

# Greater Nuwara Eliya Development Plan

2019 - 2030

volume 1



Urban Development Authority  
Nuwara Eliya District Office





# **GREATER NUWARA ELIYA DEVELOPMENT PLAN**

## **Volume - I**



**Urban Development Authority**

**2019-2030**







## Document Information

**Name of Book** Greater Nuwara Eliya Development Plan

**Area** The GN Divisions of Bambarakele, Bangalahata, Bulu Ela, Hawaeliya-East, Hawaeliya-North, Hawaeliya-West, Kalapura, Kalukele, Kelegala, Magastota, Meepilimana, Mihidapura, Nuwara Eliya, Ruwaneliya, Sandathenna, Seetha Eliya, Shanthipura, Toppass and WindyConner within Nuwara Eliya Municipality Council and Nuwara Eliya Pradeshiya Sabha area

**Servers / Stakeholders** Residents of the area and all government, private institutions, societies, companies and Investors.

**Date of submission**

**Status of Book**

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## Honorable Minister's forward



Having been established under the provisions of the Urban Development Authority Law: Act No. 41 of 1978, the Urban Development Authority by now has completed 40 years of service contributing to planned urban development in Sri Lanka. At this moment the UDA marks another milestone by completing a comprehensive Development Plans for all urban development areas in the Central Region.

This development plan has been prepared for the implementation of the envisaged integrated development of the Nuwara Eliya Municipal Council area and part of Nuwara Eliya Pradeshiya Sabha area.

Nuwara Eliya town which is the administrative capital of the Nuwara Eliya District and becomes most attractive tourism destination of the country. It provides services for large catchment of both residential and tourist's population. Further, the Nuwara Eliya is highly sensitive and most beautiful area.

In order to that, the balanced economic development can be reached by prioritizing of Eco tourism industry, upcountry cultivation and tea economy by protecting unique environment system and sensitivity of Nuwara Eliya

Therefore, our effort is "Nuwara Eliya" as a most comfortable living area for all stakeholders via enhancing and protecting the most sensitive environmental system of highest altitude area of Sri Lanka.

My understanding is that the preparation of this Plan involved extensive consultation with professionals, experts, stakeholders and the communities, while engaging modern methods, sound techniques and innovative approaches. In this regard, I appreciate the extraordinary efforts of the Chairman, Director General, Planning Team and all staff of the Urban Development Authority those who have contributed in numerous ways to successfully complete this work. I also appreciate the support and contribution of relevant local authorities, state and private sector agencies and general public by working equally on the same platform to make the Greater Nuwara Eliya Development Plan a success.

Hon.Patali Champika Ranawaka,MP

Ministry Of Megapolis & Western Development

## Chairman's forward



Today, the Urban Development Authority (UDA) is the apex planning and plan implementation body in Sri Lanka that is responsible for managing the state of the urban environments of the nation. The Authority was established in 1978 with the objective of introducing integrated planning and implementation in order to promote and regulate the developments for the common benefit of all inhabitants of the urban areas.

Under the Urban Development Authority Amendment Act No 4 of 1982; (Part II section 8A [1]) the Urban Development Authority has been mandated to prepare Development Plans for the Urban Development Areas, declared by the Minister-in-charge. The development plan for Greater Nuwara Eliya has been prepared and enforced under such provisions. As a result of the declaration of the Nuwara Eliya area as an urban development area, the Urban Development Authority initiated the preparation of Greater Nuwara Eliya development plan considering physical, economic, social and environmental aspects of the Nuwara Eliya and its surroundings.

For the implementation of this Plan, we have not forgotten that our path is not as smooth as silk, but as rough as gravel, full of challenges, filled with uncertainties, and fouled by vicious intents. Yet the UDA today is equipped with necessary systems, tools and strategies to face such challenges, withstand those uncertainties and to make the Nuwara Eliya the “Paradise of the Misty Hills”.

I take this opportunity to offer my sincere gratitude to the Planning Team of the UDA who had to work hard and was committed to deliver this comprehensive work and also to all those who have supported and contributed with various means towards its formulation and hope the equal and continuous support of the all of them will be there towards its successful implementation.

Dr. Jagath Munasinghe

Chairman, Urban Development Authority



## Mayor's Forward



Nuwara Eliya is a city situated in the central hills with natural beauty and with its unique environment. The significance in Nuwara Eliya, comparing to other cities is the high elevation and the cool climate condition with a long history of the British ruling this city has developed to a great extent.

High altitude city surrounded by the mountains with green vegetation and colorful flowers, adding more glamour to the surrounding.

Due to the above reason, tourist attraction to this city gives more prominence. At present tourism has become the more important sector of income to the Nuwara Eliya people. It is the fact that the Nuwara Eliya city to the commercial hub of Nuwara Eliya district therefor the prominence should be given to develop the city to its maximum.

As I mentioned above I am grateful to Hon. Minister of Mega police and Western Development and UDA staff for giving priority to uplift the development in Nuwara Eliya and giving to the people of Nuwara Eliya.

Giving consideration to the “Greater Nuwara Eliya Development Plan” proposed by the Urban Development Authority. I found that the Economic, Social Environmental and Tourism benefits which focus for next 10 years booming the Nuwara Eliya City as a touristic city of the paradise island.

I wish all the very best and the fullest co-operation will be given by the Municipal Council, Nuwara Eliya to make the projects a success.

Deshamanya P.D.Chandana Lal Karunaratne,

Hon.Mayor of Nuwara Eliya

## Message from the Chairman of the Nuwara Eliya Pradeshiya Sabha



Nuwara Eliya is a natural attraction for both local and foreign tourists. Centrally located in the central highlands, this region has its own unique peculiarities and environmental features. High altitude location. The high land area is characterized by a forested area, a unique land use pattern with upland tea and upland vegetable cultivation.

With the commencement of the popularization of the Nuwara Eliya region which was identified during the British period, infrastructure facilities have been developed and the Nuwara Eliya area is further enhanced by the plantation economy of the Kandyan tea plantation. Therefore, the area is currently looking for economic, environmental and social improvements. Nuwara Eliya is also an important administrative center.

As a result, I am pleased to be the Chairman of the Nuwara Eliya Pradeshiya Sabha for the future Nuwara Eliya Development Plan, which will be prepared by the Urban Development Authority under the aegis of the Ministry of Municipal and Western Development after considering these developments.

We have studied this plan and hope to develop the economic, social, environmental and tourism sector of the area.

I wish the Nuwara Eliya area to become a paradise in the Sita Mountains within the next 10 years and I hope that this plan can be successfully implemented and will continue to contribute fully as a Nuwara Eliya Pradeshiya Sabha.

Vely Jogaraj

Hon. Chairman- Nuwara Eliya Pradeshiya Sabha

## **Preface**

This development plan has been completed for the Nuwara Eliya Municipal council area and part of Nuwara Eliya Pradeshiya Sabha area with comprising 21 no of Grama Niladari Divisions for next 10 years period. The Nuwara Eliya which is the capital of the Nuwara Eliya District is situated on a plateau between two erosion scraps slightly above 6000 fr.MSL. Also narrow mountain slopes ,Low rounded hills,crests,foot hills , dissected plateaus and valleys make a unique landscape within and around the town, The climatic condition and greenery of the area is increase the beauty of this geographic pattern. As a reasons that it is become a most tourist attractive town in Sri Lanka.

Currently Nuwara Eliya Municipal council area has about 35,000 of residence population and it will 52,000 for greater Nuwara Eliya plan area. Annual 950,000 of local tourist are arrival and foreign tourist are about 135,000 .The economy is mainly based on Tourist and Agricultural sectors. Tea estate sector also contribute some part to the economic development.

The main objective of this development plan is to achieve sustainable development while preserving the environment sensitiveness. These plans have laid out the vision, objectives and strategies for the next 10 years while safeguarding the economic development and environmental beauty of the tourism and agriculture sector



## **AKNOWLEDGMENT**

It is a sincere gratitude to all resource persons and stakeholders who have contributed directly and indirectly to the preparation and launch of this greater Nuwara Eliya Development Plan.

first and foremost it is sensually thanks to Mr. Chandana Lal Karunaratne, the Hon.Mayor of Nuwara Eliya Municipal Council and all members of Municipal council , Mr.Velu Yogaraja , the Chairman of Nuwara Eliya Pradeshiya Sabha and all members of Pradeshiya Sabha ,all staff of the Nuwara Eliya Municiple council and Nuwara Eliya Pradeshiya Sabha for contribution given to prepare this Greater Nuwara Eliya development plan – 2030.

Secondly we would like to tanks all government officers in Nuwara Eliya district including District Secretary and Divisional Secretary of Nuwara Eliya for kindly help giving to prepare this development plan.

We are also grateful to the Chairman, Director General of the Urban Development Authority, Deputy Director General Planning, Development Planning Division, Research and Development Division, Environment and Landscape Division, Geographic Information Systems Division and Enforcement Division for their comments, assistance and encouragement. .

Finally, we thank all stakeholders who contributed to the implementation of the Greater Nuwara Eliya Development Plan.

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# CHAPTER 01

## INTRODUCTION

# 1. INTRODUCTION

## 1.1 Background of the preparation of Development Plan.

Attention is focus towards physical environmental cultural political economical and social sectors to prepare development plan for urban area for next period of time within the declared urban development area. Solidness of the planning framework and planning procedure of the planning texture depends on the SOWT analysis of it's physical and social areas

Urban development authority can be identified as main regulatory institute as town and their suberb development in sri lanka. Urban development authority act No 41 of 1978 gives powers to UDA to urban planning in srilanka. Clause No 8 of urban development authority amendment act No 4 of 1982 gives urban development authority to regulatory powers to enforcement and planning regulations within the area of identified urban areas under the act.

According to above legal form the UDA study social economical political cultural environmental and physical situations of the urban development areas and identifies set of urban areas tendencies and potentials and their weekness threats and their proper management of made development plan for next definite time to definite vision. Development plan prepared all counterpart development including commuters and town population. This development plan prepared to help for future development of area population and commuting population.

According to the gazzert notification of No 38/16 dated 01 st of june 1979 under UDA act 1978, limits of the municipal council Nuwaraeliya declayed as development area. As well as Nuwaraeliya pradeshiya sabha area also gazzerted No 4/1546 dated 8 th September 1998.

According to the above factors, prepared development plan for the Nuwara Eliya Municipal Council area in 2004 expird on 2018. Hence it is needed to prepare new development plan for next 10 years of time to Nuwaraeliya municipal council area including it's adjoining 5 grama niladari divisions within the Nuwaraeliya pradeshiya sabha area.

New development regulation and new development stratagies are introduced in this new development plan.

## 1.2 Planning Team

### 1.2.1 Main Consultancy institutes

1. Nuwara Eliya Municipal Council
2. Nuwara Eliya Pradeshiya Sabha

### 1.2.2. Other stakeholders

1. All religious dignitaries
2. Central environmental authority
3. Forest department
4. Road development authority
5. Srilanka tourist development authority
6. Nuwaraeliya district secretariat
7. Nuwaraeliya divisional secretariat
8. National building research organization
9. Agricultural department
10. Govijanasewa department
11. Irrigation department
12. Railway department
13. Education department
14. Health department
15. Srilanka transport board Nuwaraeliya
16. Provincial passenger transport authority
17. Ceylon electricity board
18. Srilanka telecom
19. National physical department
20. Motor racing society of Nuwaraeliya
21. Traders union of Nuwaraeliya
22. Sports society of Nuwaraeliya
23. 4 x 4 motor cars union of Nuwaraeliya
24. Tourism hotel union of Nuwaraeliya
25. Guest house union of Nuwaraeliya
26. Hotel union of Nuwaraeliya
27. Tourist guide union of Nuwaraeliya
28. Non governmental organization

### 1.2.3. Planning team

Mr.N.A.S.N.Nissanka	Director (Central Province)
Mr.E.M.S.B.Ekanayaka	
Mr.H.M.W.Herath	Dy.Director (Planning)
Mr.P.W.N.M.Paranagama	Planning officer
Mr.M.H.P.Madushani	A.Planning officer
Mr.J.M.U.S.Kumara	Planning officer

### 1.2.4. Persons\ Divisions assisted to preparation of development plan

1. Deputy director general ( planning ) UDA head office
2. Development planning division
3. Research and Development Unit
3. Environmental and landscaping division
4. Geological information system division

### 1.3 Scope of The Work

Nuwara Eliya is a unique city in the Central Province of Sri Lanka. This city is relatively physical and environmental diversified compared to other cities in Sri Lanka. The region is characterized by high sensitive ecological zones and unique climatic features. This region can be identified as a major catchment area which feeds the major rivers of the island

Due to this situation, the Nuwara Eliya area has been Identified as a High Sensitive area under the National Physical Plan of Sri Lanka. According to the National Physical Plan 2050, the Nuwara Eliya Zone belongs to the Central Hyperventilation Zone, with a population limit of 100,000 by 2050, and the population of the Greater Nuwara Eliya region is projected to be 59,000 by 2030 in this development plan.

This development plan has been prepared considering and overcome the shortcomings of the Nuwara Eliya Development Plan 2004-2017 gazed on 2004.04.23 under no of 1337/16.

As this development plan is bounded , It is highly considered Haggala Forest Reserve which is specifically designated as a protected area in accordance with the Flora Ordinance No. 2 of 1937 and subsequent amendments. Similarly it is considered the piduthalagala forest conservation area gazette on 2007.12.14 no 1527/22 and Kandapola and Seetha Eliya forest conservation areas gazetted on 2018.07.22 no of 1559/12 . Also considered the Kikiliyamana –single tree Forest area Forest Conservation (Amendment) Act No 65 of 2009

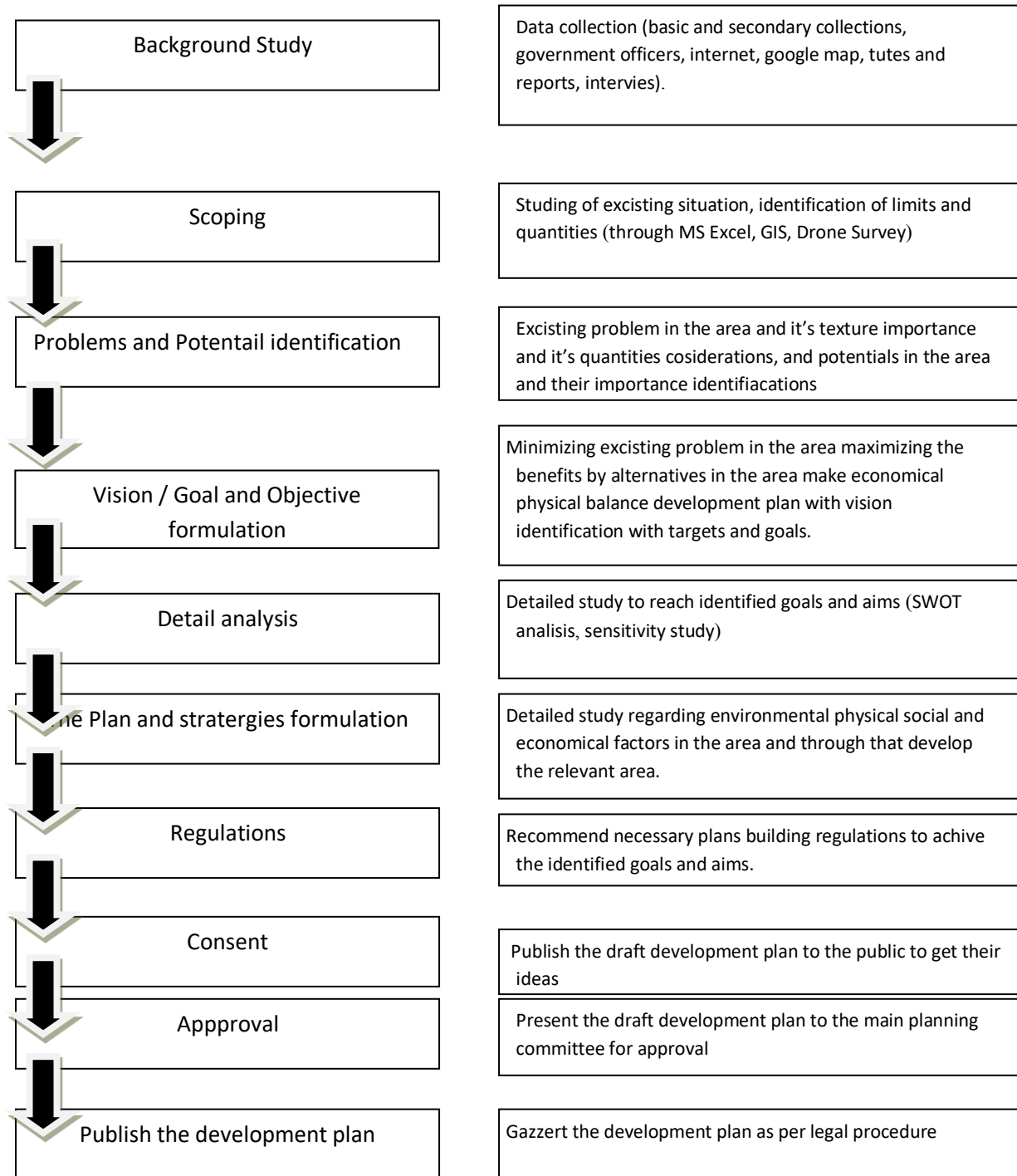
Also considered the rules and regulation coming under the gazete no 1487/10 dated 2007 .03.05 for the Gregory Lake conservation area. Similarly, the boundaries for the Galvesty Land National Sanctuary, which was gazetted under Ordinance 1405/18 of the Forest and Flora Ordinance, were considered.

The conserved buildings gazzeted by the Department of Archeology dated 23.02.2007 and No. 1486 also considered. .Also Nuwara eliya development plan 2004-2017 has identified 129 of conserved building. This development plan also considered this situation.

the Greater Nuwara Eliya Development Plan also focuses on the environmental sensitivity of the project, which is aimed at the provision of eco-tourism development and well-managed economic, social and environmental development with protecting unique architectural features.



## 1.4 The Planning Process



# CHAPTER 02.

## PRELIMANARY SURVEY

## 02.PRELIMANARY SURVEY

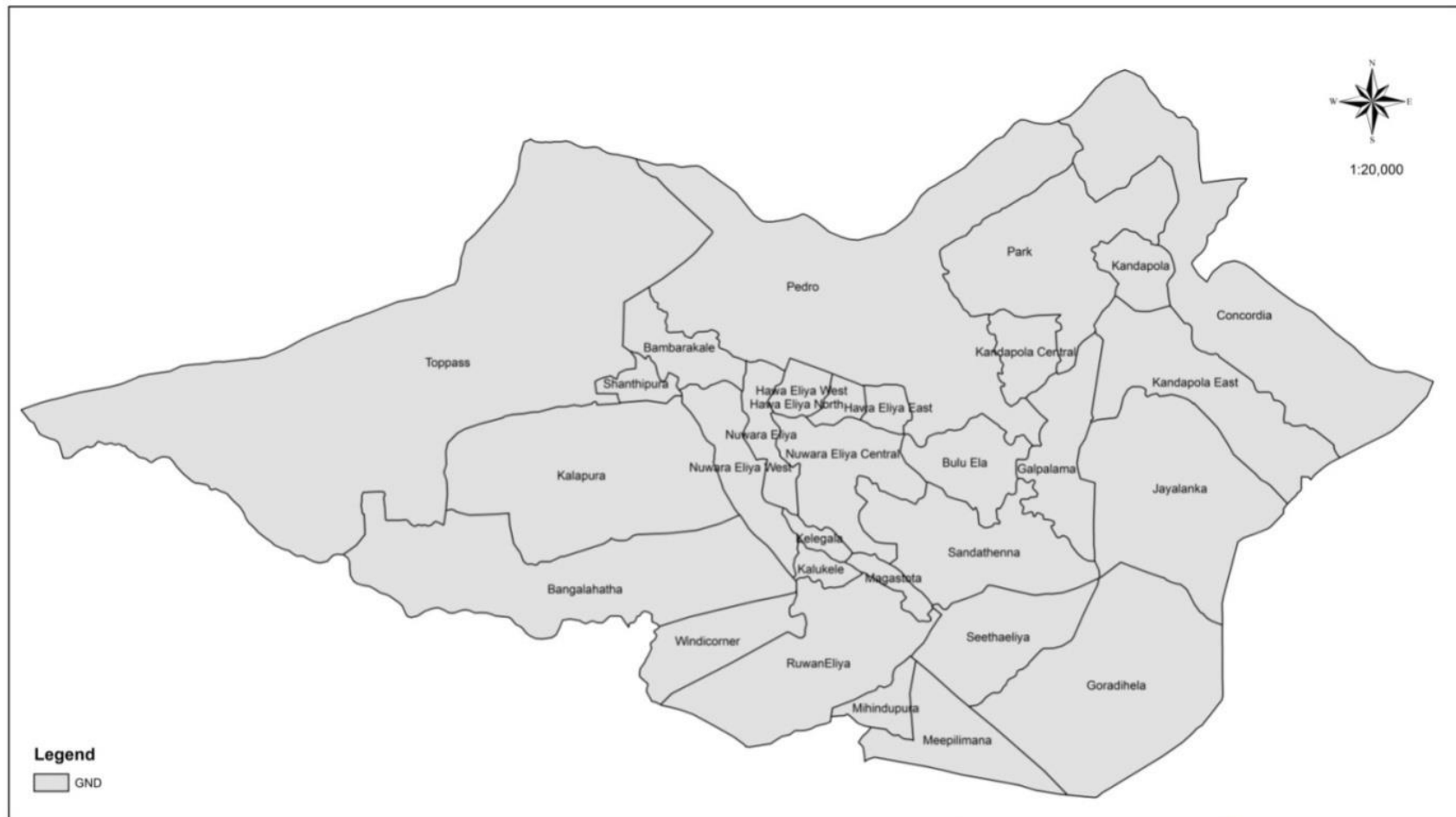
### 2.1 The Study area

1. Nuwaraeliya town is unique climatic and scenic beauty area in the central hills of srilanka. This area can be identified as main water spring catchment area of major rivers in the basic mountain ranges of piduruthalagala, kikiliyamana, singal tree and haggala. Also catchment area of uma and kothmale tributasries of mahawali river as well.
2. Nuwaraeliya town was declared as urban municipal council area in 1948 and also it was declared as urban development authority area by the gazette notification of No 38/16 on 01 st of June 1979. After that Nuwaraeliya pradeshiya sabha area was declayerd as urban development authority area by the gazette No 154644 on 01 st of September 1998.
3. Nuwaraeliya municipal council boundry and part of Nuwaraeliya pradeshiya sabha area included to this greater Nuwaraeliya development plan study area. According to that 12 grama niladari division in the Nuwaraeliya municipal council area and 18 grama niladari division in the Nuwaraeliya pradeshiya sabha area are identified as study area. ( table No 2.1/ Map No 2.1)total extent of the area is 138 squre kilometers

*Table No 2.1 - Study area*

	<b>Grama niladari division</b>	<b>Division No</b>		<b>Grama niladari division</b>	<b>Division No</b>
1	Bambarakale	535K	16	Kalegala	535C
2	Bangalahatha	476C	17	Magasthota	535A
3	Buluale	535I	19	Meepilimana	476H
4	Konkodiya	534F	19	Mihindupura	476G
5	Galpalama	534A	20	Nuwaraeliya	535
6	Gorandihela	478	21	Nuwaraelliya central	535D
7	Hawaeliya east	535H	22	Nuwaraeliya west	535L
8	Hawaelliya North	535G	23	Park	534P
9	Hawaeliya west	535F	24	Pedroue	534H
10	Jayalanka	534B	25	Ruwaneliya	476D
11	Kalapura	535N	26	Sandathanne	535E
12	Kalukale	535B	27	Seethaeliya	478A
13	Kanadapola	534	28	Shanthipura	535M
14	Kandapola central	534C	29	Toppass	535J
15	Kandapola east	534D	30	Windyconer	476E

Map No 2.1 – Study Area



**Study Area for Nuwara Eliya Development Plan**

  
Urban Development Authority  
Nuwara Eliya  
August 2017

## 2.2.Planning texture and situational analysis

01. According to the legends of Nuwaraeliya history, it goes back to the oldest settlement period of srilanka. When the Ramayana text written in India, it says that the king Rawana who govern the srilanka in that time abducted the queen seetha and hidden her at near by Nuwaraeliya town area. In that story it indicate that the king Rawana lived in Nuwaraeliya area. Hindu temple located at the hidden place of queen Seetha in Nuwaraeliya and that area named as Seethaeliya according to the legend.

