutting, jewellery manufacture and tourism.
- Mining is widely spread throughout Ratnapura District and to a lesser extent Kegalle and is a major employer. In 1994 there were approximately 605, 000 people engaged in the mining industry in Sri Lanka, with just over half engaged in the gem mining pits and the remainder in the gem trade.
- In Sabaragamuwa the gem mining employment was approximately 69 percent of the total gem mining employment in Sri Lanka with only about 24 percent of the National gem mining trade employed in Sabaragamuwa. Total employment in gem mining and the gem trade in Sabaragamuwa was approximately 285, 000.
- Revenue collection for government from the gem industry is considered to be low due to avoidance.
- There are other minerals in the Province that could be taken advantage of such as graphite, dolomite, calcite, granite and various types of clay, but they do not contribute significantly to the economy because they are not utilised by industry in the Province.
- The economy is over dependent on the gem industry for employment which needs to be dealt with through development of other industry sectors and in particular tourism.
- There are difficulties in obtaining raw materials for industry.
- Lack of public sector assistance and outdated procedures in the public sector for assisting the private sector.

#### Tourism

- Poor awareness outside the Province of the tourism potential of the Province.
- Lack of publicity and promotion to both local and foreign tourists
- The need for infrastructure to improve conditions for tourists within tourist sites and areas and accommodation.
- A need for improved institutional arrangements within the Province to promote tourism and development.
- A lack of investment in the tourism development sector.

There is clearly a need for a strong focus on economic development in the Region though a well organised economic development program at the Provincial level. Improved economic



development will help to enhance the range of employment opportunities and income of the local people and will assist with supporting Provincial services and facilities through improved taxation income. While there is a need to promote diversity of employment opportunities and industries, tourism offers great potential and deserves a strong focus.

## **Principle**

### **6.1 Improve agricultural productivity and increase value-adding to agricultural produce**

#### **Strategies**

- 6.1.1 Identify land areas that are particularly suited to various forms of production and promote appropriate production in these areas.
- 6.1.2 Promote establishment of fruit and vegetable crops in suitable areas because of the good potential for high returns.
- 6.1.3 Ensure that good agricultural land, including paddy fields, is retained for agricultural use (not filled) and not used for other purposes.
- 6.1.4 Consider establishing agricultural productivity centres to provide specialised advice on seeds, pest control, marketing assistance and other related industry advice.
- 6.1.5 Investigate establishing a scheme where land owners lease their allotments to agricultural enterprises and also provide labour (to help establish larger farming units).
- 6.1.6 Prepare local Development Plans that set minimum allotment sizes for agricultural areas to avoid further land fragmentation and prevent division of agricultural land into small allotments (to help maintain agricultural production) and zone areas for agricultural production.
- 6.1.7 Undertake a detailed analysis of ownership / tenure in the region, with an objective to clarify and rationalise land ownership and boundaries in the long term.
- 6.1.8 Identify large areas of land (in the order of 300 – 400 acres) that may be suitable for farm investment.
- 6.1.9 Identify and target agricultural processing industries to be located where there is potential to value-add at the local level (for example where there is a high volume of local crop production and potential to avoid transport costs through local processing).
- 6.1.10 Promote and encourage improved production and irrigation practices for a variety of different crops.

## **Principle**

### **6.2 Substantially increase the number or registered industries in Sabaragamuwa and the contribution of industry, including mining, to the Provincial economy**

#### **Strategies**

- 6.2.1 Identify and target (with a well organised approach) some key industries that are likely to have a competitive advantage by being located in the Sabaragamuwa Province (for example those related to natural resources located within the Province like gems or rubber) that may be attracted to the region.