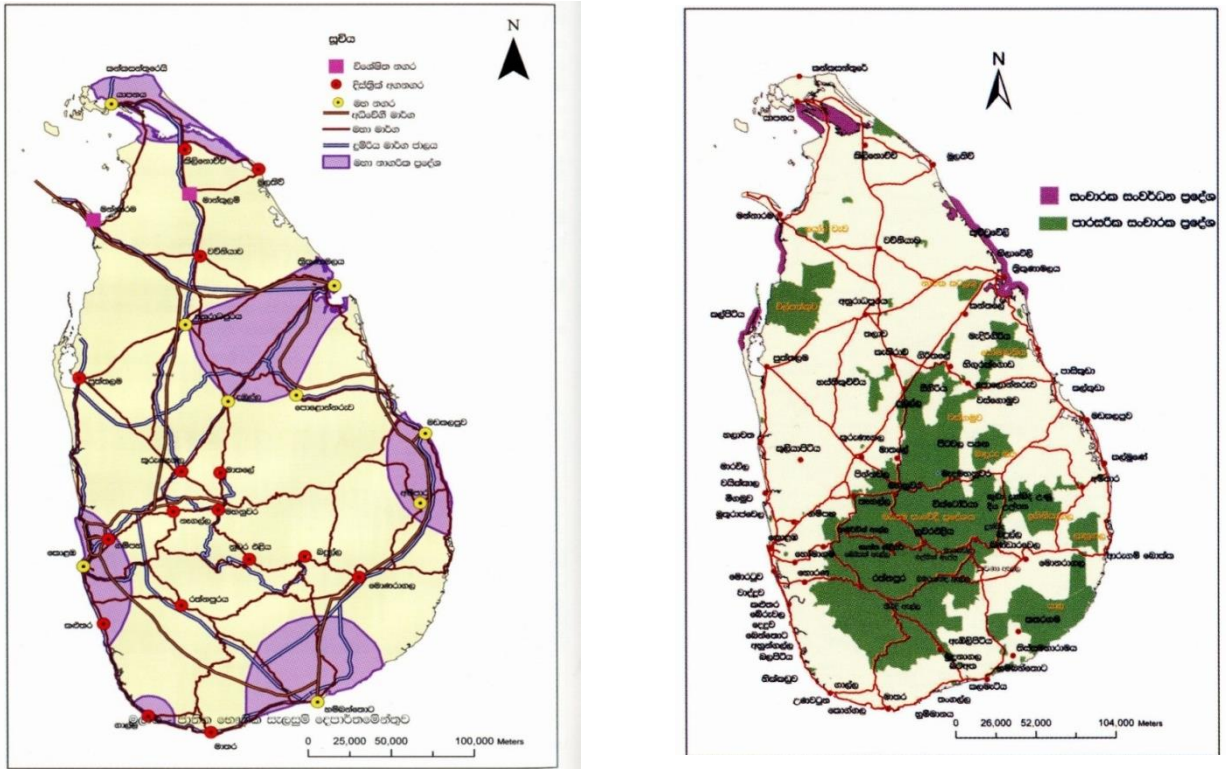
There is a belief that the kings ruled in srilanka used Nuwaraeliya area as lesuireing and tourism place. There is a clue to prove that there is notice at that time to the public to prohibited place to entering the central hill area. John Davy who is nation's doctor in 1818 AD when British ruled period exploring Nuwaraeliya area he identified environment and climetic conditions are same to as British. After that they start to build guest houses and improve the area as lesuire and tourism place.

Edward Barns who govern srilanka in 1828 AD founded this area as per tourism lesuire place and started to build British vicorian type buildings in Nuwaraeliya. In the same period William Gregory started to build Gregory lake Samuwel baker started cultivation in Magasthota lands, Losan who is state supervisor started building houses in the central middle area of town. Those buildings constructed at that time were identified as conserved building within the town area. 129 buildings built at that time were identified as conserved building in Nuwaraeliya and they were included into the development plan prepared for 2004 – 2008 period.

After independence migration towards Nuwaraeliya area was gradually increased and settlement development takenplace in the area. Upcountry vegetable cultivation and pears cultivation was in the area at the first part of the 20<sup>th</sup> centuary. Potato cultivation started in Nuwaraeliya in 1969. Nuwaraeliya development gradually increased in the end of the last part of the 20 th century due to construction of the hotels in the view points of the area. Main basic factor to development of Nuwaraeliya was settle the families related to cultivation areas in 1970 and 1980 two decades and land development taken place after the destruction of property in the town central area after civil commotion in 1983.

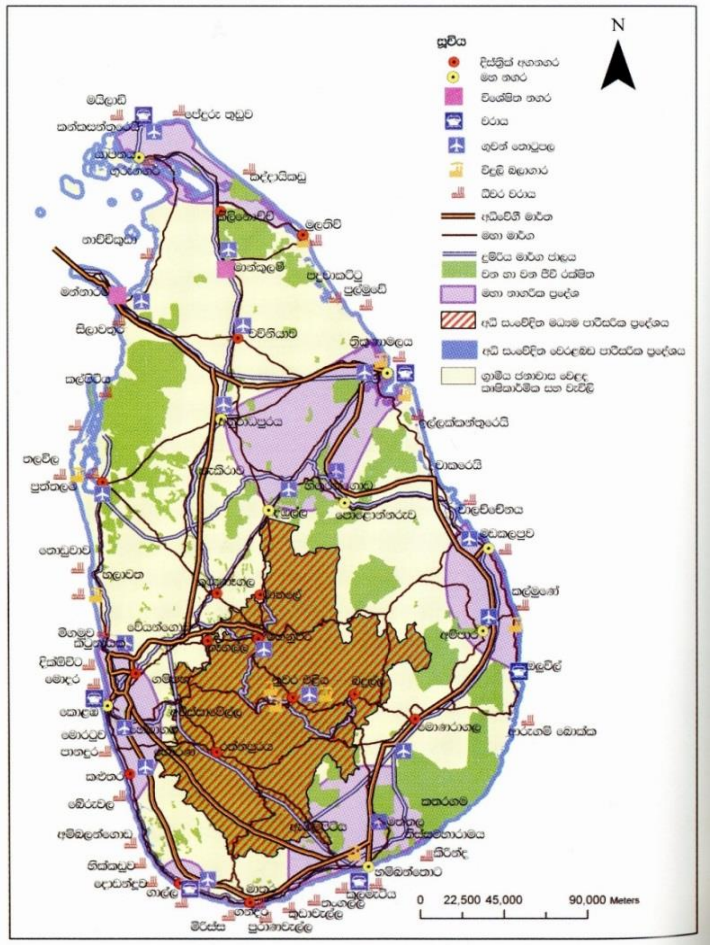
02. Nation physical plan prepared by the national physical department of srilanka for 2012 introdused Nuwaraeliya town as second category of town in the national town category list of srilanka. Also it is included Nuwaraeliya as highly sensitive area in the same plan. According to amenderd national physical plan in 2017 this town identified as stratagicaly developable town. Expected population growth for 2050 is one lack (100,000) population to near by the area to Nuwaraeliya town.

Diagram No 2.1 - National Physical Plan 2012



Source - National Physical planning department

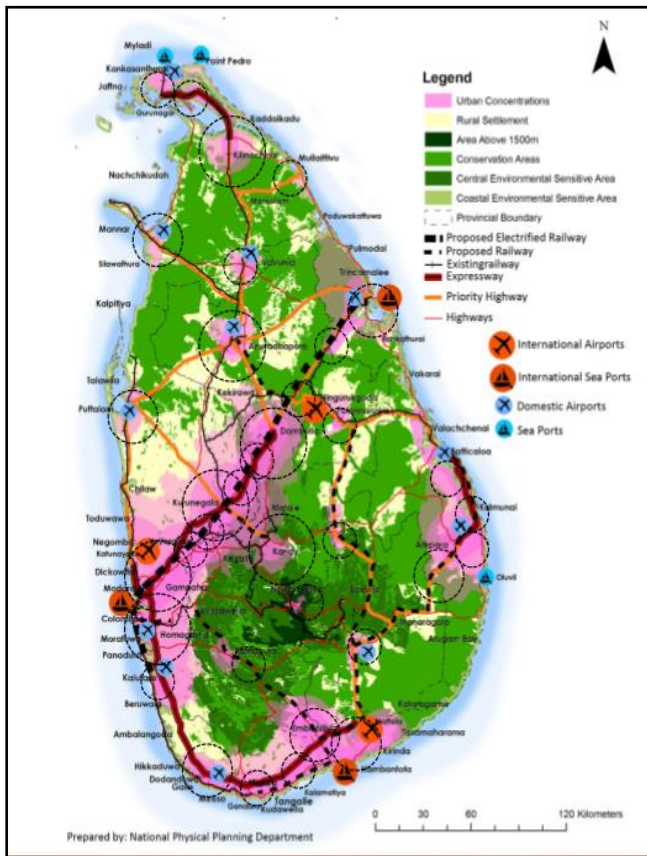
Diagram No 2.2 - National Physical Plan



Source – National physical planning department

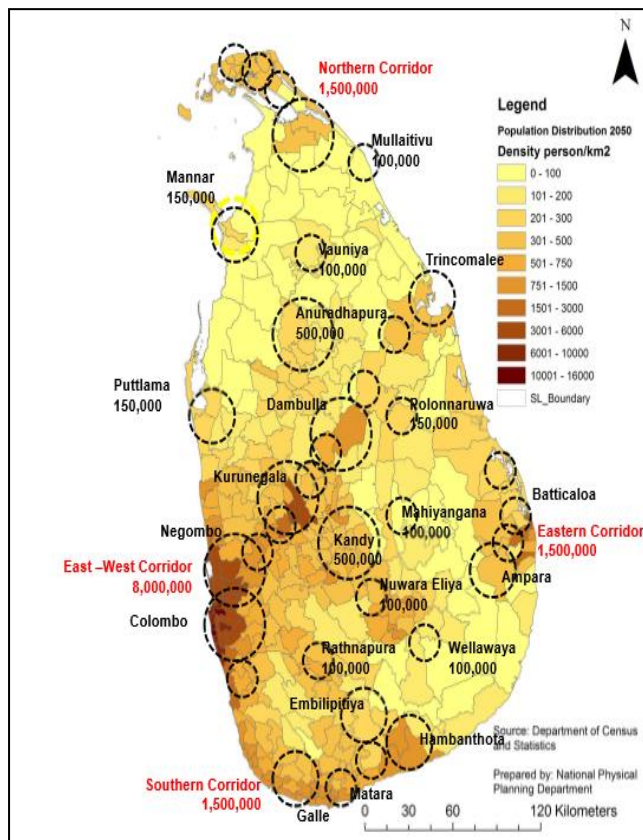


Diagram No 2.3 - Amendment National Physical



Source - National Physical planning department

Diagram No 2.4 - Amendment National Physical



Source - National Physical planning department

03. Nuwaraeliya town has a main highway system covering all areas of the island, and covering all directions directly connecting through the main road systems of Nuwaraeliya Nawalapitiya Gampola Kandy via Colombo, Hatton Awissawella via Colombo, Ragala Walapane via Kandy and Walimada Bandarawela via southern province as well. Those roads have proper connection with all areas of Sri Lanka. Comparative to the other towns of the island Nuwaraeliya town center has good internal road system and the road density within the municipal council area in the grama niladari division are taken high value according to connecting analysis in the central area of the Nuwaraeliya town. It denotes high average connecting value in the town center. (anexture 01)

04. Climatic condition comparative to the other areas of the island, it experiences with low temperature as well as low intensity rainfall. Annual average temperature is about 20 degrees Celsius and high temperature is going up to 21 degrees Celsius (in January, February, March months) temperature is experienced low down to 9 degrees Celsius in the month of December.

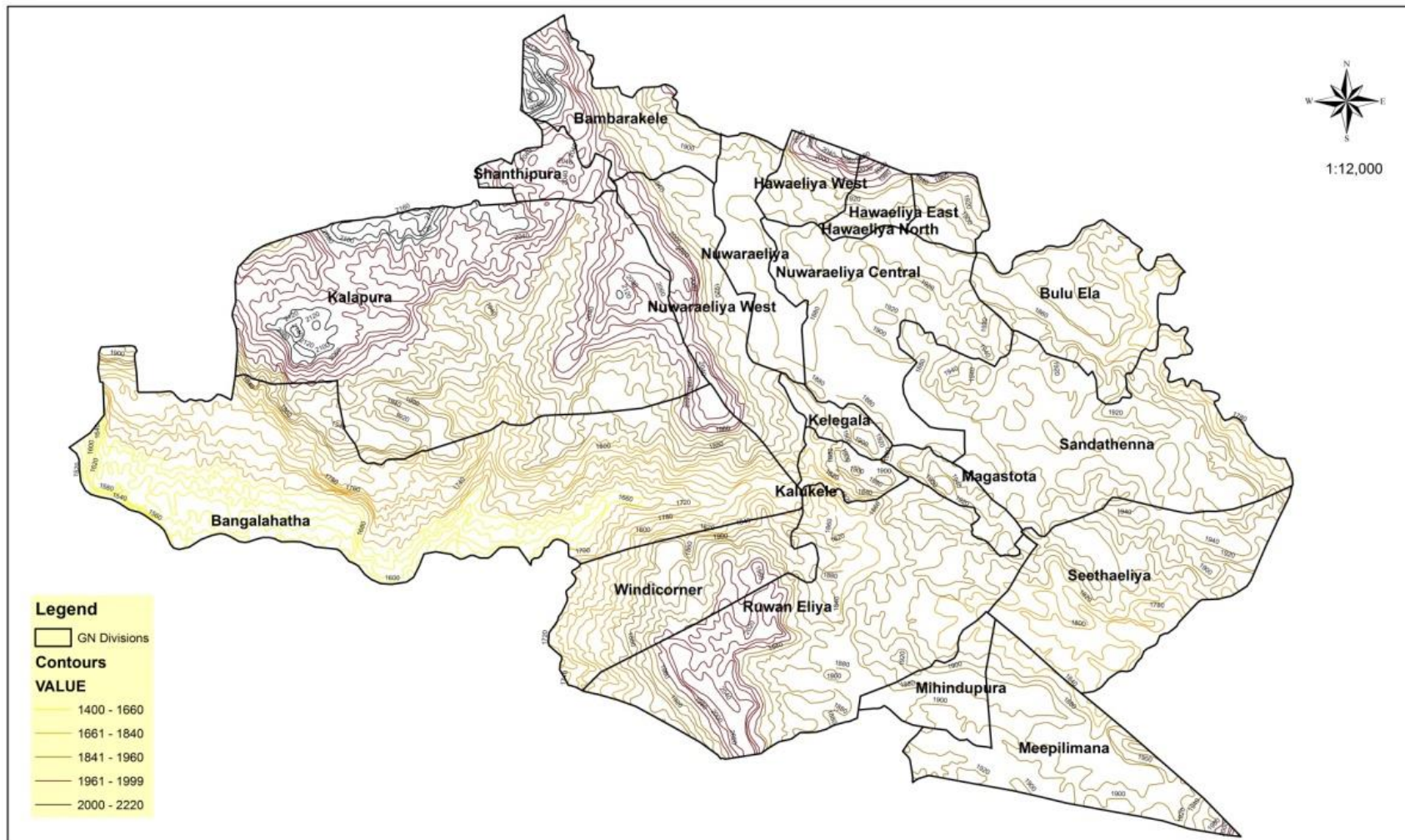
Dry climate can be seen in January - April months, and comparatively low humidity experienced at the same time. When average annual rainfall is 2500 mm and dry season rainfall experienced down to 500 mm. Daily drawing capacity of the rainy season is 18773 cubic meters. It goes down to 3830 cubic meter in the dry season. Water resource volume changes 19673 cubic meter to 4730 cubic meter.

The town further beautified due to with the unique scenic landscaped mountain slopes, narrow hill tops, direct and circular streams, valleys steep sloped mountain bottoms, wavelike valleys plateaus, waterfalls within and surrounding area of the town area. Highest level of the area is 2100 meters MSL while lowest level is 1400 meters MSL. 25% of lands are in over 2000 meter MSL in the study area. (Map No 2 .2/2.3)

05. According to the land use data of the census department in 2012, it reveals that 55% of forest area covers 76 sq. km of total area of 138 sq. km. Considering the study area within the surrounding boundary limitation of Piduruthalagala, Kikiliyamaana, Single tree and Haggala mountain ranges, highest point of the area is 2400 meters above the mean sea level and lowest level is 1500 meters above the mean sea level.



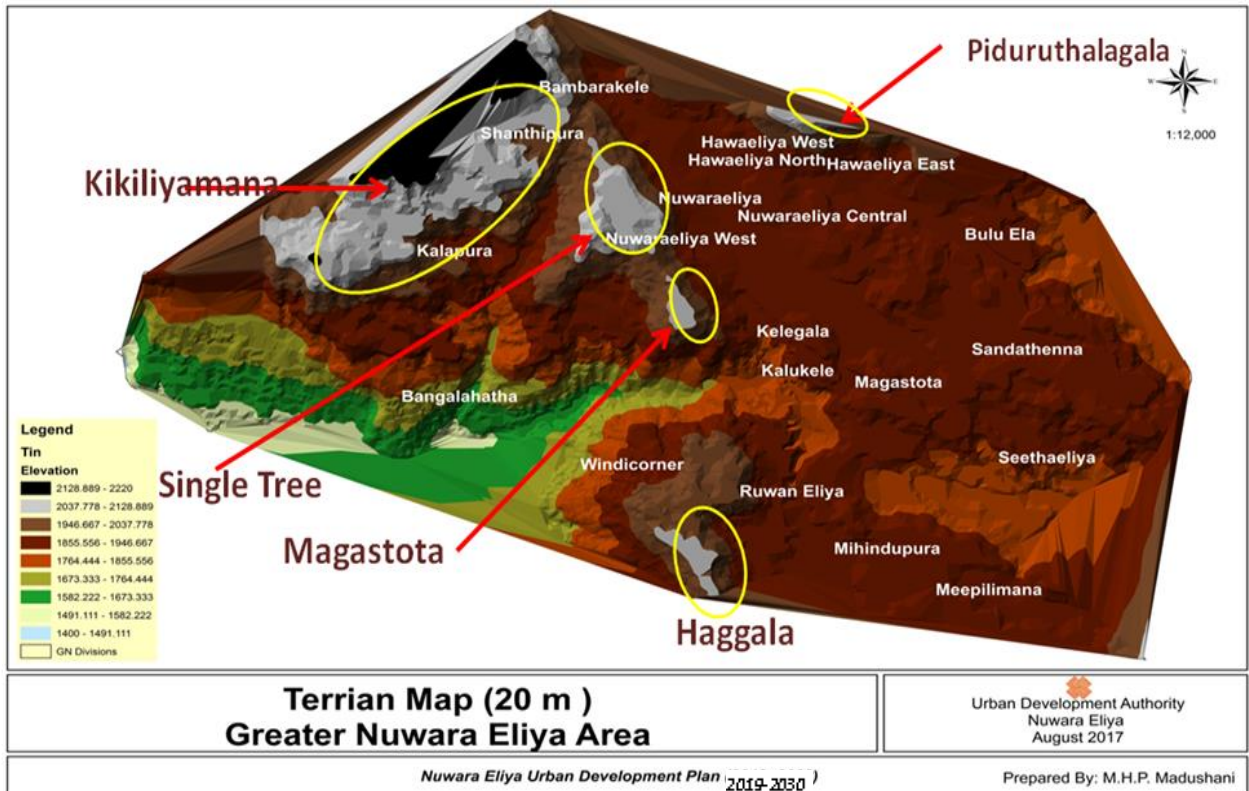
Map No 2.2 - Geo Diversification



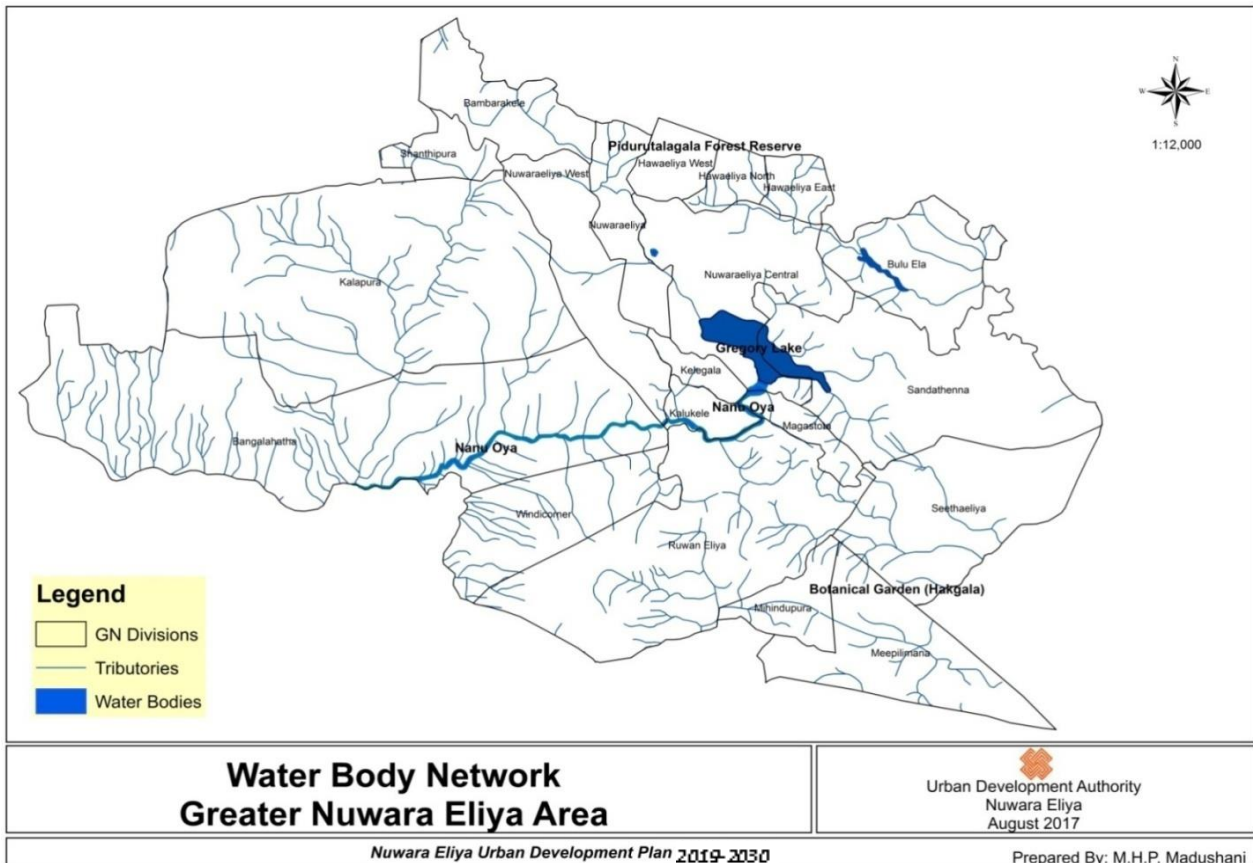
**Terrian Map (20 m )  
Greater Nuwara Eliya Area**

  
Urban Development Authority  
Nuwara Eliya  
August 2017

Map No 2.3 - Mountain Ranges



Map No 2.4 – water bodies



Existence of water resource system based on the mountain ranges concurrent with the forest system in specific coexistence in the central hills. Nanuoya ela and its by streams, Barreck plain ela, Katumana ela are the other water bodies. Those water ways covers 1.08 % of the total land area. Nanuoya which is main water way it stretches 8 km long, and the lake of Gregory covers 90 hectares area while Barreck plain reservoir covers 40 hectares area. (Map No 2.4)

06. Land use pattern of 2014 is shown in the Map No 2.5. According to that forests, tea states, homestead takes considerable values in the table 2.2

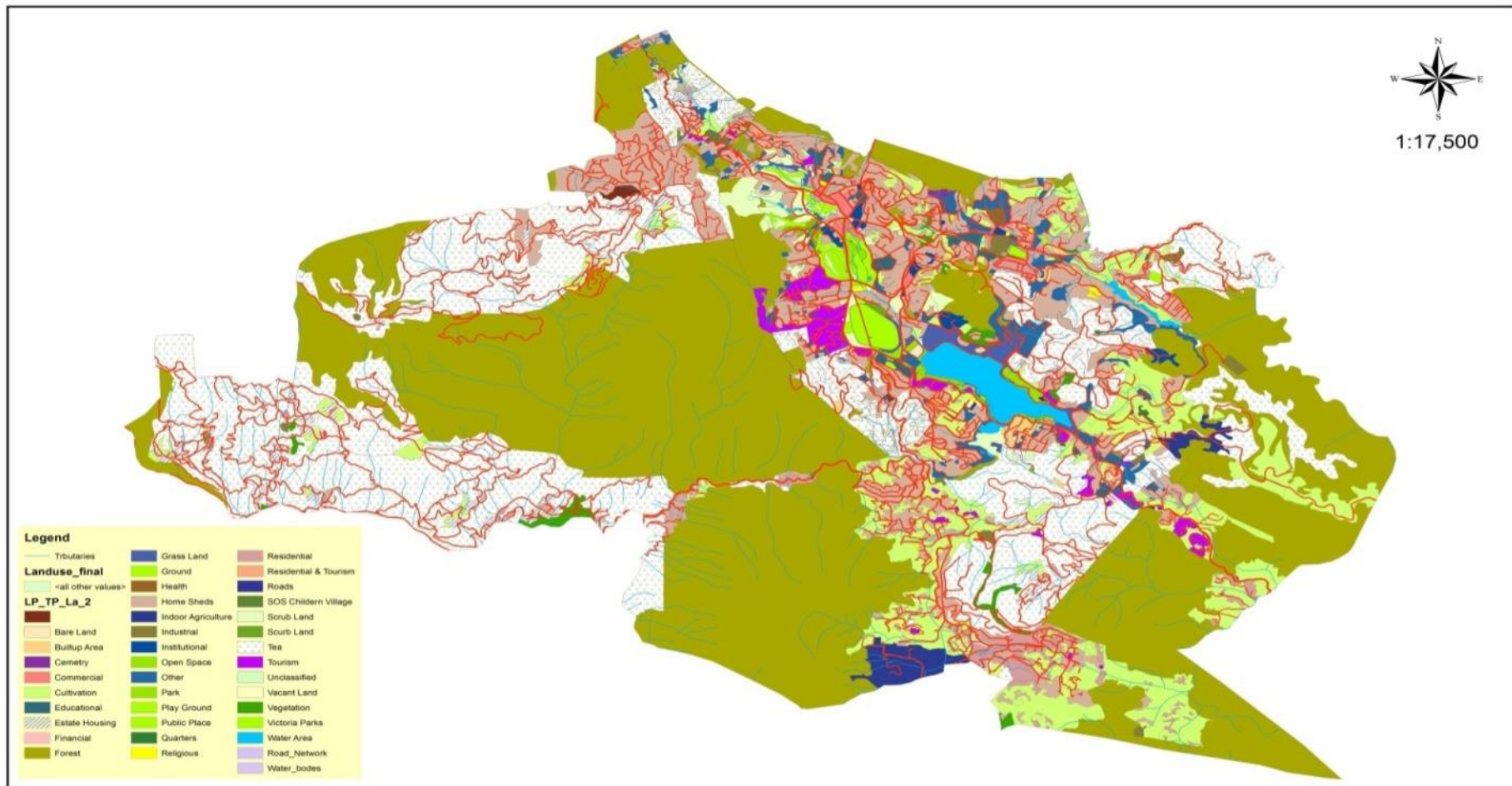
*Table No 2.2 – Land Use*

Use	Extent (sq.k.m.)	Percentage %
Agriculture	8.542094	16.14
Homesteads	0.435727	..82
Grasslands	0.536586	1.01
Open lands	0.001245	
Scrubs	0.61077	1.15
Others	13.323327	25.17
Forests	18.303947	34.58
Vacant lands	.051038	0.1
Resouvers,Rivers,Waterways	.570771	1.08
Cemeteries	0.014599	.03
Roads	1.118242	2.11
Garden vegetable lands	5.419658	10.24
Residential	0.809755	1.58
Tourism	0.513177	1
Estate houses	0.396977	0.75
Commercial	0.171573	0.32
Education	0.155151	0.29
Industries	0.149338	0.28
Institutions	0.151008	0.29
Playgrounds	0.372297	0.7
Health	0.025226	0.05
Govt. Qarters	0.11222	0.02
Religious places	0.045664	0.09
Gardens	0.236061	0.44
<b>Total</b>	<b>52.06</b>	<b>100</b>

Sources – Urban Development Authority



Map No 2.5 - Land Use Pattern



**Land Use Pattern 2017  
Greater Nuwara Eliya Area**

Urban Development Authority  
Nuwara Eliya  
August 2017

Nuwara Eliya Urban Development Plan 2019-2030

Prepared By: M.H.P.Madushani

07. Nuwaraeliya town is the district capital of Nuwaraeliya district and the administrative town as well. In addition to that it is a tourism centre and an environmentally sensitive nationally important town in Srilanka. When studying the population in town history it was reported that the oldest data in 1881 population as 1791 and houses reported number was 264. Population distribution in Nuwaraeliya municipal council area shows in Table No 2.3. By the way population distribution and growth in the grama niladari divisions in the greater Nuwaraeliya study area shows in the Table No 3.4

**Table No 2.3 - Population Distribution in Nuwara Eliya Municipal Council area**

Year	Population	Population growth	Population Density	Year	Population	Population Growth	Population Density
1871	1291			1931	7823	.4	5
1881	1791	1.5	1	1946	10823	2.5	7
1891	2726	5.2	2	1953	14405	4.7	10
1901	5026	8.4	3	1963	15482	.7	10
1911	7406	4.7	5	1971	17880	1.5	11
1921	7525	.76	5	1981	20471	1.8	14

Sources - 2004-2018 Nuwaraeliya town development

According to that it is clear that the Nuwaraeliya municipal council area population growth was minus growth rate comparative to 2002 and 2012 two years, and it was certain extent to high in the 2017 year (to -0.035).

**Table No 2.4 – Population Distribution in the Study Area**

	Local authority area	Grama niladari division	Grama niladari division No	Population (2002)	Population (2012)	2012 Population growth	Population (2017)	2017 Population growth related to 2002
1	Nuwaraeliya municipal council area	Bambarakale	535K	3557	3143	-1.23	3340	-0.42
2		Hawaelliya E	535H	2337	2273	-0.24	2416	0.24
3		Hawaeliya N	535G	2686	2216	-1.94	2355	-0.88
4		Hawaeliya W	535F	1888	2072	0.93	2202	1.03
5		Kalukale	535B	1131	1093	-0.35	1162	0.18
6		Kalegala	535C	1874	1829	-0.25	1944	0.24
7		Maagasthota	535A	1578	1408	-0.75	1496	-0.10
8		Nuwaraeliya	535	1878	1290	-3.69	1371	-2.08
9		Nuwaraeliya C	535D	4712	4292	-0.93	4561	-0.22
1		Nuwaraeliya W	535L	4540	2481	-0.24	4637	0.24
1		Sandathanne	535E	2803	2816	0	2993	0.43
1		Kalapura	535N	3210	3465	0.77	3682	0.92

1	Nuwaraeliya predeshiya sabha area	Bangalahatha	476C	3166	3333	0.5	3542	0.75
1		Buluale	535I	1674	1751	0.4	18691	0.70
1		Konkodiya	534F	3552	3758	0.56	3994	0.78
1		Galpaalama	534A	1223	1272	0.39	1299	0.04
1		Goradihela	478	1409	1352	-0.42	1432	0.13
1		Jayalanka	534B	1428	1431	0.02	1521	0.42
1		Kandapola	534	1619	1426	-1.27	1515	-0.45
2		Kandapola C	534C	2546	2853	1.14	3032	1.17
2		Kandapola E	534D	956	887	-.75	943	-0.10
2		Meepilimaana	476H	1895	2012	0.6	2138	0.80
2		Mihindupura	476G	1237	1226	-0.09	2303	0.35
2		Park	534P	4485	4463	-0.05	4743	0.37
2		Peedrua	534H	3110	3316	.064	3524	0.82
2		Ruwan eliya	476D	2676	2972	1.05	3158	1.11
2		Seetha eliya	478A	1534	1815	1.69	1929	1.53
2		Shanthipura	535M	1319	1408	0.65	1496	0.84
2		Toppas	535J	2567	2757	0.71	2930	
3	Windyconer	476E	1613	1667	0.33	1672	1.62	
		Total		77364	98467		10245	1

Source – census and statistic department

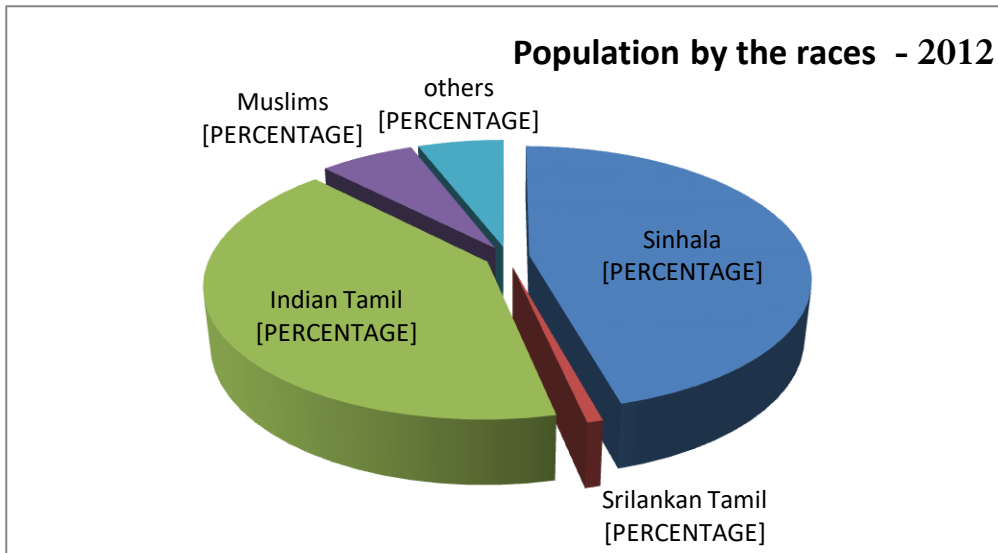
Population growth in minus value shows in Bambarakele (-1.23) Hawaeliya west (-1.91) and Nuwaraeliya (-3.65) grama niladari divisions when compared to 2012 year – 2002 year data. However population growth rate minus value transfer into favourable condition reducing minus value in the Hawaeliya east , Hawaeliya west, Kalapura, Kalukale, kalegala, Nuwaraeliya west and Sandathanne grama niladari divisional area population growth covered into plus value in 2017. But further the minuse value of population growth was existed in the grama niladari divisions of nuwaraeliya east, Nuwaraeliya, Bambarakale, Nuwaraeliya central in the year of 2017. Specialy, the areas of the tourism, commercial, Residential uses are the factor reasons to this situation. Relatively decreases of population growth rate for whole area got minus value from 2012 year to 2017 year as 0.0353.

When considering the based population within the 17 grama niladari divisions to preparation of the town development plan, it shows the different picture due this situation. It shows considerable population growth in the said grama niladari division when comparing the 2012 population to 2002 population and the population growth increases from 0.3388 to 0.5955 to 2017 year. Population growth takes minuse value in the Mihindupura, Gorandihela, Kandapola, Kandapola south grama niladari division while other grama niladari divisions shows plus growth rate. Population growth of the grama niladari division of Seethaeliya (1.69) Kandapola central (1.14) and Ruwaneliya (1.05) are the areas highlighted grama niladari division out of other grama niladari divisions. Kandapola and Kandapola east grama niladari divisional population growth takes minuse value when compared to the years of 2017 to 2002 years.

Further study it shows that the plus population growth rate in the grama niladari divisions near the municipal council area. Residential growth in the town takes minuse value and population growth in the adjoining grama niladari divisions of the pradeshiya sabha area was indicated high

demand to uses of commercial and tourism uses and adjoining areas than residential uses demand. Study area of 30 grama niladari division population growth rate is 2017 was 72294 population. It was nearly 10% of the population within the divisional secretariate area population. Population structure by the races of population was 46% Sinhalese, 41% Tamils, 6% Muslims. And 40% of whole population was estate population. (Diagram 2.5)

**Diagram No 2.5- Populatioin by the Races -**

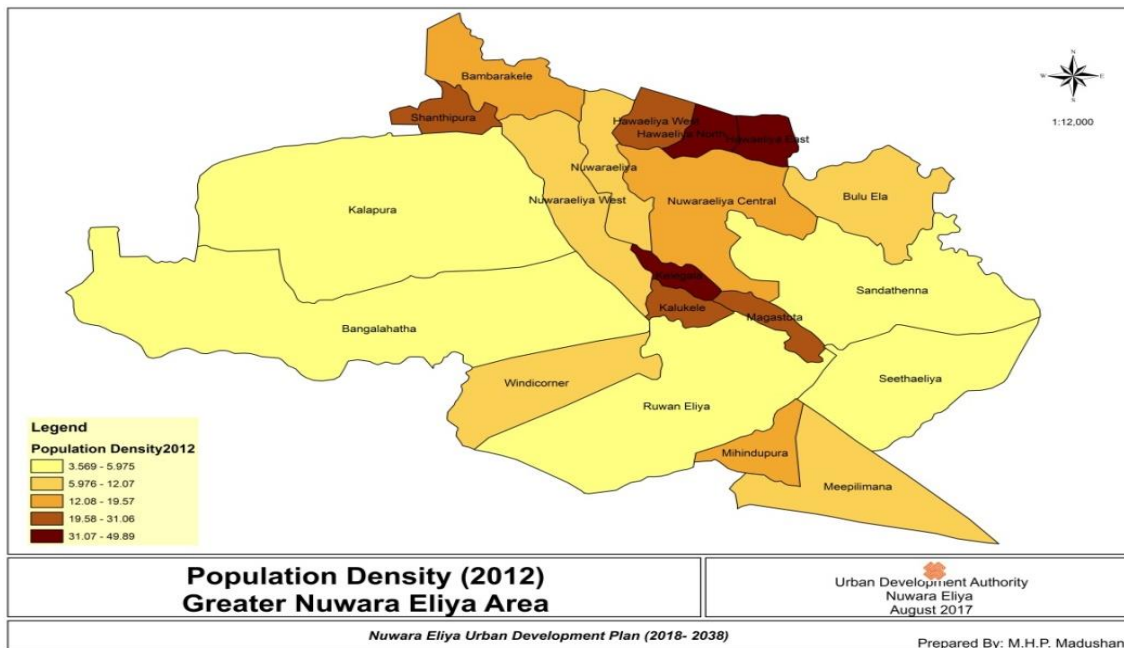


Sources – Censes and Statistics Department

05. When considering the population density of the study area, it is evident that the high population density in the areas of grama niladari divisions of Bambarakale, Shanthipura

Nuwaraeliya north, Hawaeliya east, Kandapola, Kalukale and Kandapola central. Population density of the above grama niladari divisions were 1000 population per 1 hectare while low density thats below 400 population was reported in the grama niladari divisions of Kandapola east, Toppass, Peedraue, Jayalanaka and Gorandihela. (map No 2.6 )

Map No 2.6 – Population Density - 2012



6. According to available data, it is evident that The population of 11008 people are living in 10784 housing units in the year of 2012 . According to that it is indicated 224 housing units were in the 2012 year. Main factor influence for this situation was high population living in low income housing areas related estimated housing stock. An other Significant factor in this figures shows that 20% of population were living in line houses. Specialty estate labours houses coming under this catogery while they have very low facilities and the 144 houses were shanties is considerable fact.

07. When considering housing density withing the municipal council area, it shows in this Map No 2.7 that the housing density is higher than other areas in nuwaraeliya comparing to other municipal council areas.