- 6.2.2 Undertake a systematic geological survey of the Province to establish the quantity, quality and location of mineral resources and promote the results with the mining industry to encourage further resource exploration.
- 6.2.3 Establish an investment promotion zone and the necessary infrastructure in the Ratnapura District dedicated to the gem industry and develop Ratnapura as the main commercial centre for gems and related products in Sri Lanka.
- 6.2.4 Hold discussions with key industry representatives to make gem mining facilities available and located in the investment promotion zone for polishing stones and designing of jewellery and the training of staff.
- 6.2.5 Investigate the potential for development of inland fisheries / aquaculture in the Province.
- 6.2.6 When preparing Development Plans, particularly for the major towns and cities in the Region, ensure that adequate good quality, accessible and level land is set aside for the future development of industry and provided with adequate infrastructure services.
- 6.2.7 If inadequate land is available in key locations and developers are unwilling to place adequate land on the market, the Province should give consideration to developing land to provide a suitable land supply for this purpose.
- 6.2.8 Consider offering or arranging concessions such as taxation relief and subsidised land to key industries with significant employment capacity.
- 6.2.9 Establish and distribute a data base of locally produced raw materials to help industries source local products.

## **Principle**

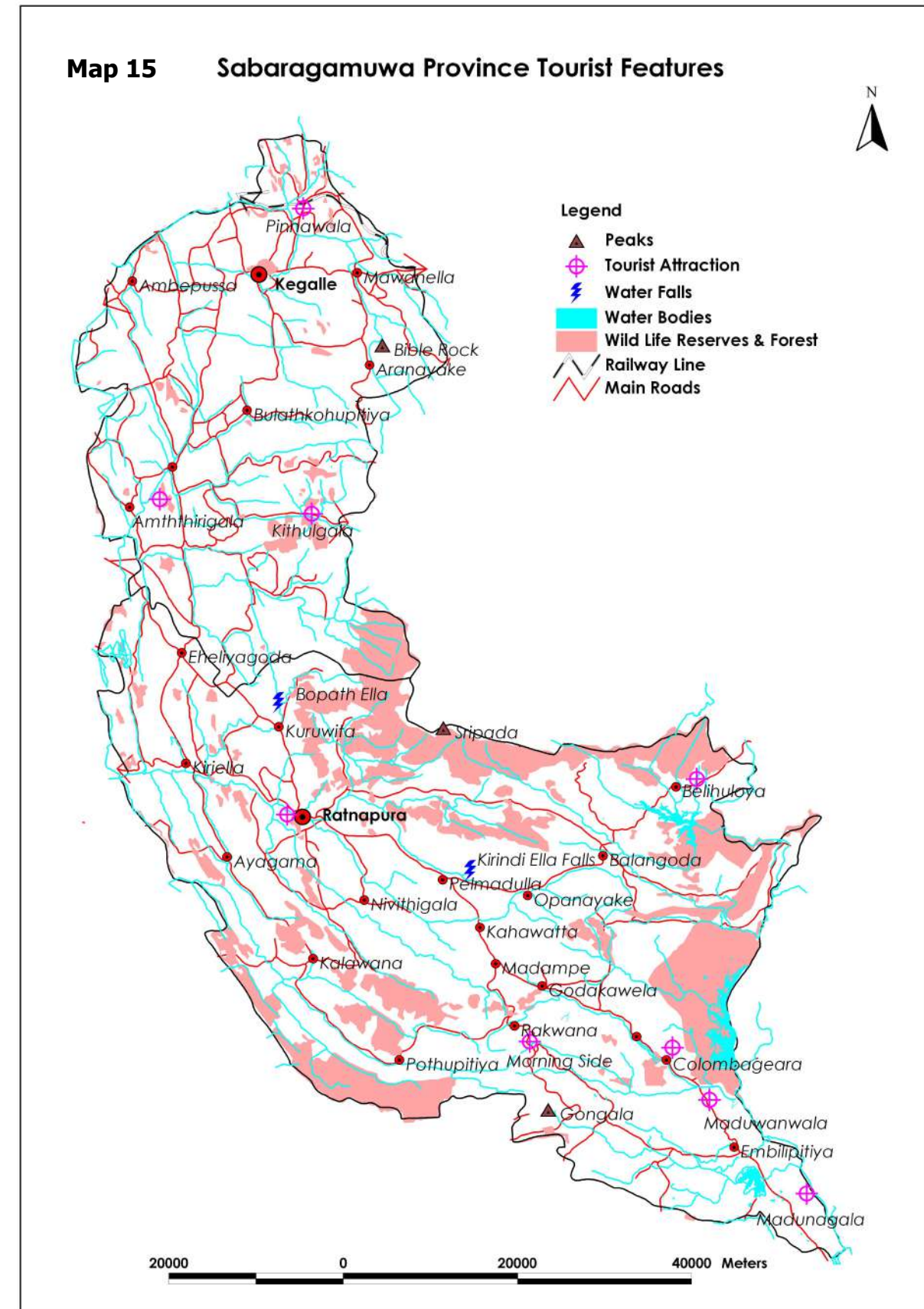
### **6.3 Develop a strong tourism industry in Sabaragamuwa that takes full advantage of the beauty and natural assets of the Region while sustaining the environmental qualities**

#### **Strategies**

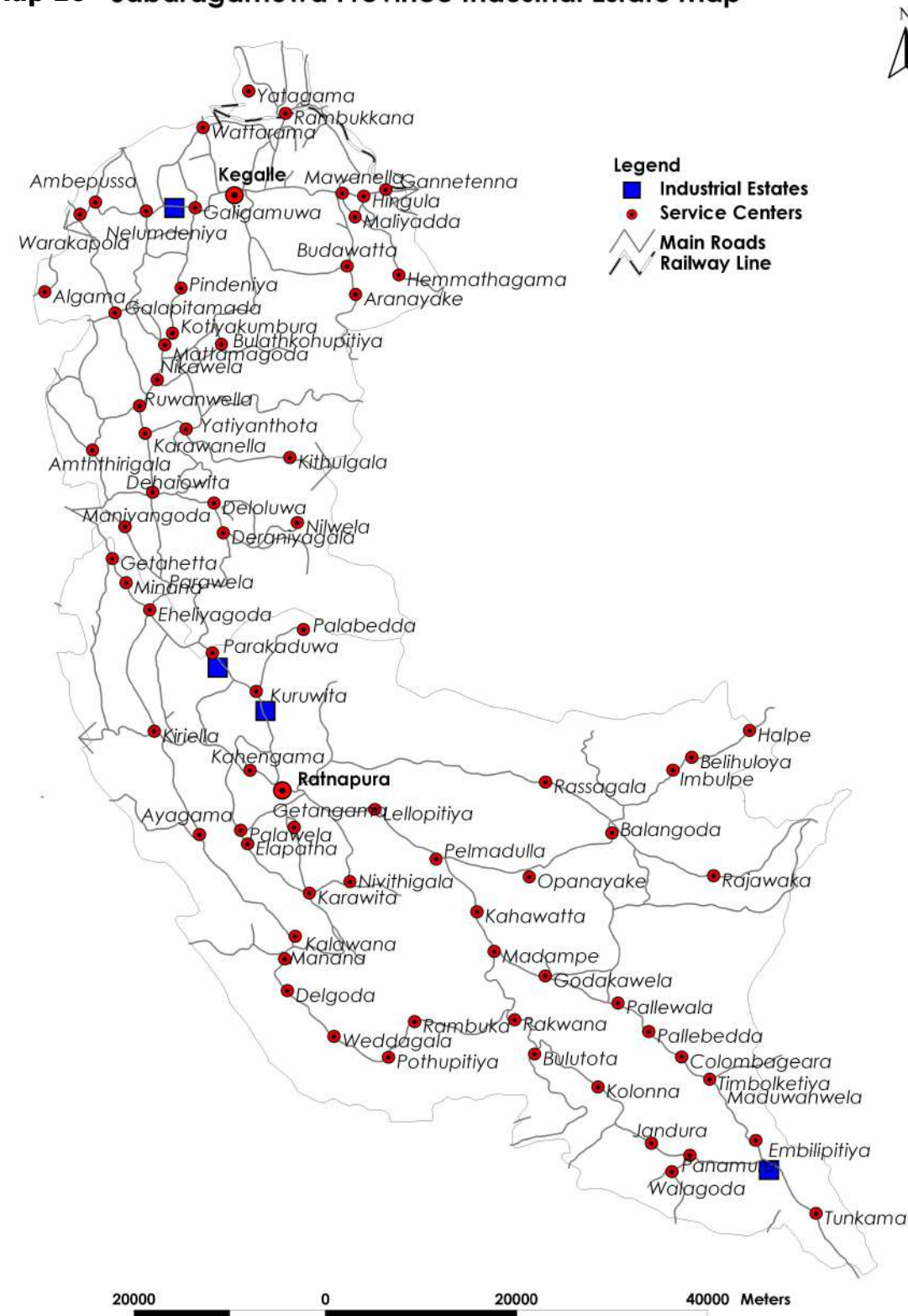
- 6.3.1 Ensure the tourism plan for the Region identifies a range of clear actions for the Province and is kept up to date, including:
  - identifying the full range of tourism assets / attractions and potential attractions, both natural and developed
  - identifying the range of accommodation and categories available, for example premium/luxury, mid-range, budget and back-packers, and determining whether there is a need to seek additional accommodation of particular types
  - developing a prioritised program to improve access to (pedestrian and vehicular) facilities at these locations
  - determining the best method of promotion of tourism in the Province, for example by working with the National Government or for the Province to produce its own promotional material (or both), workshops and seminars for target groups
  - establishing training programs for people working in the tourism and hospitality industries (for example tourist guides and advisors)
- 6.3.2 Ensure that the local economy takes full advantage of the tourist assets of the region by encouraging tourists to stay in the Region rather than travel through