Table No 2.5 - Housing Condition

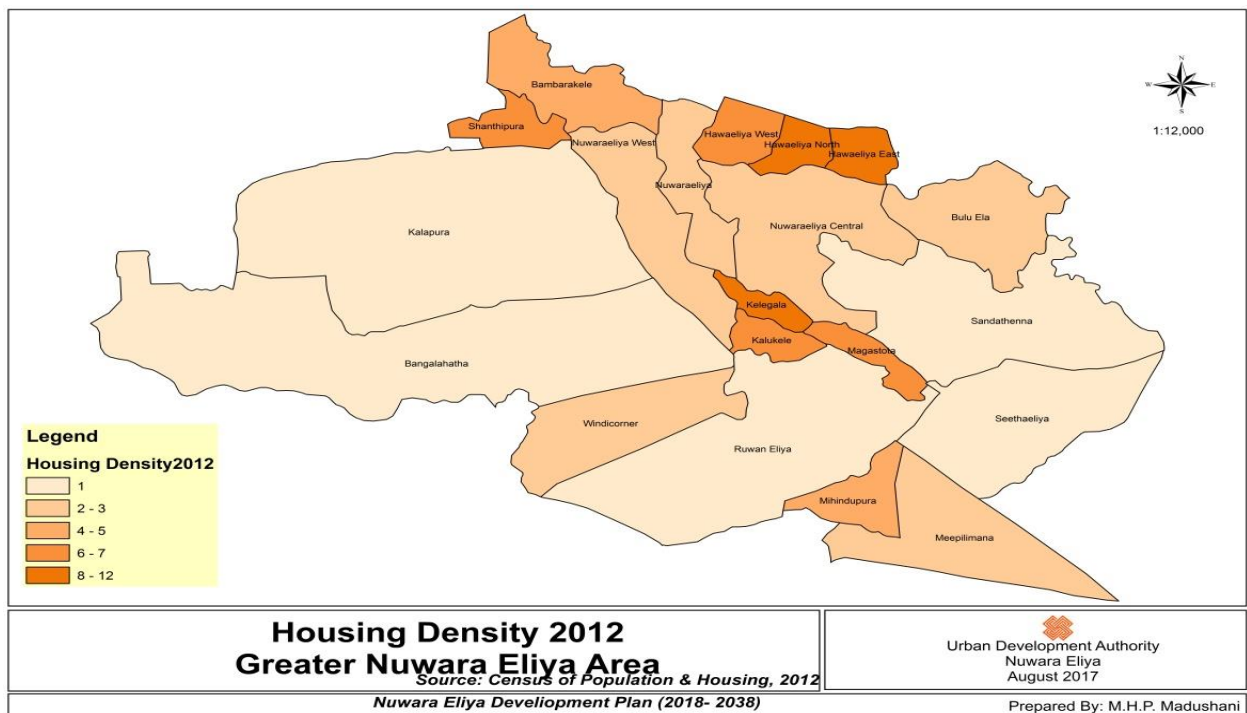
Grama niladari division	No of Families	No of houses	Scraity of houses	One floor houses	2 floor houses	Houses with more that 2 floors	Attached houses	Flats	Twin houses	Lime houses	Shanties
Bambarakale	787	773	14	445	78	17	32	1	15	175	10
Bangalahatha	816	799	17	285	50	8	17	0	24	412	3
Buluale	429	415	14	326	37	1	27	0	2	21	1
Hawaeliya E	580	561	19	439	51	1	15	0	1	51	3
Hawaeliya N	542	537	5	365	58	5	59	0	28	19	3
Hawaeliya W	490	488	2	322	67	4	34	4	0	57	0
Kalapura	840	832	8	380	5	0	24	0	13	407	3
Kalukale	289	287	2	265	13	1	0	0	3	0	5



Kalegaala	453	442	11	231	39	4	19	0	64	85	0
Maagasthota	377	373	4	320	28	2	0	4	10	4	5
Meepilimana	537	523	14	498	15	1	7	0	0	2	0
Mihindupura	319	312	7	292	17	0	3	0	0	0	0
Nuwaraeliya	272	264	8	109	54	0	16	5	12	68	0
Nuwaraeliya C	1017	993	24	625	123	6	63	0	17	137	22
Nuwaraeliya W	578	569	9	198	51	11	57	1	8	232	11
Ruwan eliya	733	714	19	360	20	0	40	4	22	267	1
Sandathanne	683	668	15	318	34	1	3	0	10	230	72
Seetha eliya	469	453	16	384	28	9	20	0	2	6	4
Shanthipura	357	351	6	335	7	0	9	0	0	0	0
Winyconer	440	430	10	364	16	0	38	0	0	11	1
<b>Total</b>	<b>11008</b>	<b>10784</b>	<b>224</b>	<b>6861</b>	<b>791</b>	<b>71</b>	<b>483</b>	<b>19</b>	<b>231</b>	<b>2184</b>	<b>144</b>
Total percentage of existing houses			<b>2.1</b>	<b>63.6</b>	<b>7.3</b>	<b>0.7</b>	<b>4.5</b>	<b>0.2</b>	<b>2.1</b>	<b>20.3</b>	<b>1.3</b>

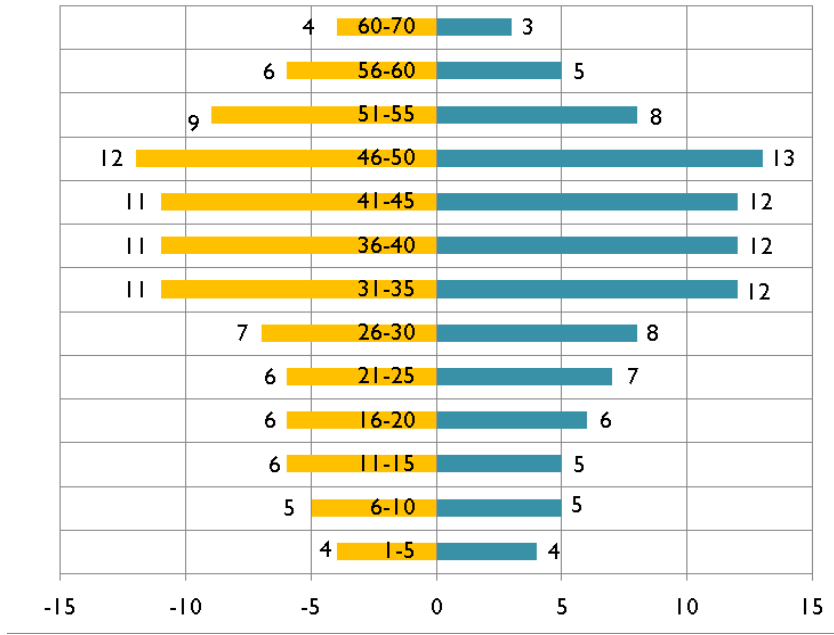
Sources – censuse and statistic department 2012

Map No 2.7 - Housing Density - 2012



08. According to the population pyramid shows in the Graph No 2.6 it is noted that 73% of population are in labour force in study area. Male work force more than the female work force and it is 78% of total male population and the percentage of female population is 67%.

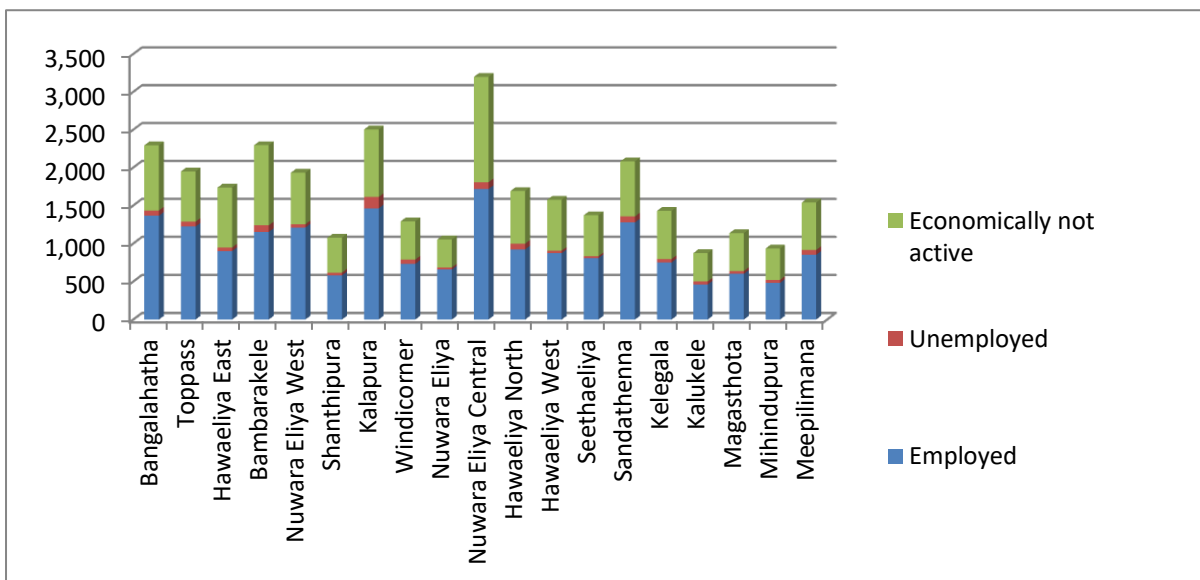
Graph No 2.6 – Population Pyramid



Sources – Censes and statistic department

09. When considering occupied work force in the area, it is noted that 56% of population are employed and 3% of population unemployed population. According to population censuses in 2012, it denote that the 41% of population is most engaged in infruitfull economical activity. (Graph No 2.6 )

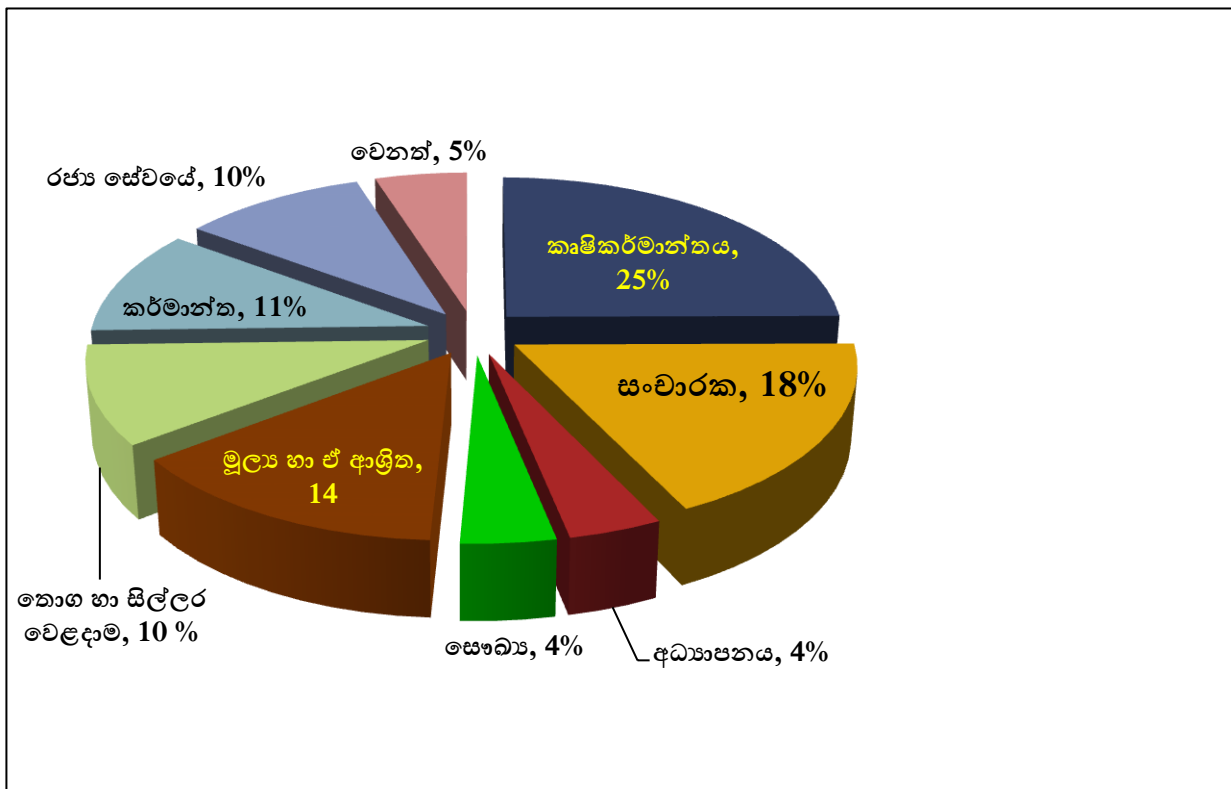
Graph No 2.7 – work force- 2012



Sources - Censes and statistic department 2012

10. When considering the employed economic activities of the people(graph 2.7) in the area of grama niladari division of Bangalahatha, Kalapura, Meepilimana, Sandathanne Ruwaneliya and Seetha eliya, it shows that the 40% of population engaged in agricultural field and the employees of Nuwaraeliya central, Nuwaraeliya east, Nuwaraeliya west, Hawaeliya west, Hawaeliya east and Bambarakale grama niladari divisions, are most of people of the total population were engaged in tourism and financial servicers in the area. Within the municipal council area employees mostly engaged in tourism and related servicers and grama niladari divisions of Nuwaraeliya pradeshiya sabha area mostly engaged in agricultural sector. In whole nearly 25% of population in agriculture, 18% and 14% are respectively engaged in tourism and tourism related servicers.

**Daigram 2.6 – Catogeries according to occupied sectors - 2012**



Sources – census and statistic department

11. Drinking water distribution within municipal council area is doing by the municipal council. Out of total population 35,000 of persons supplied of water facility by residential or commercial No. of 6977 connections distributed by municipal council. Total connections can be categorize as residential connections 3950, economical 411, non residential 950 and institutional and others 245. Daily water volume demand in the area is almost 4500 cu.m. and uses can catogarised as, 72% water supply is residential 18% commercial and tourism and 10% government and privet institutions .

All those water connections were supplied water from 9 natural water spring stream sources and the water volume destributed at 15 intakes locations to the 7 distribution zones in the town. When the dry season, water distribution will be done by other excess 9 tube wells without water supply

interruption. Needed water volum in the dry season will be spplied from water resourses were 3500 cubic meter and other needed water supply of 1000 cubic meter from the tube wells.

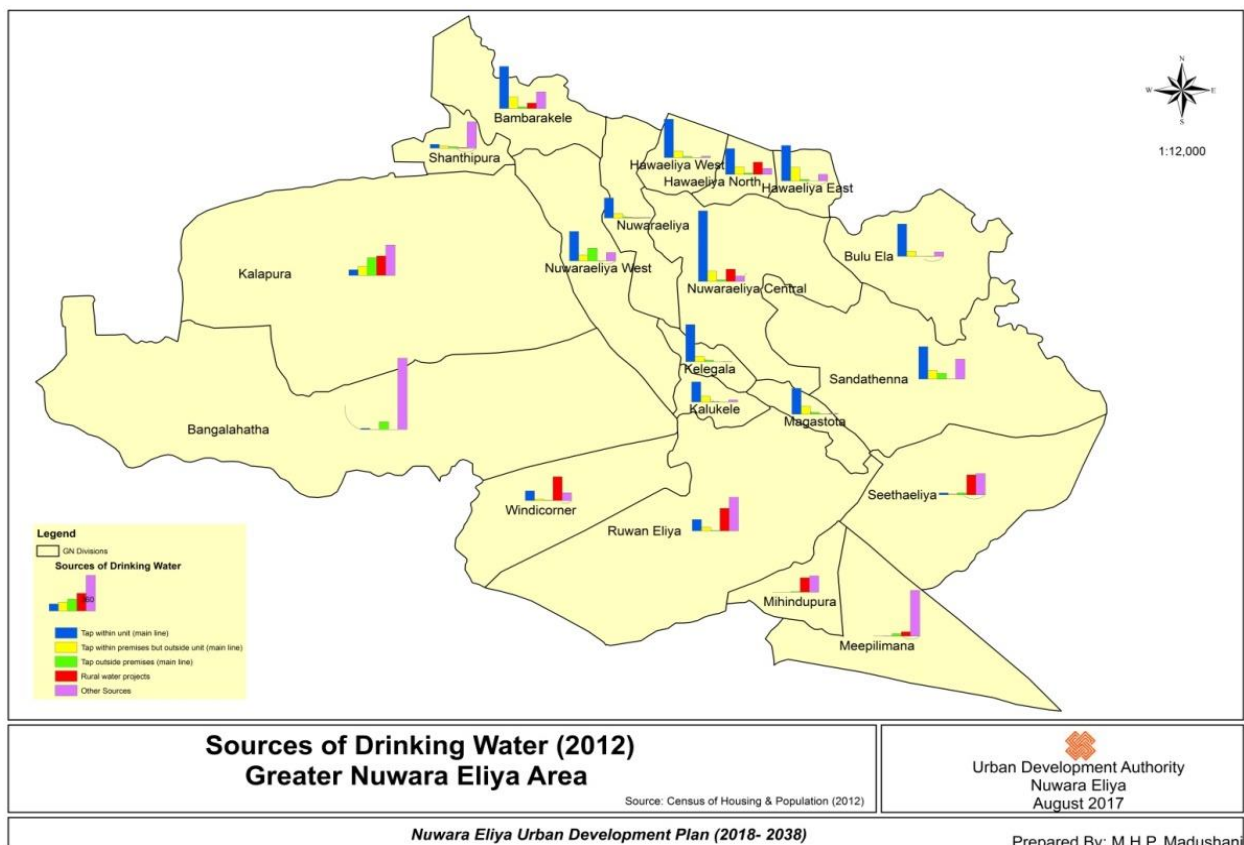
Haddon hill is the highest water consumption zone of 70% of total water supply and it’s main water supply sources are from pedrau and Toppass water springs sources. And also it covers the town main residential, tourism and commercial zones. Water supply to this area is done by the 5 storage tanks.

Hawaeliya hospital area and the Mahinda Mawathe residential area are covered by the lovers leap and lower area zones are daily supplied water volume is 1750 cu.m. Said above water catchment area supply water to the high density housing areas of Hawaeliya and hospital area. However in the dry season during January to April water capacity redused to 900 cubic meters. And at that time water supply distribution will be done by the tube well H1, H2, H3, H4 in Nuwaraeliya.

However in dry season during the time from December to April the daily water volume of the storage tanks reduced down to 3500 cubic meters and that time demand to the water volume goes up to 5500 cubic meters. The reason to increase of water deamand is the increase of the tourism arrival to the town.

Rural and divisional water supply systems implemented in the pradeshiya sabbha to supply water to Ruwanpura, Meepilimana, Katumana, Blackpool and shanthipura grama niladari areas. But the pradeshiya sabha has no proper water supply system to solve this problem.

**Map No 2.8 - Drinking water reservoirs**



12. When considering the educational situation in the study area, comparing the other districts of the island passes in the study area results of G.C.E. (O/L) and G.C.E. (A/L) took low value in the island. Though the G.C.E. (O/L) results shows the average increase , it shows about 50% when compared to other educational zone of the district, it takes low value in the greater nuwaraeliya study area for great town area. Though the islandwide results of the G.C.E. (O/L) 71% and the G.C.E. (A/L) 70% pass in the stand the result of this zone took the state of results is respectively 53% and 35%, student population in this area is 8600 students G.C.E. (O/L) and G.C.E. (A/L) with 14 schools.

**Table No 2.6 – educational situation G.C.E. (O/L)**

Average of G.C.E. (O/L) results						
Average results	2011	2012	2013	2014	2015	2016
Sinhala medium	42	34	40	45	51	54
Tamil medium	34	25	16	56	32	52
Average of both medium	38	30	28	51	42	53

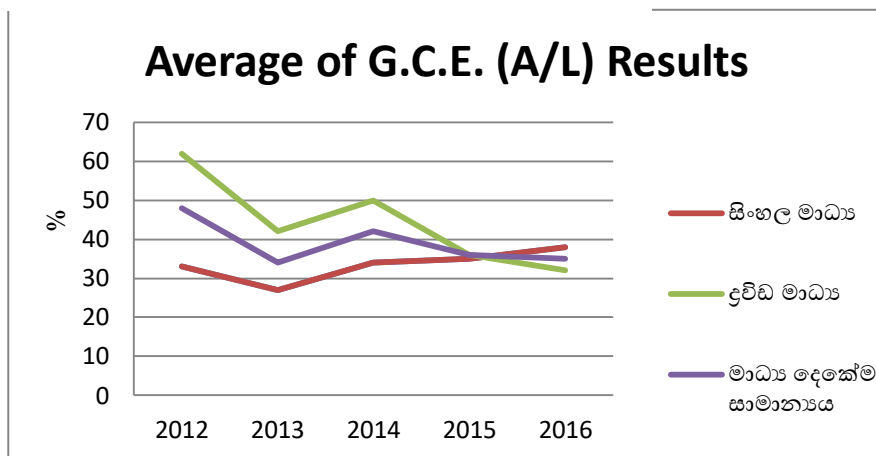
Sources – Zonal educational office, Nuwaraeliya

**Table No 2.7 – Educational situation G.C.E. (A/L)**

Average of G.C.E. (A/L) results					
Average results	Year				
	2012	2013	2014	2015	2016
Sinhala medium	33	27	34	35	38
Tamil medium	62	42	50	36	32
Average of both medium	48	34	42	36	35

Sources – Zonal educational office, nuwaraeliya

**Graph No 2.7 – G.C.E. (A/L) Results average**

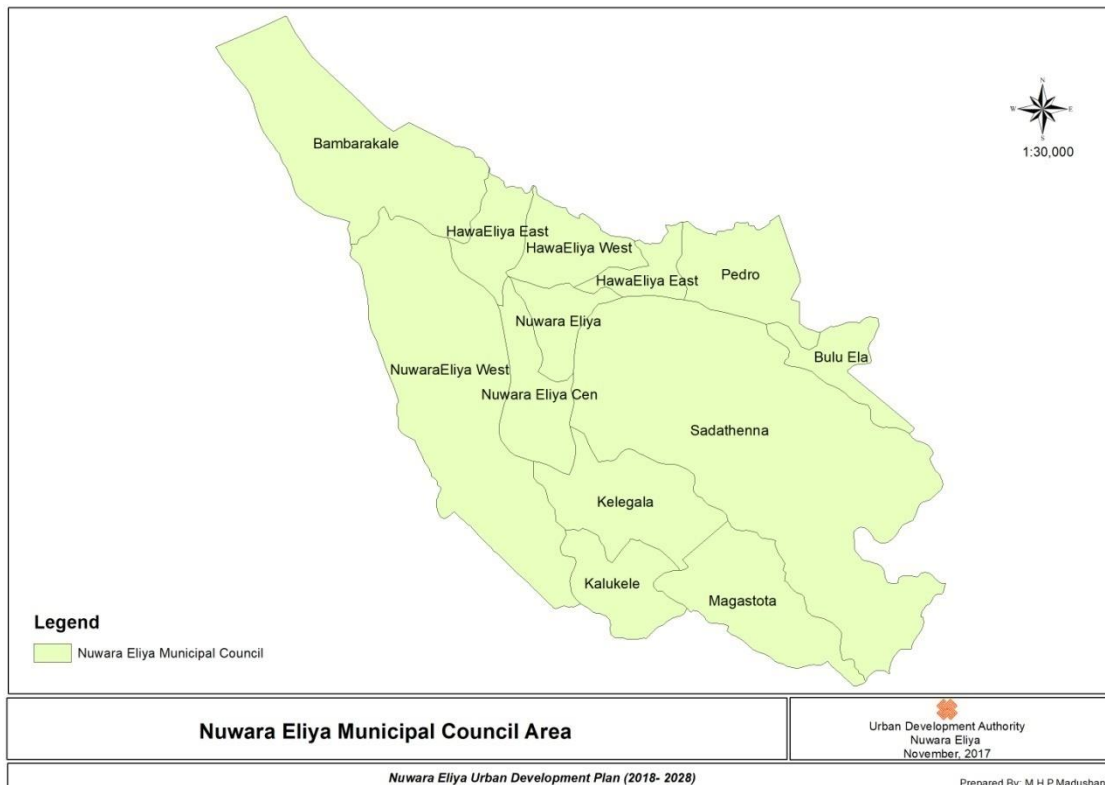


### 2.3 Delineation of the Planning Boundry

It was considered 30 grama niladari division to identify the study area of the greater Nuwaraeliya development planning area as mentioned in the above chapter 3.1 .Study was done in the field of economical and social and environmental areas withing the limits of administrative area with considaring physical and geographical features in the area so as to identify the planning boundry of the Greater Nuwaraeliya development plan area.