(and put money into the area through industries such as accommodation, restaurants and shopping).

- 6.3.3 Ensure that plans for development of tourist attractions strongly respect the need for the industry to be sustainable both environmentally and economically in the long term, for example by providing board walks in areas that are likely to suffer erosion and limiting or preventing access to highly environmentally sensitive areas to ensure that the natural attractions are maintained in natural condition.
- 6.3.4 Investigate the potential to set up a comprehensive network of short, medium and long distance walking trails in the Region, linking various attractions and towns and including appropriate parts of the Protected Area Network and Central Fragile Area.
- 6.3.5 Discuss with relevant authorities the need to measure the contribution of tourism to the local economy through introducing an additional category (or categories) into statistical collections.



**Map 16 Sabaragamuwa Province Industrial Estate Map**





## Section 5: Spatial Structure Plan

The Spatial Structure Plan illustrates the relationship between the various elements in the Sabaragamuwa Region Physical Plan, including the settlement hierarchy, road and rail infrastructure and various environmental elements. It provides the broad structure for future development of the Province.

The Spatial Structure Plan for Province is strongly influenced by the Central Fragile Area which is based a range of substantial constraints such as land-slide potential and wild life and forestry reserves. For this reason major infrastructure upgrades have in many cases been routed around the outside of the Province, as have the major population growth centres.