1. Development plan prepared for Nuwaraeliya town for 2004 – 2017 period, that is presently impImenting also identified its planning boundry as administrative limit as same as the municipal council limit as its planning boundry. This area included 12 grama niladari areas.

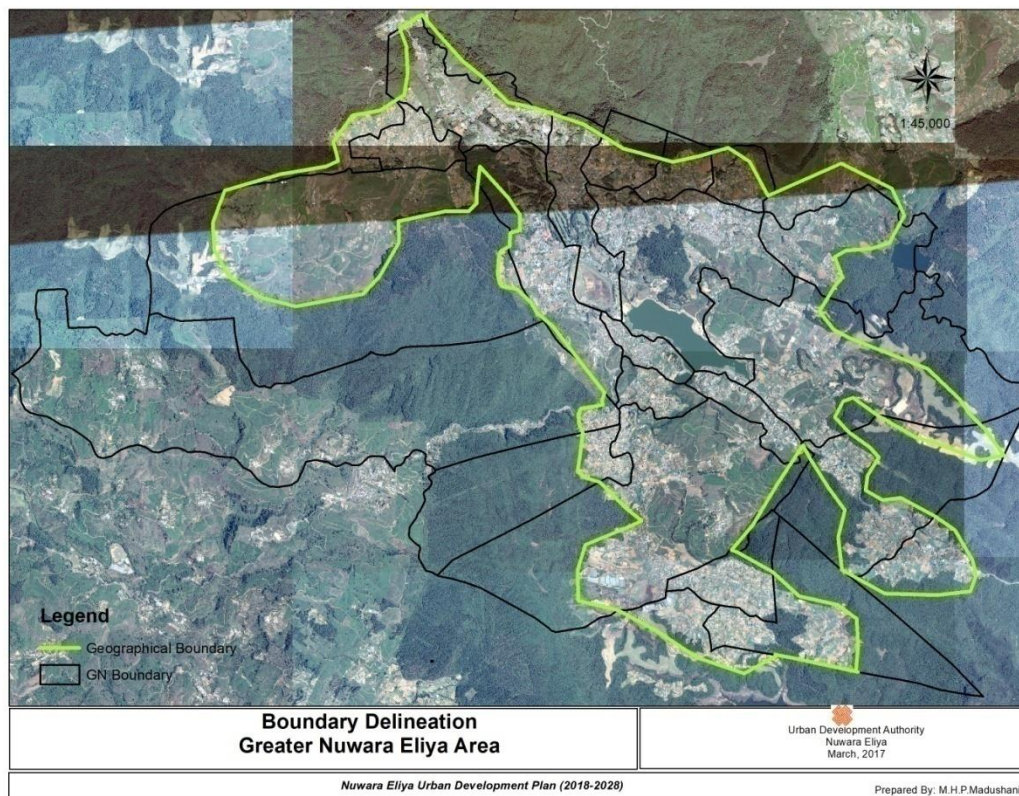
**Map No 2.9 - Nuwara Eliya Municipal Council limit**



2. According to the existing physical environmental background of the area, considering main 4 mountant ranges, decided as boundry limits of their municipal council area as a town limit. Accordingly Piduruthalagala, Single tree, Kikiliyamana, Haggala 4 moutain ranges and their forest area can be considered as physical boundry of the area. Also it is considered the Parts of the forest areas in the grama niladari divisions of toppass, Kalapura, Bangalahatha, Windyconer, Ruwaneliya, Gorandihela and Jayalanka forests areas are the limits of planning area.



Map No 2.10 - Physical Boundries



### 3. Function boundary limits

Detailed study was done to identify the most suitable tendency developable planning areas with the idea of planning point of view. Using criterias and weightages as shown in Table No 2.8 using multiple analysis criterias and weightages in to it, identify the most developable tendency area and as well as environmental sensitive protection areas as shown in Table No 3.9. By that analysis identified the most suitable developable area for the development plan within the 30 grama niladari divisions. According to that identified the considerable indexes. When deciding the indexes, considered the achieving development goals environmental sustainability in the Nuwaraeliya town and adjoining areas.

Accordingly based indexes and put weightages deciding the developable planning area shown in tables below.

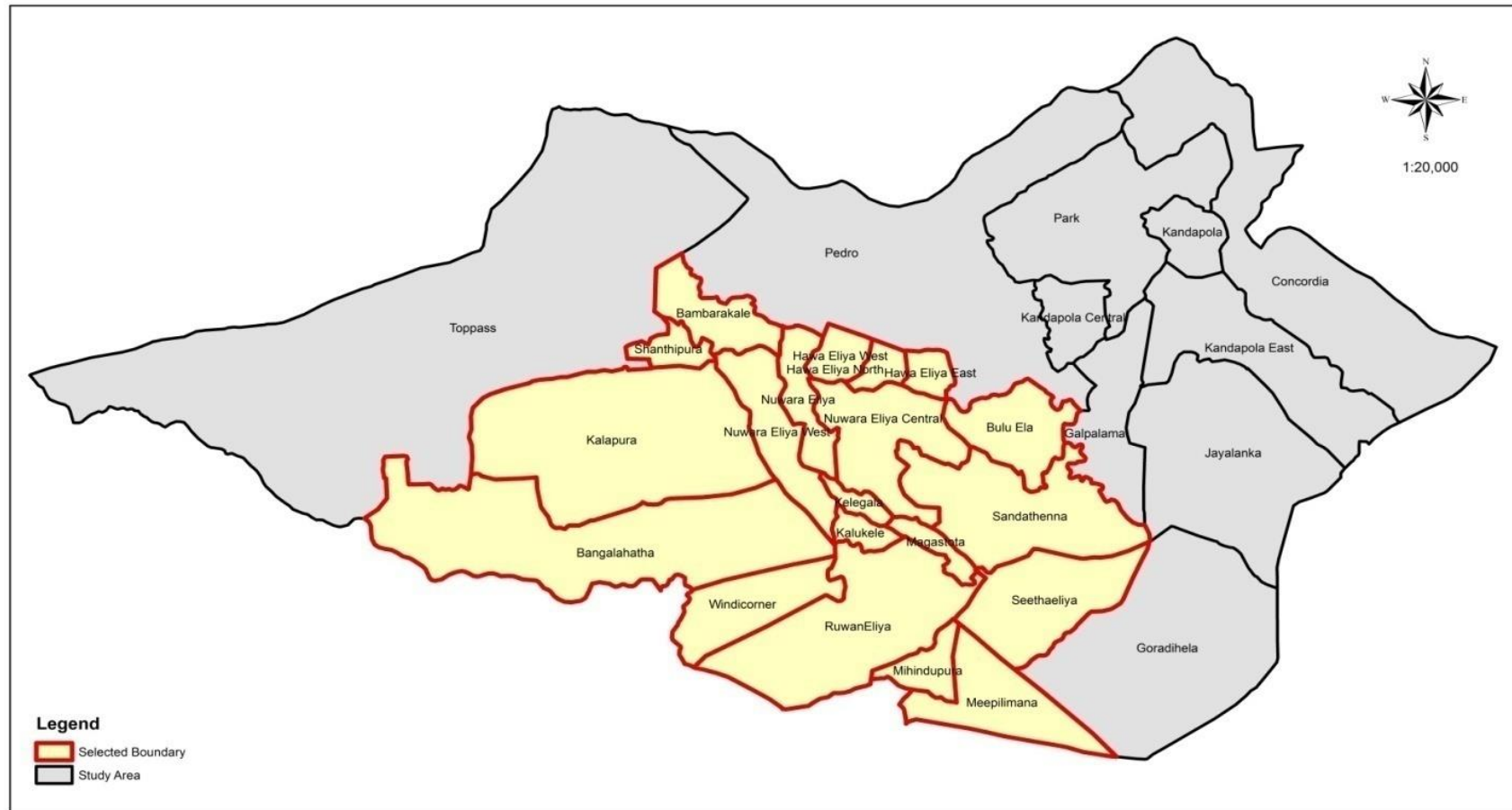
**Table No 2.8 - Based Indexes**

	Index	Place	weightage
01	Tourist hotels/guest houses	1	10
02	Situations of buildings	2	9
03	Water sources/Water systems	2	9
04	Forest area reducing trends	2	8
05	Tourist attracting priority	3	7
06	Infrastructure facilities	4	6
07	Population density	5	5
08	Establishment of distress zones	6	4
09	Development criterias (Approval of development plans and permits)	7	3
10	Annual population growth rate	8	2
11	Density of service activities	9	1

Applying above weightage method through multiple criteria analysis system identified most development tendency area of 20 grama niladari division as development planning area possessed with most development tendencies. Accordingly identified below grama niladari divisions as new development planning areas.



Map No 2.11 - Planning Area



**Selected Boundary for the Nuwara Eliya Development Plan**

  
 Urban Development Authority  
 Nuwara Eliya  
 August 2017

*Nuwara Eliya Development Plan (2018- 2038)*

Prepared By: M.H.P.Madushani

When considering environmental situation within this study area, it belongs main mountain ranges like Kikiliyamana, Piduruthalagala, Single tree and Huggala as its boundary. Highest level is 2400 m. mean sea level and lowest level 1500 m. mean sea level are the area heights within the study area. Main water ways of nanuoya ela, Barreckplain ela are the tributaries within the area and they are catchment area of Mahaweli river.

To prepare the greater Nuwaraeliya development plan for 2019–2030, it was considered active boundary is the most suitable area for the development planning area as planning point of view.

However considering the convenience to preparation of action plans, enforcement, feedbacks, selected nearest adjoining grama niladary boundary limits as the development planning area boundary. Accordingly considered based grama niladari divisions to preparation of greater Nuwaraeliya development planning area for 2019-2030 as shown in below Table No 2.9 as follows.

**Table No 2.9 – Development Plan Area**

	<b>Grama niladari division</b>	<b>Division No</b>
1	Bambarakale	535K
2	Bangalahatha	476C
3	Buluala	535I
4	Hawaeliya E	535H
5	Hawaeliya N	535G
6	Hawaeliya W	535F
7	Kalapura	535N
8	Kalukale	535B
9	Kalegala	535C
10	Magasthota	535A
11	Meepilimana	476H
12	Mihindupura	476G
13	Nuwaraeliya	535
14	Nuwaraeliya C	535D
15	Nuwaraeliya W	535L
16	Ruwan eliya	476D
17	Sandathanne	535E
18	Seetha eliya	478A
19	Shanthipura	535M
20	Toppass	535J
21	Windyconer	476E

# CHAPTER 03

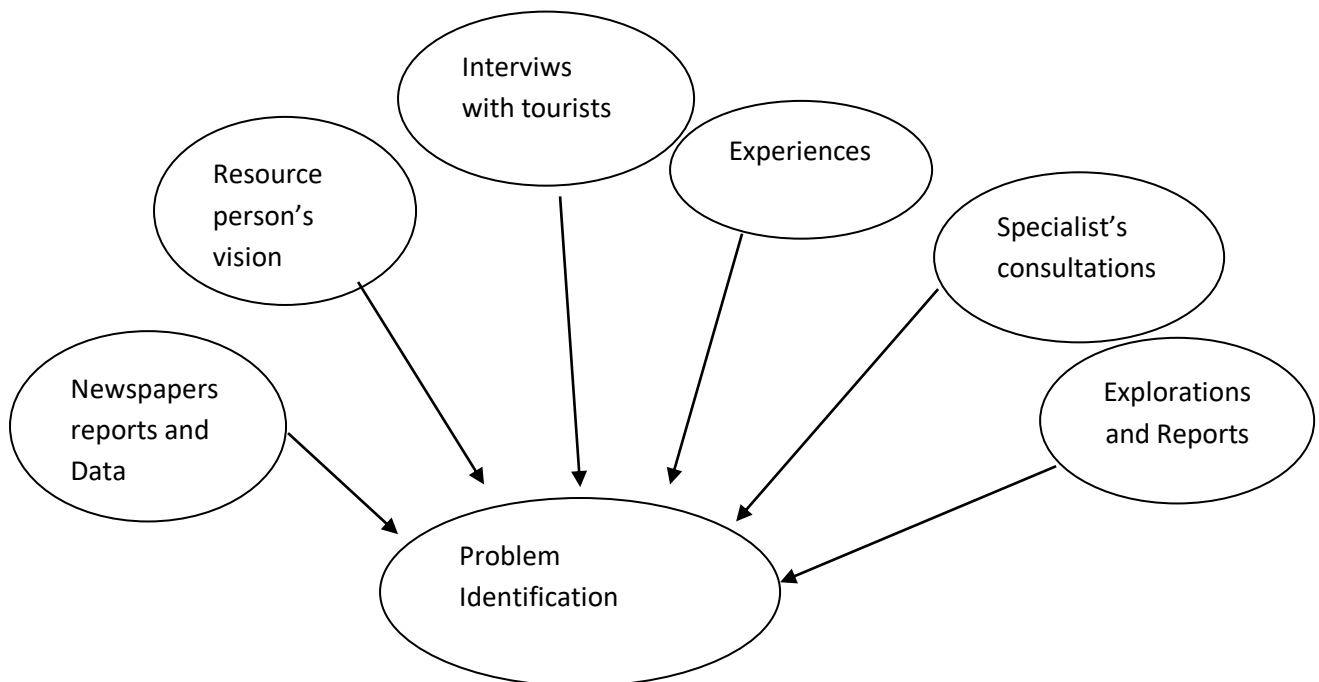
## NEED OF THE DEVELOPMENT PLAN

### 03.NEED OF THE DEVELOPMENT PLAN

It is considered that the presently needness of the developed town in this chapter. Nuwaraeliya town development should be done to achieve plans targats by most seriously adjusting with protecting the environmental sensitivy and environmental scenic beauty as its location specially is in the high altitude area.

1. Prepared development plan by the urban development authority expird after 2019 year, therefore need arise to prepare new development plan for next 10 years of period.
2. Nuwaraeliya town development trend stretches towards its out limit of west direction can be considerd as main factor when considering development demand and its development tendencies.Nuwaraeliya new development trend can be seen in the above chapter 3.
3. No proper guidance to future development challenges, no identified weeknesses and solutions as identified in this chapter through the presently implimenting development plan.
4. Specially identified many main issues arises in the area.

#### 3.1 Identification of problems



In the process of problem identification, 6 areas of data and detailed collected from the resources persons were summerised. In the diagram 3.1 above shows the different areas of resources

persons and institutions participated the workshop to given their ideas. And study was done with the details collected, regarding the existing problems in the area.

Basically 16 problems were identified by the resource persons and institutions looking into problems with different angles. Resource personal semina was held on 17 th dec. 2017at the Nuwaraeliya municipal council. Six problems were given priority out of 16 problems.

01. Sensitive land enchrochment.
02. Drinking water pollution.
03. Water source system pollution.
04. Water source reservation and catchment area enchrochment.
05. Lack of proper facilities in roads.
06. Scarcity of water when dry seasons.
07. Changing the image of nuwaraeliya town.
08. Building construction obstructing view points.
09. Reducing forest areas.
10. Changing the land uses.
11. Mix the drainage water to the water souces.
12. Lack of basic facilities to tourists.
13. Changing the architectural features hereditary to Nuwaraeliya.
14. Lack of landscaping in the town.
15. Lack of walking facilities to pedestrians.

All the problems identified were catogariced under the six areas.

### 3.1.1. Prioritize the problems

01. Change the image of the Nuwaraeliya.
02. Decreases the quality of water sources.
03. State land are not directing to suitable development.
04. Minimising the tourism facilities.
05. Slum and shanties.
06. Minimizing the facilities for common roads.

## 3.2. Detailed study in basic problems

### 3.2.1. Changing the image/mental picture of Nuwara Eliya.

The meaning of town image is a “ thought, memory or sight is in one’s mind regarding a image or mental picture of a town or of an area according to the book written by veteran town planner Mr.Kewin linvin. Physical environment and its features are the most influenced factor to the mental picture in one’s mind

Physical environment and its features pictures dipositted one mind are level power to attractive that town. According to that there are few physical and environmental features are that are dipositted one’s mind with the very beautiful and with environment very scenic nuwaraeliya are follows,

- High altttite systems.
- Cool and rainy environment system.
- Natural landscaping features those are flowers, waterfalls, clean water resouces.
- Architectural features that were colonization period.
- Upcountry vegetable cultivation.
- Pears and strawberry cultivation.
- Tea cultivation.

But bue to human activities, this nuwaraeliya image is degrading gradually. But the way it can be say that the attitude of the people regarding nuwaraeliya town decreses and destroying. Specialy land enchrochments, dirty surface water souces, view point coverd by buildings, changing the building features, sensitive landscapes destroying, changing the land uses, reducing the forest cover, land enchroching in the water resources, waterfalls coverig by constuctions due to said factors, ones idea regarding the image of nuwaraeliya changed. Due to that reasons persons image attitude to attractive to nuwaraeliya decreased. That reason affected harmful to tourism economy and attraction to

nuwaraelliya. At last it is severely affected to build harm to the economy. 03 anextures of this report shows evidently its result analization and its enforcing.

- Cover the landscaping seanaries.

Town image or mental imagination in regards to the town to person who travel through the town does not view the landscpic seanaries of the locations of mountain ranges as well as tea states and due to constructing of building covering landscpic view of waterfalls is a problem. Specialy mountain range of Magasthota, Nasby estate, Single tree mountain range, Uniqueview mountain range, Piduruthalagala mountain range, Glenfall waterfall, Loversleap waterfall are covered by building can be shown in anexture 04 view analyzing.

**Diagram 3.1 Inappropriate construction obstructed the natural scenic view of the**



Photos by – Nilantha Paranagama 2017 August

Inappropriate construction obstructed the natural scenic view of the mountain ranges.






Dried the catchment area waterfalls due to unauthorized cultivation and encroachment of water sources. Activation of the glenfall waterfall not activated.

**Diagram 3.2 Dring the waterfalls**

හිස්වසරකට පෙර 'මරුදැමු' කුට්ටිවලියේ ග්ලේන්ස්

By [www.4allgiga](#) // 2017 ඉසව් 20 වන අංකය | [Facebook](#) | [Twitter](#) | [Google+](#) | [Instagram](#) - 1624



ඉංග්ලිසිස් විසින් 1624 දී අංක 199 ක් ප්‍රකාශිතව පැවරුණු පාරාදිසයේ මීට අදාළ වීදුරු කානේන් ආනයයි. එසෙන් අද මෙම කොළොරු පාරාදිසය දිග දිග ආසන්න අවිච්චිතයට පත්වී තිබේ. පෙරදිනු දශක 04ක පමණ කාලයක සිට ප්‍රකාශිතව පැවරුණු පාරාදිසය පවතින පරිදිවැටීමට විශාල බලපෑමක් එල්ලවී ඇත. එදා අද කාලයේ ප්‍රකාශිතව අද දැක ගත නොහැකි මීට ප්‍රකාශිතව එක සහ අනෙකුද ආනයයි. එට එවිටි නේතු පදනමේ ඇති මීට නොහොඳයි.

මෙවන් වූ පරිසරයක් තුළ නොහොට ප්‍රකාශිතව එක්සතු වේදනා ප්‍රකාශිතව පවතින සියලුම වැඩිමත් බලා සිටියදී ආනයන පිළිබඳව අද දවසේදී කතාබහක් කළ යුතු කාරණයට පත්ව ඇත.

1624 දී ප්‍රකාශිතව පවතින පරිසරයක සරු සහ විවිධ විශේෂ ආක්ෂිප්තයන්ගෙන් සාර්ව ආක්ෂිප්තය බහුලව බලා සිටියහොට යාබද ප්‍රදේශයක පවතින සිටි මීට ආනයනේ පොදුදායු විය යුතු කළ හැක. එම මාරුක පද්ධතියට ඉහළින් 1000 - 700 පමණ උසකට දැරියහොට දිග ආක්ෂිප්තය ආදායයි ඇත. එම දිග ආක්ෂිප්තය වේදනා සහ සාමාන්‍ය ආක්ෂිප්ත වී ඇතේ මාරුක ආක්ෂිප්තයන්ගෙන් සාර්ව ආක්ෂිප්තයේ කානේ නෝ පමණ විය හැක. එසෙන් අද මෙම දිග ආක්ෂිප්තය නොහැක. පමුණින්, වේදනා නෝත් යන පමණ මාරුකයන්ද එම මාරුක මිනිසන් වේදනා නෝත්



Photos by – Nilantha Paranagama ,2017 March.

Through the Websites.