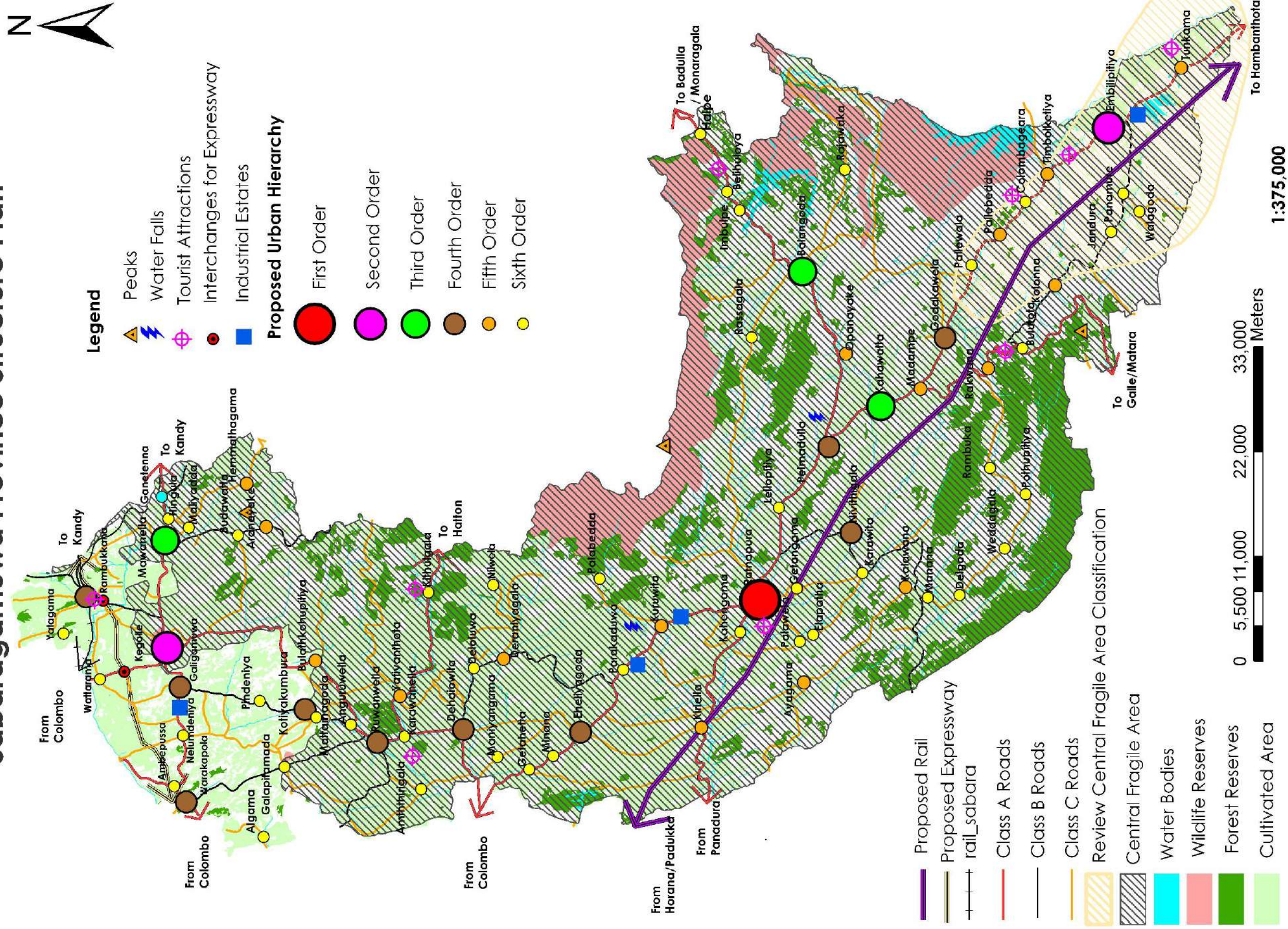
The future extension of the Kelani Railway through the Province is of major importance to the Region for industry, tourism and for the general community as it provides a key public transport link to Colombo and the future international seaport and airport at Hambantota.

While environmental features are a significant constraint for infrastructure and towns, it is also the major opportunity for the future, with tourism being a potentially major industry. The preservation of these features is critical for tourism but also for the overall environmental health of Sri Lanka, with the headwaters of a number of important Rivers in the Province and great biodiversity.