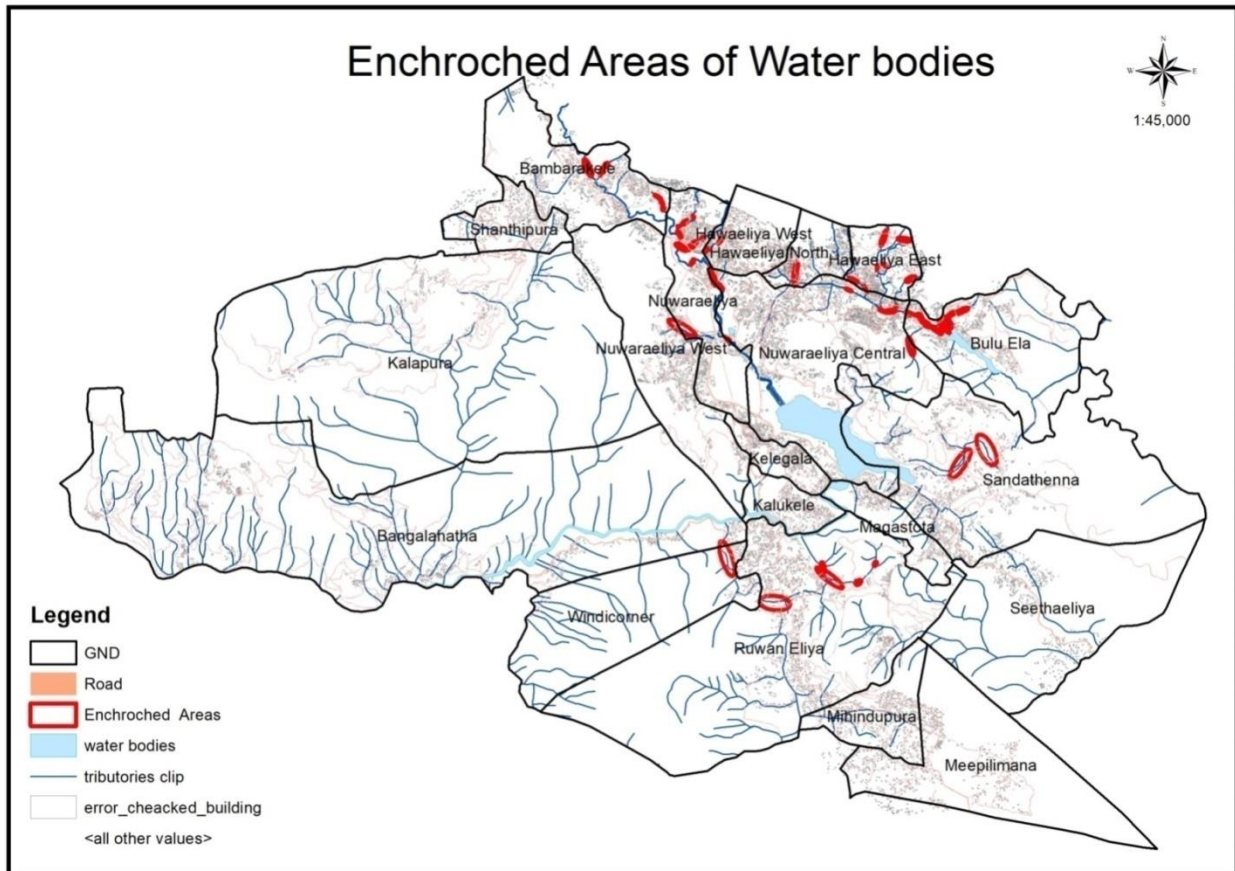
According to that it is evident that the scenarios of waterfalls and mountain ranges that are hereditary to nuwaraeliya are obstructed by irregular human activities. This is main reason to change the nuwaraeliya image.

- **Encroachment to water resources and water line reservations.**  
Encroachment of main water reservations and water line distribution system reservation of nuwaraeliya town in a still a problem of water sources. Reservation protection and purification of water quality to the town area. Hence the attitude of the people in nuwaraeliya and commuters in regards to water quality of nuwaraeliya removed from their minds.

According to Map No 3.1 it shows the invasion to main problems and the gramaniladari divisions of Bambarakale, Hawaeliya east, Hawaeliya west, Nuwaraeliya central, Sandathanne, Ruwan eliya, Windyconer, Nuwaraeliya are the area where most of encroachment of reservations occurred and its percentage 5%.



Map No 3.1- Water Reservation Enchroachment



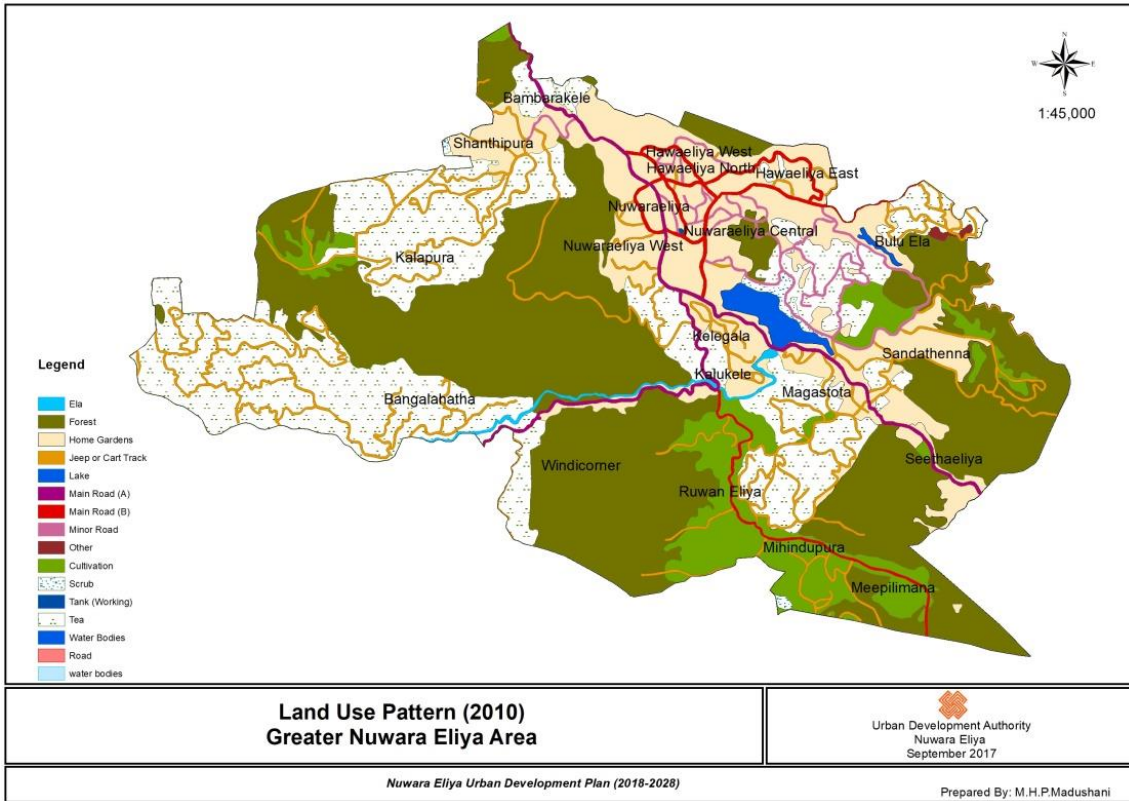
Urban Development Authority-Nuwara Eliya

- Decreases of Forest areas.

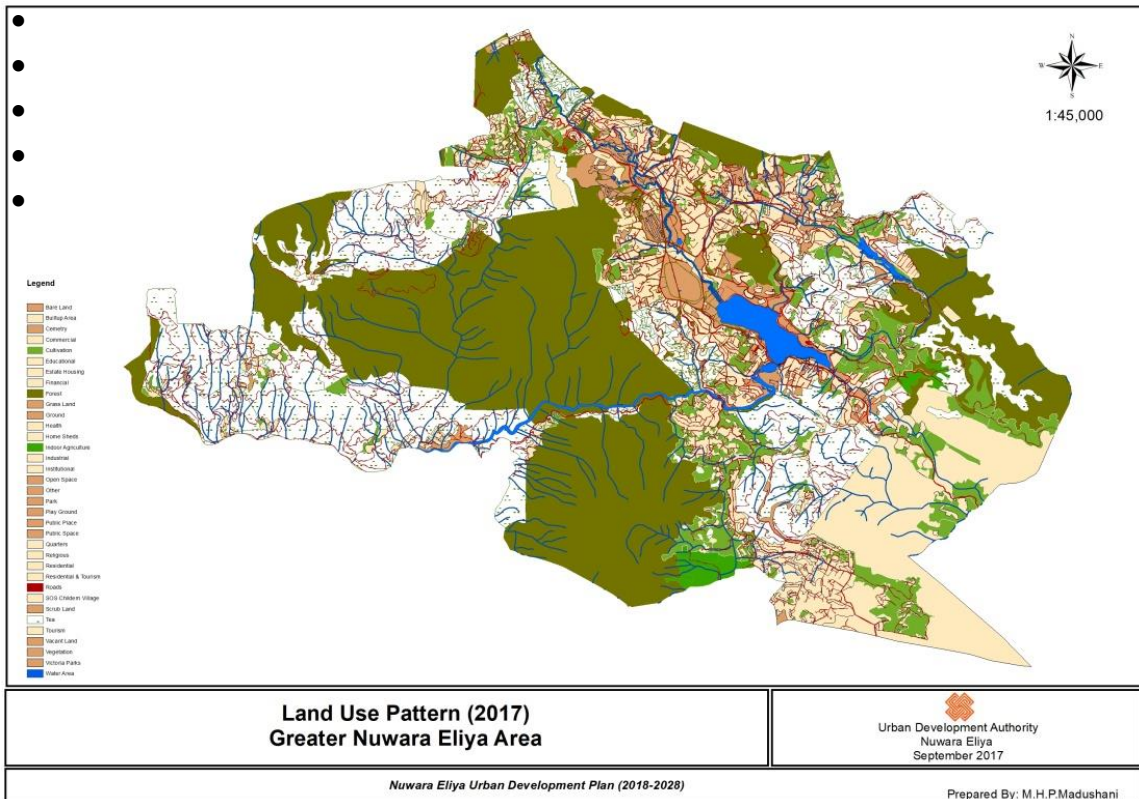
Natural forest areas in related to their mountain ranges in nuwaraeliya is a main factor. Though the fact is that the related forest area from 2010 to 2017 was decreased to 15% in nuwaraeliya district.

Accordingly the forest areas in 2010 was 40% reduced to 34% in 2017. Hence the minimizing of seararies of mountain ranges was the one reason to change the image of nuwaraeliya.

Map No 3.2 2010 – Forest area (40% 55.1 sq.k.m.)



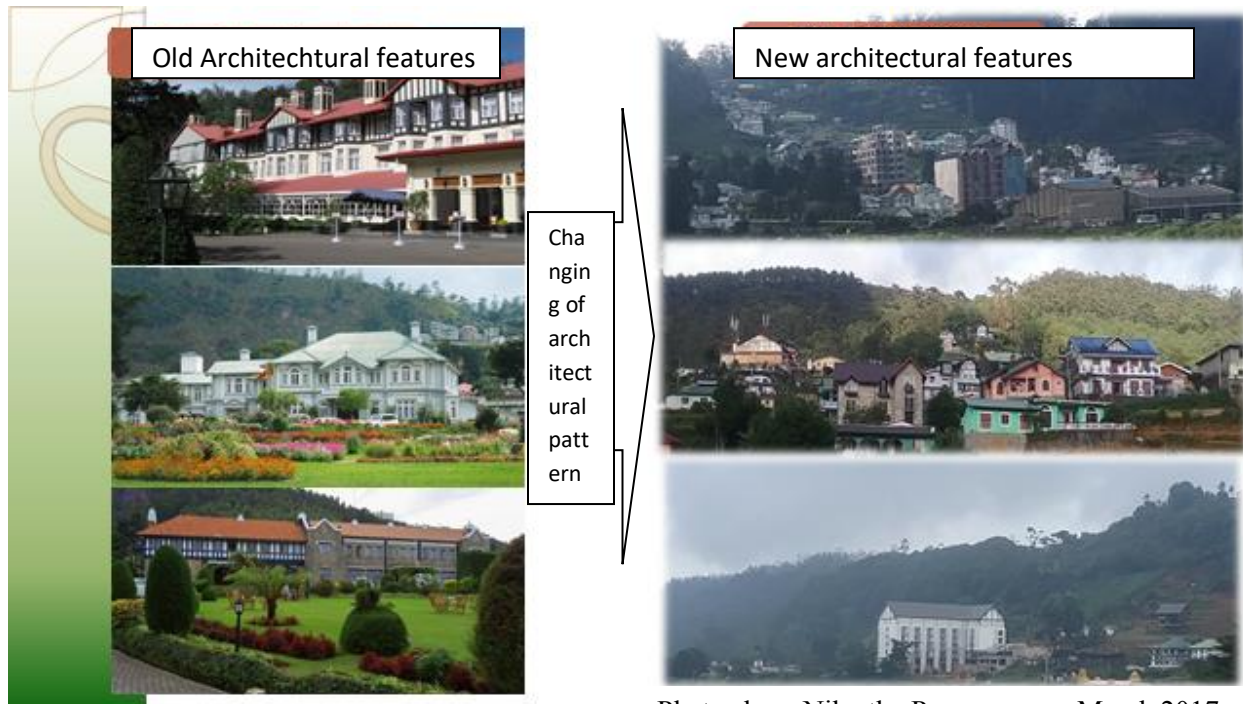
Map No 3.3 2017 – Forest area (34% 46.92 sq.k.m.)



- Change of hereditary of architectural features of Nuwara Eliya.

Presently being construction of building which is contrasting architectural features of geogian type and British Victorian type mixed building architectural pattern of heredatory to nuwaraeliya town. This is a cause to weaken the image of nuwaraeliya.

**Diagram 3.3 Changing of Architectural Pattern**



Photos by – Nilantha Paranagama , March 2017

### 3.2.2 Qualitative and Quantitative Status Reducing in Water Sources

Location of environmental sensitive areas at highest levels in forest areas and its related water resource system ; As heart of town in Gregory lake, Nanuoya ale, Thalagala ale, Water field drive, Barak plan ale, Glenfall ale, Kande ale, Bulluale are the main water resources in the greater nuwaraeliya town area. Those water resources can be divided in to two parts.

01. Impurity of drinking water.
02. Surface water resources, Impurity of vegetational water systems.



**01. Impurity of water in water resources.**

Table No 3.1 shows the confirmed data taken from the investigation done by the municipal council nuwaraeliya regarding the water quality of the Gregory Lake.

*Table No 3.1 Water quality situation of the Gregory Lake*

Test	Unit	Method	SLS 614: 2013	Results					L.O.D	E.U % (K=2)
				Lake Gregory Inlet	Lake Gregory Mid-Point	Lake Gregory near the School	Lake Gregory near the Bridge	Lake Gregory near the Sluice		
Odour	-	CML 1		Objec *	Objec *	Objec *	Objec *	Objec *	-	-
# Turbidity	NTU	APHA 213 0 B	2	118	222	94.6	50.4	121	-	20
# pH at 25° C	-	APHA 4500 – H* B	6.5-8.5	7.62	8.21	8.26	8.22	8.32	-	-
# Chloride (as Cl)	Mg/L	APHA 4500 Cl - B	250	22	22	22	22	22	-	4
# Total Alkalinity (as CaCO <sub>3</sub> )	Mg/L	APHA 2320 B	200	43	46	47	43	46	-	4
Free Ammonia (as NH <sub>3</sub> )	Mg/L	SLS 614 : 2013, Appendix A	0.06	2.4	2.4	2.0	1.6	2.4	-	-
Albuminoid Ammonia ((as NH <sub>3</sub> )	Mg/L	SLS 614 : 2013 Appendix A	0.15	2.8	1.8	0.80	2.4	2.0	-	-
Nitrate (as NH <sub>3</sub> )	Mg/L	CML /MM/02/02/019/V 1.2	50	5.0	5.0	4.8	5.3	4.8	-	-
# Nitrite (as NH <sub>2</sub> )	Mg/L	APHA 4500- NO <sub>2</sub> B	3	0.11	0.09	0.20	0.06	0.04	-	14
# Fluoride (as F)	Mg/L	APHA 4500-F C	1.0	0.37	0.36	0.36	0.50	0.36	-	6
# Total Phosphates (as PO <sub>4</sub> )	Mg/L	APHA 4500 – P B & C	2.0	1.4	1.5	1.1	1.4	1.3	-	10
# Total Dissolved Solids	Mg/L	APHA 2540 C	500	140	101	146	130	131	-	5
# Total Hardness (as CaCO <sub>3</sub> )	Mg/L	APHA 2340 C	250	45	49	51	45	44	-	4
Sulfate (as SO <sub>4</sub> )	Mg/L	Modified APHA 4500 SO <sub>4</sub> ±E	250	ND	ND	16	ND	ND	10	-
Calcium (as Ca)	Mg/L	APHA 3500 Ca- D	100	14.5	15.7	18.9	15.1	14.9	-	-
Magnesium (as Mg)	Mg/L	APHA 2340 C & 3500 Ca - D	30	2.0	2.4	3.4	1.8	1.7	-	-
Cyanide (as CN)	Mg/L	CML 18	0.05	ND	ND	ND	ND	ND	0.05	-
Sodium (as Na)	Mg/L		200	9	9	8	9	8	-	-
Iron (as Fe)	Mg/L		0.3	0.75	0.46	0.66	0.80	0.50	-	-
Copper (as Cu)	Mg/L		1.0	ND	ND	ND	ND	ND	0.05	-
Manganese (as Mn)	Mg/L		0.1	0.08	0.08	0.11	0.11	0.10	-	-
Zinc (as Zn)	Mg/L		3.0	0.03	ND	ND	ND	ND	0.02	-
Aluminum (as Al)	Mg/L		0.2	0.84	0.65	0.94	0.91	0.53	-	-
Chromium (as Cr)	Mg/L		0.05	ND	ND	ND	ND	ND	0.05	-
Nickel (as Ni)	Mg/L		0.02	ND	ND	ND	ND	ND	0.01	-
Arsenic (as As)	Mg/L		0.01	ND	ND	ND	ND	ND	0.001	-
Cadmium (as Cd)	Mg/L		0.003	ND	ND	ND	ND	ND	0.001	-
Lead (as Pb)	Mg/L		0.01	ND	ND	ND	ND	ND	0.01	-
Selenium (as Se)	Mg/L		0.01	ND	ND	ND	ND	ND	0.001	-
Mercury (as Hg)	Mg/L		0.001	ND	ND	ND	ND	ND	0.001	-
# COD	Mg/L	Modified APHA 5220 D	10	110	110	85	100	105	-	4
Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	Mg/L	APHA 5530 B & D	0.001	ND	ND	ND	ND	ND	0.1	-
Oil & Grease	Mg/L	APHA 5520 B	0.2	ND	ND	ND	ND	ND	2	-

Source - Nuwara Eliya Municipal Council

An according to the anexture 3, it shows the water quality situation in Gregory lake, Katumana ala, Barek plain reservoir water quality situation in the investigation report done by the irrigation department. It was evident that the water contamination developed badly in 2016 and 2017. Specialty concentration value of water qualities of the COD, BOD, DO, COLIFERM, PH standed were high in lake Gregory in 2017.

Water in the Katumana Lake, out flow of its spills and Barek plain reservoir were high phosphorus concentration value reported when comparing to 2016 for 2017 values.

According to the research thesis written by ex. Director general Dr. Sarath Amarasiri of agricultural department it says that the farmers in nuwaraeliya are paying over 8 time cost for fertilizes. It is identified most fertilizers were phosphorus and according to the thesis out of 1600 samples 50% were included phosphorus elements in the fertilizes as well.

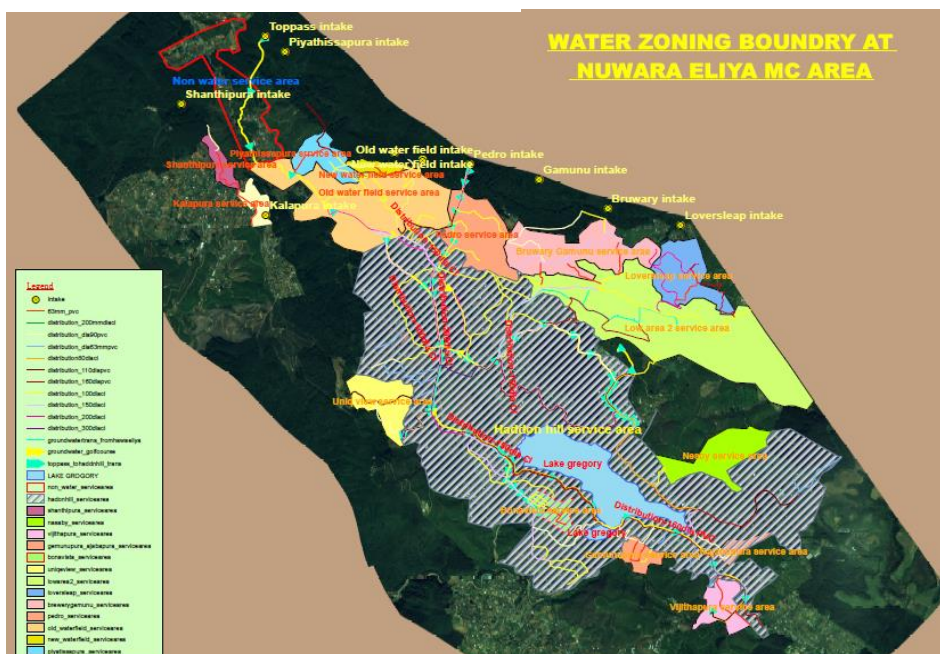
According to the irrigation department investigation, the reasons identified to water pollution and it's increases are the fertilizers use for cultivation and mixing pesticides to water.

Drainage water and waste water dispose to drains from the residential, commercial and tourism activities are the other reason to water pollution as well.

**02. Quantity and qualitative decrease the volume of drinking water**

Though this is a water catchment area, drinking water scarcity in nuwaraeliya area is a problem. And non availability of pure drinking water to the public is a main problem as well. Water supply in mainly being done by the nuwaraeliya municipal council water distribution in 7 zones of municipal council area of that 75% of distribution of drinking water supply (3350 cubic meter) is doing from Haddon hill water pumping tank.

*Diagram No 3.4 Water Distribution*



<b>Haddon Hill Zone</b>	
The largest water distribution system in Nuwaraeliya is a Haddon hill	
<p style="text-align: center;"><b>Water sources</b></p> <ul style="list-style-type: none"> <li>• Peedruie spring water reservoir</li> <li>• Toppass spring water</li> </ul>	<p style="text-align: center;"><b>Store Tanks</b></p> <ul style="list-style-type: none"> <li>• Haddon hill store tank</li> <li>• Pedro store tank</li> <li>• Unique view store tank</li> <li>• Bonavista store tank</li> <li>• Vijithapura store tank</li> </ul>
<p style="text-align: center;"><b>Tube Wells</b></p> <ul style="list-style-type: none"> <li>• G1</li> <li>• G2</li> <li>• G3</li> <li>• G4</li> <li>• H1</li> <li>• Nesby tube well</li> </ul>	<p style="text-align: center;"><b>Water Pumps</b></p> <ul style="list-style-type: none"> <li>• Haddon hill junction pump</li> <li>• Gamunupura booster pump</li> <li>• Nesby tube well (water filling to bowser)</li> </ul>

In the dry season in nuwara eliya area water demand gose up and to 5500 cu.meters andwater supply gose down to 3500 cu.meters. Reduced water supply in water sources,increase the tourisum arrival to the town and use the tube well water to the vegetable cultivation, are the reason tohigh demand of water demand to water supply in the dry season. Water supply will be done 9 well tube in this season. In the water sample investigation done by the municipal council of Nuwaraeliya It is reveald that12 out of 19 location were included coliform bacteria with high value percentage. (table No. 3.2)

**Table No. 3.2 – Quality of Drinking Water**

Sample Places within NEMC	Bacteria in 35 .C (100ml)		Bacteria in 44 .C (100ml)	
	Pipe born water-02	Other 10	0	
Pedro ( spring water)	→ 38	→ 4		
Toppass ( spring water)	→ 68	→ 10		
Hevan Seven Hotel (Haddon Hill Rd)	10	No		
Post Box junction, Gamunu Mawatha	→ 72	→ 8		
Tank near to Pedro Tank	→ 52	→ 2		
Technical College	No	No		
Haddon Hill Pump House (Outside Pipe)	No	No		
Haddon hill Stock Tank	→ 48	No		
Near to Kadireshan Kovil- Nanuoya Rd	→ 12	No		
Tap- Gregory Lake Stage III	4	No		
Mr. A.L.A.P. Udayakantha, Kalukele	No	No		
Himaluwa Hotel, Magastota	→ 38	→ 8		
Vegetable Estate- Sandathenna junction	→ 18	→ 2		
"Sunil" Shop- Wijithapura junction	10	No		
Magastota	No	No		
Badulla Rd	→ 60	→ 14		
Vajiraknana Vidyalaya, Ledy Machlam Rd, N'Eliya	→ 368	→ 240		
Kandy Rd, Bambarakele	→ 120	→ 54		
Nuwara Eliya MC Office	→ 710	→ 480		

Sources – Nuwara Eliya Municiple council.

This is an exceeded value to the standerd coliform value to be in the water. The reason is to this situation was mixing of toilet drainage water to the drinking water.After 2017 the municipal council has taken a action to recover this situation and tamparary they got the required water quality.

Similarly sample servey done by the peradeniya university agriculture ppost graduate students named Mr.H.P.Henegama, Mr.N.D.K.Dayawansha, Salinda silva in regards to 50 housing units situation the area of municipal council and pradeshiya sabha area limit, It reveal that 55% out of 50 housing units are located their drinking water wells near the vegetable cultivation lands.

Also it reveals that the 70%of families within municipal council area limit are supplied pipe line water connections while 70% of families living within pradeshiya sabha limits are supplied drinking water by their wells.

Mean while that the 4 th level of standered got in the trend to disperse diarrhoea disease in nuwaraeliya area. The human development report of 2012, it says that the lowest protecting drinking water in srilanka is the area of of nuwaraeliya region.

### 3.2.3.Lack of tourism facilities in Nuwara Eliya town

Nuwaraeliya urban area identified as main tourist attraction town. There is a cool and temperate climate is in nuwaraeliya . Compare to other area of of srilanka and be suitable environmental sensitive zone are the specially helpful reason for environmental tourism activities. Tourists arrival to Sri lanka is 2016is adout two million and according to the progress report of tourist board in 2016, it says that 6% of tourists are touring central upcountry mountain area of the country.

Most of the foreign tourist arrived to srilanka for environmental activities. It was in 2015 in 66% while 23% in 2016. However there was no figure of calculation of foreign and local tourist to nuwaraeliya town. Though there was no figure regarding to the tourist arrivals, it can be calculated by using the data to tourist attractive locations in the nuwaraeliya.

According to that there are most tourist attractive location were the Haggala park, Horton plain, Gregory park, Victoria park and galways park tourist arrivals shows in the Table No 3.3.

*Table No. 3.3 – Toursit Arrivals*

	2012	2013	2014	2015	2016
<b>Foreign Tourists</b>					
Haggala	12489	14713	18071	24188	29192
Hortan plain	39123	34065	69979	87962	131670
Galways	82	29	84	49	198
Gregory park					61622
Victoria park					47294
Sandathanne					8673
<b>Local tourists</b>					
Haggala	587749	511879	578825	742133	956815
Hortan plain	184744	46511	198374	228858	319999
Galways	1521	1084	1669	2047	3345
Gregory park					721495
Victoria park					643725

According to that average local tourist arrival in 2016 in 950,000 and foreign tourist 135,000 but facilitiesfor existing and future development are not adequate is a problem.

Quantity of total rooms in almost 1800 and average staying nights are two nights ,therefore study done for the tourist field to identified the facilities available and specially, physical and social infrastructure facilities for tourists can be divided in to 4 parts.

Physical resources	Cultural events	Services	Lows and administrations
Hotel, restaurents, Accomodation, Transport, Media facilities, water, Electricity, parks, Health facilities	Cultural activities, Ceromonies, Historical features, suverniors, Music, Rhythmic dances	Banks, Insuarence, Guides, Tourist Agents	Lows, Administrative regulationsimmi gration and migration lows

Accordingly urban development authority has done a problem identification survey in 2017 regards to tousism facilities. Then it reveals the fact that the tourism facilities were in minimize level in nuwaraeliya.As tourists themselves shows the excisting facilities to tourism, (Anexses 05) while it shows the scaraiity of their social and physical infrastructure facilities to tourism hindrance to the development of tourism.

### 3.2.4.Low facility houses, slum and shanties

Out of 20% of housing stock of the nuwaraeliya town limit and its outer area were attached houses, lime houses and slum and shanties. In Table No 3.4 it shows that the data regarding the number of living families and housing situation within the 21 grama niladari divisions based to prepare the greater nuwaraeliya development plan . In addition to that there are 3331 population were in 638 families in 590 slums withing the municipal council limit of nuwaraeliya there is 7.5% of population of nuwaraeliya municipal council limit. When considering the poverty level of the area, it was reported llow standered houses and high poverty level in the grama niladari divisions of Bambarakele, Bangalahatha, Hawaeliya east, Kalapura, Ruwaneliya, Seethaeliya and Shanthipura this shows in Table No 3.5 and No 3.5 pictures. This is hindrance to the economic development and nuwaraeliya town image.

**Table No 3.4 Type of the houses**

	No of families	No of houses	Scariaty of houses	01 floor houses	2 floor houses	Houses with more than 2 floors	Attached houses	Flats	Twin houses	Lime houses	shanties
Total	11008	10784	224	6861	791	71	483	19	231	2184	144
As a percentage to the excisting total houses			2.1	63.6	7.3	0.7	4.5	0.2	2.1	20.3	1.3

Sources – Census and Statistic Department

Out of 21% of total housing unit were the low income houses within greater nuwaraeliya development planning area were low income houses and they were slums, Shanties, lime houses and



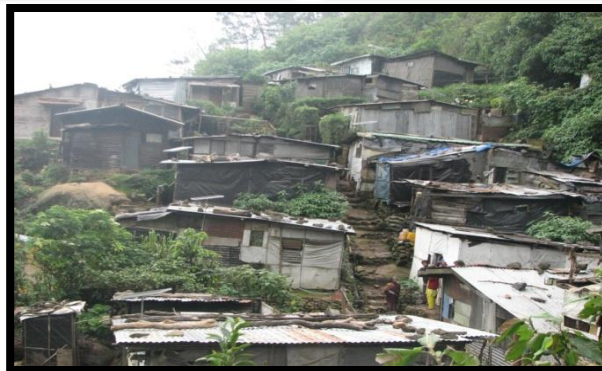
state houses 5300 population are living these houses. 630 low income families living within municipal council limits due to this reason poverty level is high in this area

**Table No 3.5 –Low income houses with municipal council limit**

Location	Population	Families	Houses	Land extent	Land ownership
Race course ground rd	240	56	48	1 Arce	Sports ministry
Unique view	222	52	33	1.5 Arces	Privet
James streat	65	15	14	40 Perches	Golf club
Municipal council lands	826	225	120	3 Arces	Municipal council
Bambarakale state	1676	207	306	4 Acres	L.R.council
Bambarakale P.W.D. lands	166	52	42		N.H.D.A
Samagi uyana (under bank)	49	12	12		Divisional secretariat
Upper lake rd	72	19	15		Privet
<b>Total</b>	<b>3316</b>	<b>638</b>	<b>590</b>		

Sources – Nuwara Eliya Municiple council.

**Diagram 3.4 low facility houses**



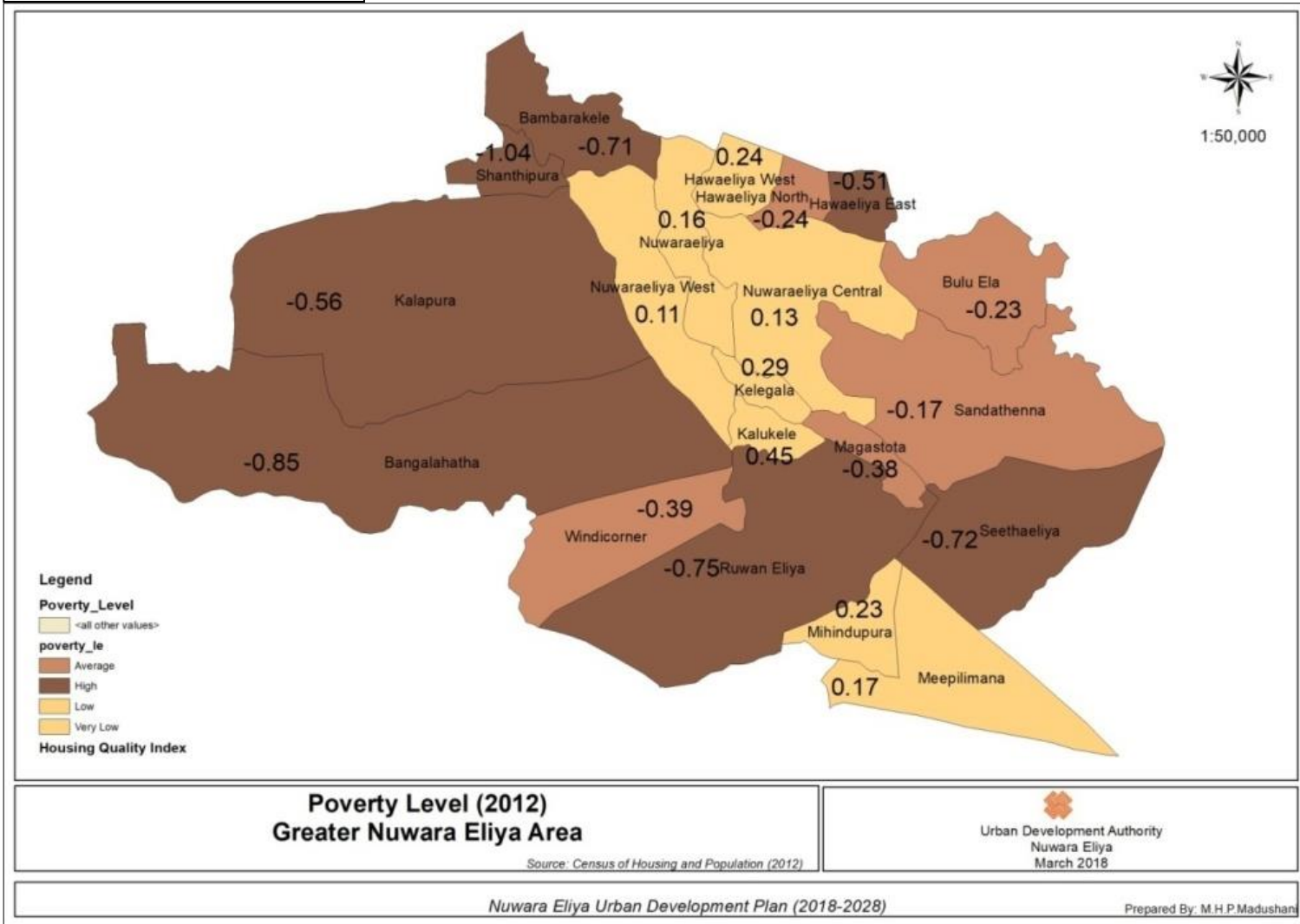
Photos by –  
Nilantha  
Paranagama

*Table No 3.6 – Poverty level*

<b>Grama niladari division</b>	<b>Housing quality index</b>	<b>Housing situation</b>	<b>Poverty level</b>
Bambarakale	-0.71	Low	High
Bangalahatha	-0.85	Low	High
Buluale	-0.23	Normal	Normal
Hawaeliya - east	-0.51	Low	High
Hawaeliya- north	-0.24	Normal	Normal
Hawaeliya - west	0.24	High	Low
Kalapura	-0.56	Low	High
Kalukale	0.45	Very high	Very Illow
Kalegala	0.29	High	Low
Magasthota	-0.38	Normal	Normal
Meepilimana	0.17	High	Low
Mihindupura	0.23	High	Low
Nuwaraeliya-central	0.16	High	Low
Nuwaraeliya-west	0.13	High	Low
Nuwaraeliya	0.11	High	Low
Ruwaneliya	-0.75	Low	High
Sandathanne	-0.17	Normal	Normal
Seethaeliya	-0.72	Low	High
Shanthipura	-1.04	Low	High
Windyconer	-0.39		

Sources – Censes and Statistic Department

**Map No 3.4 - Poverty level**

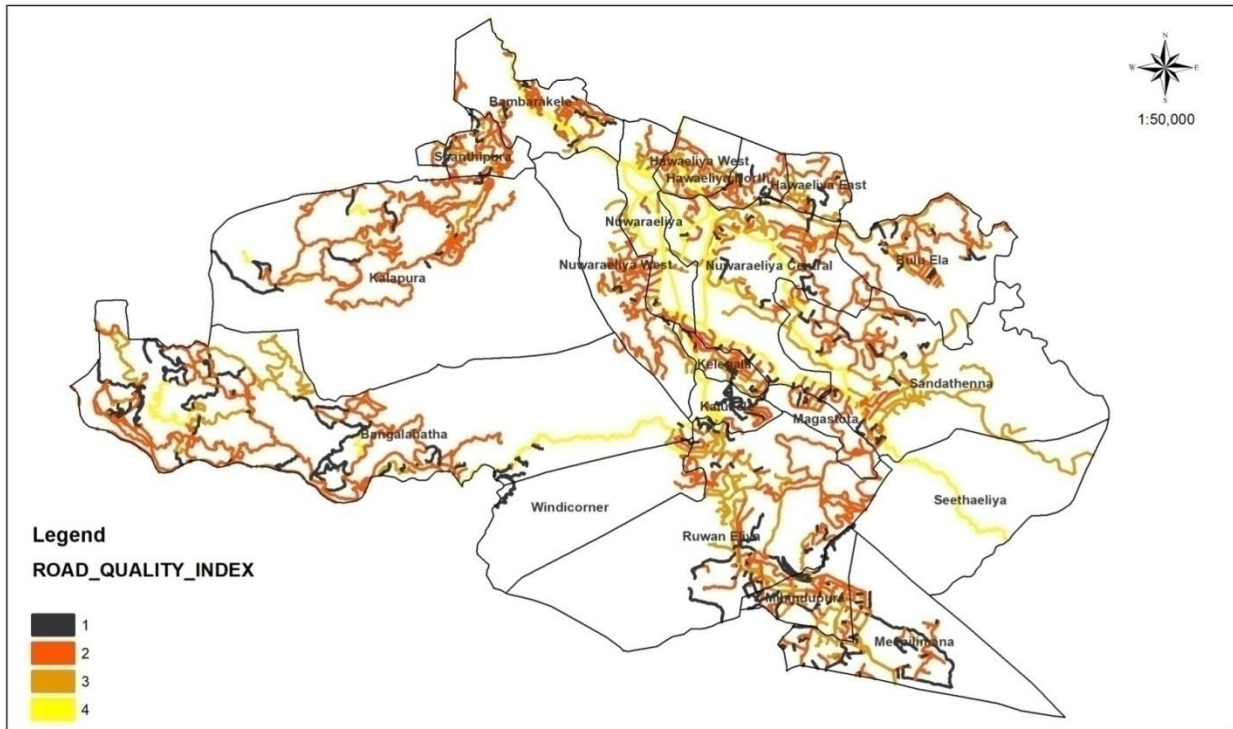


### 3.2.5..Road conditions are not up to standersds.

Six criterias were used to study quality of the condition of roads withing the municipal council limits and adjoining area of Nuwaraeliya town. ( table No.3.5 )According to that map no.3.5 shows the quality of the roads. Withing the Nuwaraeliya town area the road condition were in a certain starnderd of quality though out town limit adjoining area the road quality standred were low condition. ( map no.3.5 ) This less physicle development is impacted to economic development of the area.

Criteria	Weightage
Adequate Road Width	6
Pedestrian Road Ways	5
Surface Condition	4
Storm water Draines	3
Pedestrins payments	2
Circular Rd ends	1

**Map No. 3.5 Quality of Roads**



**Quality of the Roads  
Greater Nuwara Eliya Area**

Urban Development Authority  
Nuwara Eliya  
March 2018

# **GREATER NUWARAELIYA DEVELOPMENT PLAN**


## **(2019-2030)**

### **II Part**

## Minister Approval

**APPROVAL OF THE DEVELOPMENT PLAN FOR THE NUWARAELIYA URBAN DEVELOPMENT AREA COMPRISING OF NUWARAELIYA MUNICIPAL COUNCIL AND NUWARAELIYA PRADESHIYA SABHA (PART) AREAS**

I, Patali Champika Ranawaka, Minister of Megapolis and Western Development do hereby approve the Development Plan for the Nuwaraeliya Urban Development Area comprising of Nuwaraeliya Municipal Council and Nuwaraeliya Pradeshiya Sabha (Part) areas, having considered the recommendation made by the Board of Management of the Urban Development Authority on 09<sup>th</sup> July, 2019 by virtue of the powers vested in me under Section 8F of the Urban Development Authority Law, No. 41 of 1978 as amended by the Act, No. 4 of 1982.



.....  
**Patali Champika Ranawaka,**  
**Minister of Megapolis and Western Development.**

Ministry of Megapolis and Western Development,  
17<sup>th</sup> and 18<sup>th</sup> Floors,  
"Suhurupaya",  
Sri Subhuthipura Road,  
Battaramulla.

**Date: 01<sup>st</sup> August, 2019.**

# CHAPTER 04

## PLANNING FRAME WORK



## 4.Planning Frame Work

### 4.1.Greater Nuwara Eliya 2019 – 2030 Vision

The vision of the plan is most important to for the image of the nuwaraeliya town to next 10 years time.To that it is need to consider the above disonssed details and the heredary and endemic environmental and culturaly valued built stuctures and the potentials available in the town. Also should be considerd the residence populations, community populations, tourist (local,foreign), venders,service providers , public and privet institutes and staffe as stake holdes.

Consider the those of all share persons decided the vision as

“The Paradise of Misty Hill”

“මිහිදුම් කඳුකරයේ පාරාදීසය”

### 4.2. Vision statement

*Misty hills* – as nuwaraeliya town located at the high altitude location is the island it’s natural climatic and weather condition is with “Misty with Hills” proritazing the sustainable development goals through

*Paradise*– protecting the endemic and heridatary environment of the nuwara eliya, approach the proper living area and touring area for people

### 4.3.Goals

01. Preserve the natural environment and improve the water quality
02. Highlights the endameic and heridetary features so as to protect the nuwaraeliya image.
03. Creating Vibrent wealthy zone

## 4.4.Objectives

### 01. Preserve the natural environment and improve the water quality

Creating vibrant wealthy zone

1. 100% Pure drinking water with full fill the estimate demand of. 9,500 cu m .per day for 59500 of residents population and 77 000 no of commuters.
2. To Bring the surface water quality of Lake Gregory , Nanu oya and other streams, up to permissible level which is PH-6.5-8.5/Turbidity – 08ntu/BoD -<smg/1/COD – 10MG/1 , Fe – 0.3mg /1
3. To free from encroachment of the reservation of water fall , Water bodies which extend of 5 hac and use for the sustainable Activities .
4. Preserve the 1782 hac of existing forest reservation and maintain 34% of forest land ratio.
5. To Aware relevant agencies to the good agriculture practice for 500 hac. of agriculture land which are the catchments of lake Gregory and Barrek plain lake before 2025.

### 02. Imerging Unique Context of Nuwara Eliya

1. Make Nuwaraeliya development planning area as with endemic hereditary and landscape features compricing town in 2030.
2. Uncover the environment, sencitive scenic area view plains of specilly, Piduruthalagala, Unique view, Glenfall, Galways, Loversleep and tea estates.
3. Landscape features containing with hereditary, endemic features at the entering points of the Black pool, Toppas and Katumana road entering points.
4. Green transport methods introduced for entertainment zones of the lake Gregory to main commercial area in the town center in2030.
5. Make substarnderd houses below to 10% in2030.
6. Make tourist new attraction areas at Katumana, Sandathenna, Meepilimana Mihindupura and Buluele.