Map 17

# Sabaragamuwa Province Structure Plan





## Section 6: Implementation, monitoring and review

### Project Implementation

The basis of success for any form of policy is in its implementation. The same is true of the implementation of planning policy and the Sabaragamuwa Region Physical Plan. Effective implementation requires the cooperation of community, stakeholders and coordination of government activities, policies and plans. This will involve coordinating and reviewing a range of policies, plans and proposals for infrastructure and services across all government sectors, and particularly within the Sabaragamuwa Province. Implementation of the Sabaragamuwa Region Physical Plan will occur through:

- The preparation, gazettal and implementation of District and Local Plans;
- Coordination of government strategy and policy; and
- Projects

#### Preparation, gazettal and implementation of Regional, District and Local plans

The Town and Country Planning Amendment Act No 49 of 2000 enabled the declaration of the Provinces including Sabaragamuwa as regional development areas and they were directed to prepare regional plans. The National Physical Planning Department has responsibility for monitoring the preparation of regional, district and local plans to ensure that they reflect and implement the National Physical Plan. The Department may also prepare Regional Plans where it has been requested to do so by the Province or where a Province fails to do so. Sabaragamuwa has requested that the NPPD prepare the Regional Plan. The Figure 1 illustrates the implementation process (also including the National Physical Plan) through to local authorities and government departments, agencies and corporations.

#### Coordination of Government and Regional policy

The policies in the National Physical Plan provide the framework for promoting and regulating integrated planning for Sri Lanka as a whole, including through the preparation of Regional Plans. The Sabaragamuwa Region Physical Plan is guided by the National Physical Plan and has a similar role for the Province in promoting and regulating integrated planning as the National Plan has for Sri Lanka. The Sabaragamuwa Region Physical Plan has the dual role of integrating and implementing National policy (where relevant to the Province) and the policy of the Sabaragamuwa Province. The Plan has status with both the National government and Sabaragamuwa Province and will influence the actions of all levels of Government.

#### Projects and project implementation

Projects form a key element of the implementation of the Sabaragamuwa Region Physical Plan. The projects have been identified by both central government and agencies and by the Sabaragamuwa Province. The projects may be implemented by any level of Government, as identified in the attached table, also including district and local government.

The projects have been identified and prioritised on the basis of their consistency with the Sabaragamuwa Region Physical Plan and their capacity to implement key or significant aspects of the Plan. It should be noted that there is a very large range of projects that are proposed for a Province such as Sabaragamuwa. These range from very large and expensive projects to those that may be quite small and inexpensive. Clearly not all projects can be included and

identified in a plan such as this. Therefore, only the larger scale projects will be included in the final table. The attached table (see appendix) is a preliminary list only and the intention is to conduct detailed prioritisation (and include costings) in consultation with the Province.

Consideration of the priority and timing of other smaller projects should occur in consultation with the Sabaragamuwa Province (or by the Province administration) and be assessed on the basis of the following criteria:

- Consistency with the following principles:
  - *the precautionary principle* – if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason to prevent environmental degradation;
  - *intergenerational equity* – the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations;
  - *conservation of biological diversity and ecological integrity* should be a fundamental consideration; and
  - *improved valuation, pricing and incentive mechanisms* – environmental factors should be included in the valuation of assets and services.
- Consistency with:
  - the Vision for Sabaragamuwa Province
  - the Objectives for the Province
  - the principles and strategies for each objective

In addition to the appendix of projects for the whole Province (appendix 2), additional projects have been identified for the towns of Godakawela and Kuruwita. The Concept layouts and related projects have also been included as an appendix (appendix 1).

### Monitoring and Review

The Town and Country (Amendment) Act, No. 49 of 2000 provides for the National Physical Planning Department to monitor and review the National Physical Plan. Monitoring and review are important tools to ensure that:

- policies are effective and are achieving the desired outcomes;
- policies are being implemented;
- projects are being implemented; and
- there is feedback of information into the review of the Sabaragamuwa Plan and the National Physical Plan



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