### **03. Creating vibrant wealthy zone**

1. Out of total tourist arrival Nuwaraeliya is about 6% that amount need to increase up to 12% also targetted to amount increase up to 4.5 million local tourists to Nuwaraeliya in 2030.
2. Introducing the night package atleast including 4 nights.
03. Organizing cultural activities and carnivals targetting to facilitating for foreign tourists arrived in April, August and December. And special programme arrange for local tourists arrives in January, March, May-July, September-November three quarters.
04. Introducing perennial crops to cultivate in the 101 hectares of encroched forest lands which were released to the people on behalf of the short time cultivations.
05. Existing percentage 17% of agricultural cultivation is continuing as it is .
06. Sustainable uses introduced to government land which are about 50 hectares is semi-used in nuwaraeliya area.

# CHAPTER 05

## "SWOT" ANALYSIS

## **05.SOWT (Analysis)**

To achieve the above goals the strength, weakness, Opportunity and thread ( SWOT) Analysis were considered as follows.

## Strengths S W Weaknesses

1. Existing water sources system ( Nanuoya ale, Waterfield drive, Gregory lake, Barreck plain, Glenfall, Loversleap)
2. high altitude mountain ranges(Piduruthalagala, Single tree, Kikiliyamana, Loversleap)
3. Healthy climatic condition ( Rainfall, Humidity and temperature)
4. existing forest areas (Galways, Piduruthalagala, Haggala)

1. Impurity water sources.
2. Impurity Drinking water.
3. Excess uses of chemicals and fertilizers to vegetable cultivation.
4. Reducing forest areas and encroachments of reservations.

### 5.1. Preseerving existing environmental system purity water source system.

1. Government policies -
  - \* National physical plan.
  - \* Tourism protection plan of srilanka.
2. High demand to non-chemical used vegetables.
3. Proposed new waste water drainage project.
4. Sustainable development index (SDG - 203)

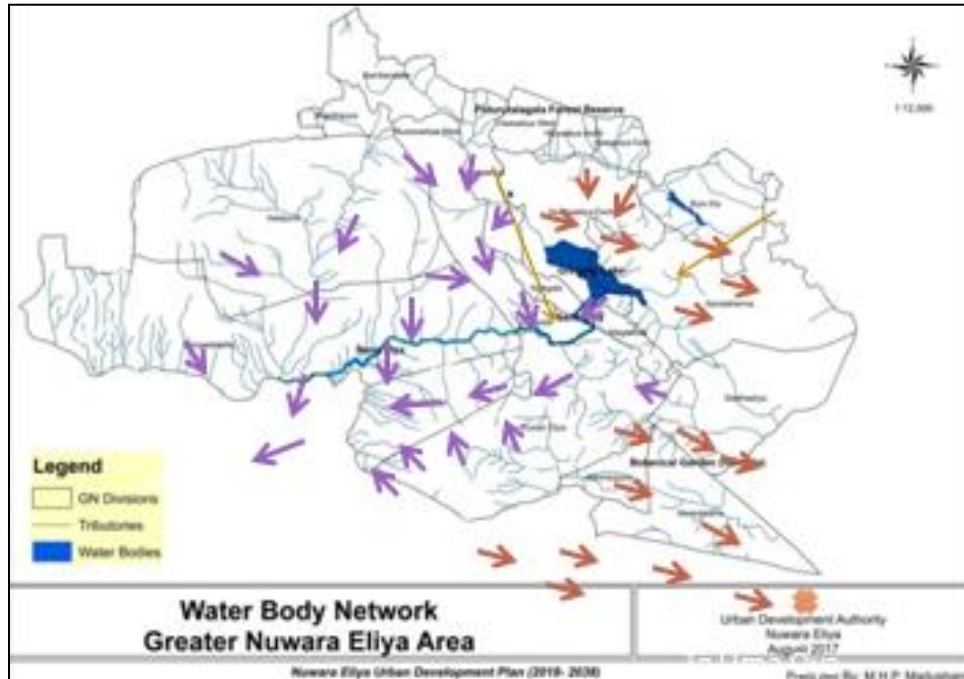
1. Advertizing for pesticides and chemicals to use by the production and imported companies of chemicals.

## Oppotunities O T Threats

### 5.1.1 Strengths

01. Existing water sources system.(Nanuoya, Waterfield drive, Gregory lake, Barrack plain, Glenfall, Loversleap)

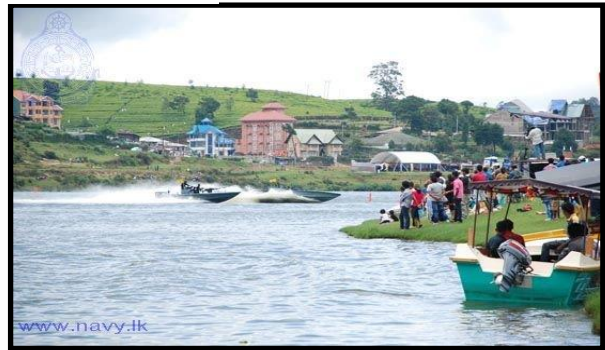
Map No 5.1 – Water Source System



Figur 5.1



Figur 5.2



Photographv –Nilantha Paranagama-2017 March

The greayer Nuwara Eliya Plan area has continual water resource withing entare year as a censetive environment system.The area has significant rainfall within 200 days of a year and It is reson to have balance environment system.

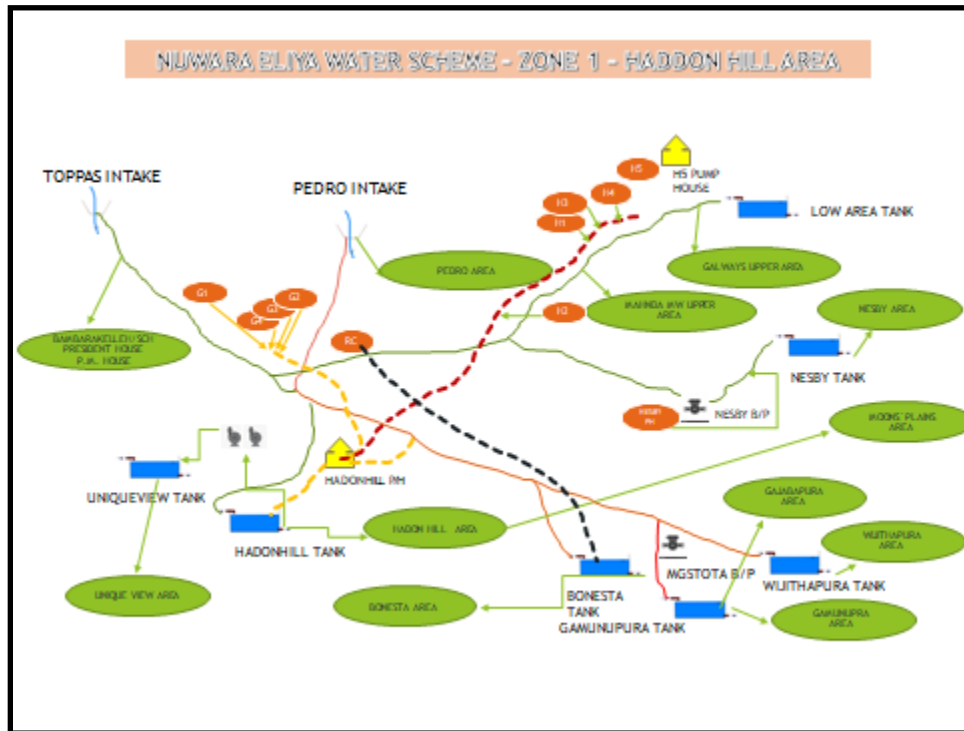
Out of the total land area of greater nuwaraeliya development planning area that’s 58 hectares covered by the water surface is 1.08%.Main water soucers areMost attractive place in the Gregory lake is covered 90 hectare area. It was builed on Sir williom Gregory the governer of Sri Lanka under British ruling period(1872-1877).The maximum depth is 3m and its feed



by 20 no of streams and channels which length of 17.75km. Main Water source is Nanu Oya stream and it about 8km distance. Another water resource is a barechplain and it is comprise about 40 hac. and it is feed by the 7 streams having 3.21 km distance. Also Ktumana lack and Magasthota pond contribute to manage the water system of the area. These water sources are help to full fill the second goal of “Preserve the natural environment and improve the water quality”

Drinking water soucers – 9 Spring water sources and 9 tube wells were supply as drinking water to the town.

Figur 5.3

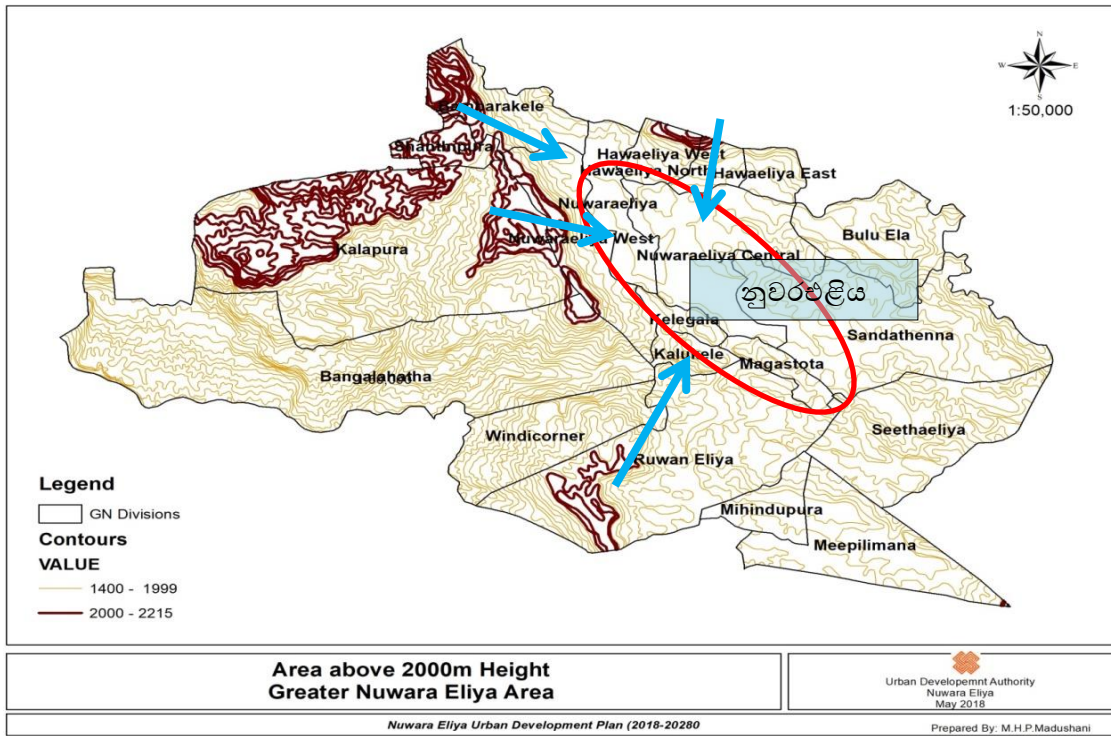


Sources – Nuwara Eliya Municipality council.

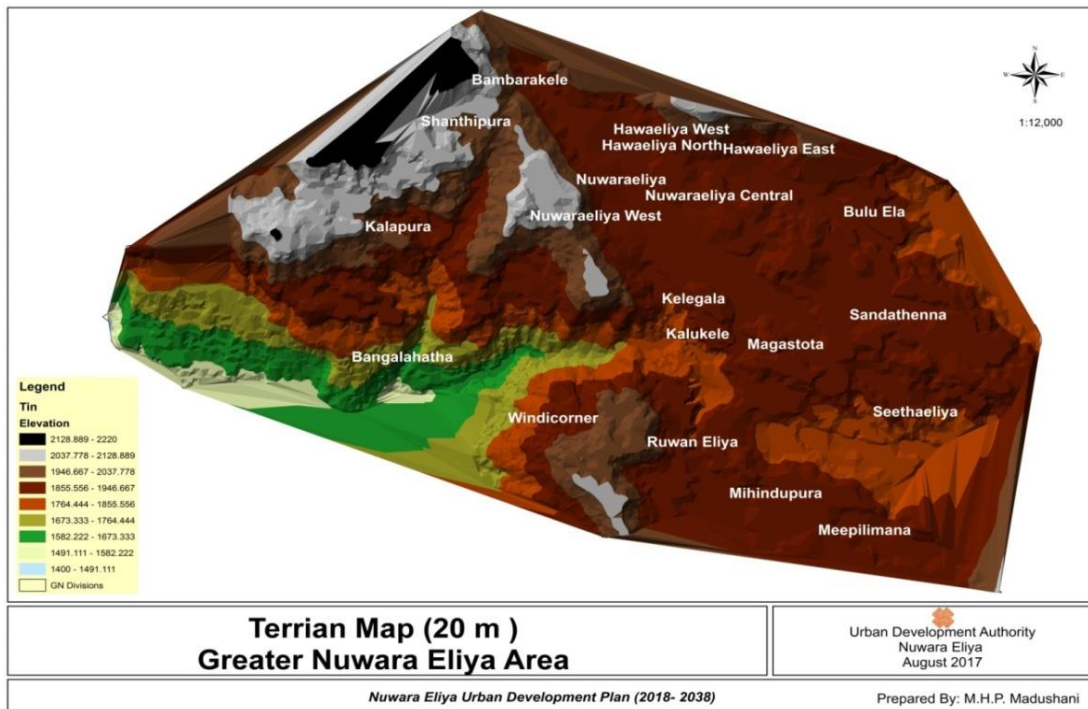
**02. High elevated mountain range**

There are mountains which more than 2000m elevated in the planning area and therefore its most important due to bring uniqueness with environment features and forest cover for the Greater Nuwara Eliya area. Specially, Piduruthalagala, Single Tree, Kalapura, Shanthipura, Kikiliyamanna, Magastota and Bambarakele mountains situate within the area and also the scenic beauty of those highlighted with viewing fully Piduruthalagala mountain range to the town. Hight of the Piduruthalagala mountain is 2524m, Kikiliyamana -2037m and Haggala is 2169m from MSL. Also the lowest level of the area is 1890m and mediam hight of the area is 1950m from MSL.

Map 5.2 – Geographical Location



Map 5.3- Mountain Ranges



### 03.Salubrious Climatic Condition

Having more tourism attraction to Nuwara Eliya is depend due to the factors like cool climatic condition, high rainfall pattern within most part of the year and evergreen environmental pattern. Lowest temperature of Sri Lanka records from Nuwara Eliya and when considering the last 10 years, the average temperature is 20 ' C. Also, lowest temperature records as 4 ' C.

Average annual rainfall is 180 inches and lowest annual rainfall is not fall than 140 inches

Figure 5.4- Annual Temperature and Rainfall

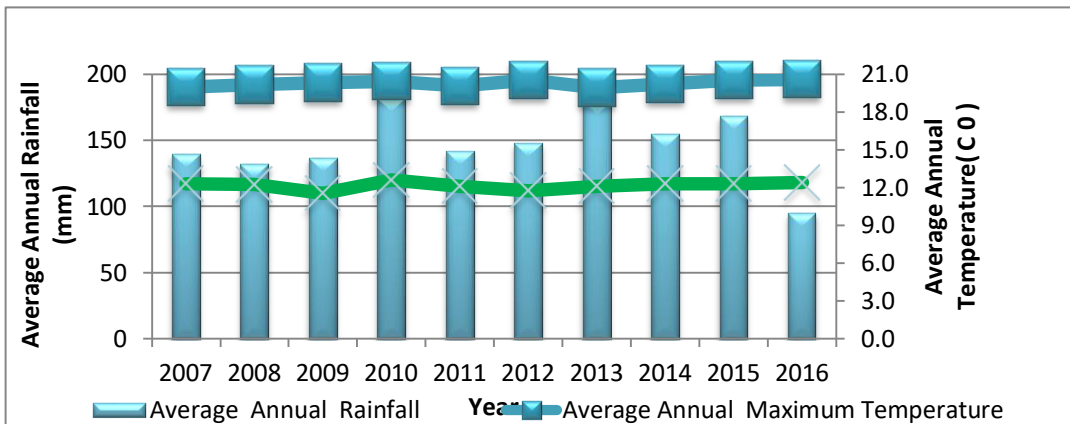


Table 5.1- Annual temperature and Rainfall

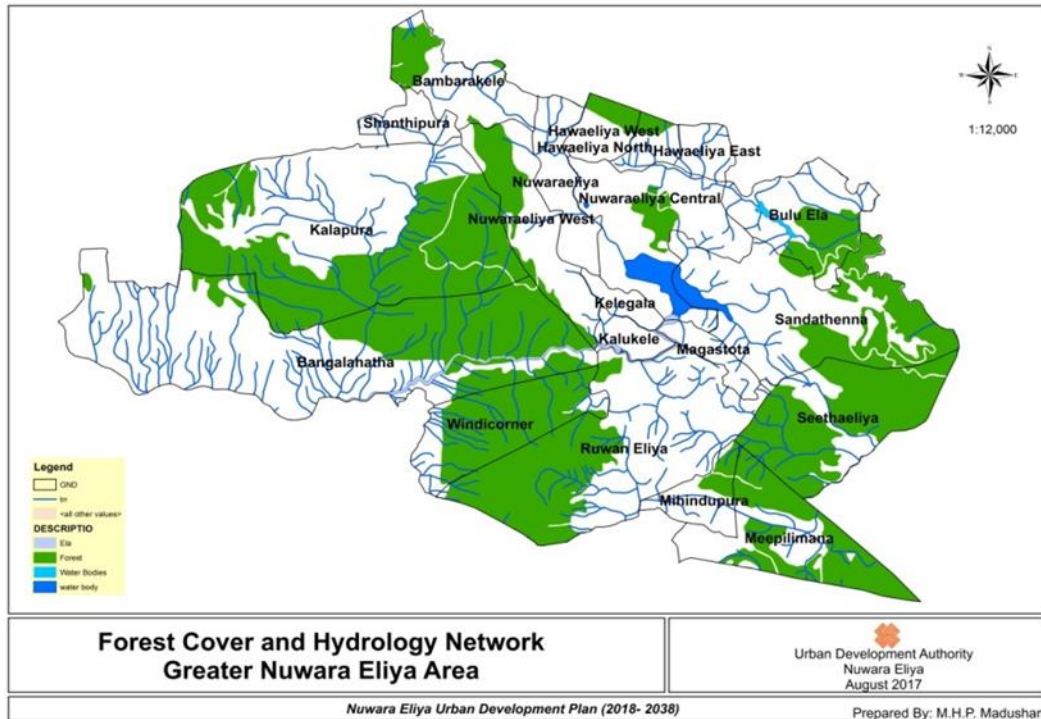
Year	Average Annual Maximum Temperature	Average Annual Rainfall	Average Annual Minimum Temperature
2007	20.0	139.6	12.32
2008	20.2	132.2	12.24
2009	20.3	136.7	11.51
2010	20.4	181.9	12.60
2011	20.1	141.6	12.08
2012	20.5	147.6	11.76
2013	19.9	179.8	12.08
2014	20.2	154.8	12.32
2015	20.5	168.4	12.30
2016	20.6	94.8	12.39

Source:  
Department of  
Meteorology,  
Sri Lanka

### 04.Existing Forest Coverage

There is 1782 Ha of forest cover can be identified with in the selected Greater Nuwara Eliya area and it’s 34.8% from the total land uses. It can be recognized as most important factor to achieve the goal of ‘Preserve the natural environment and improve the water quality’. The forest consists with indigenous animals and plants especially within Single Tree, Piduruthalagala, Haggala, Barrack Plain and surroundings.

Map No 5.4- Forest Coverage



### 5.1.2. Weaknesses

#### 01. Decreased the quality of drinking water

This is the main weakness which affected to achieve the goal of ‘preserve the environment and improve the water quality ‘. Specially, Gregory Lake and Nanu Oya stream, Barrack Plain stream and its surrounding streams are polluting day by day. The water quality testing reports of year 2016 and 2017, shown that, the water quality was very low below to the standard levels of the Gregory lake, Katumanna Lake, Barrack Plain specially in Turbidity, BoD, Fe, CoD, and DO levels. The situation emerged due to collected sewage, chemicals and fertilizer which use for the agriculture lands to the water bodies of the area. Specially the Gregory Lake pollution happened due to polluting the sub streams of the Lake. The above mentioned circumstances area directly affect to our goals achievements.

Figure 5.5- Water quality Reports – 2017

**දිසාපාර්ශ්‍රිත අධ්‍යක්ෂකාරී කාර්යාලය - මධ්‍යම දිසාව**  
**OFFICE OF THE ZONAL DIRECTOR OF IRRIGATION - CENTRAL ZONE**

Address: KUNDASALE, KUNDASALE, KUNDASALE  
 Telephone Office: 2060737  
 Fax: 081-2060737  
 E-mail: di.centralzone@hotmail.com

Division: Nuwaraeliya  
 Schemes: Gregory Lake, Katumana, Barrakplain  
 Date of Sample collection: 20.03.2017  
 Weather condition: Dry Weather  
 Name of the Tester: Ms. Rathnayake, Ms. PUNCHIHEWA

Test	Gregory Lake	Katumana Exit	Katumana wewa	Barrakplain wewa	Barrakplain Entry Canal	Permissible level
PH	7.93	7.39	6.64	6.75	6.63	6.5-8.5
Temperature	23	23	23	23	23	-
Conductivity	191.6	215.7	215.4	200.1	239	750 µS/cm
Turbidity	17.5	17.0	6.95	3.28	43.8	08 NTU
Hardness (as CaCO <sub>3</sub> )	25	70	61	52	65	250 mg/l
BOD	12	2.9	1.0	7.2	19	< 5 mg/l
DO	8.41	6.51	6.37	4.22	5.63	> 5 mg/l
Nitrate/NO <sub>3</sub> <sup>-</sup>	1.4	3.0	2.1	1.1	2.8	10 mg/l
Phosphate/PO <sub>4</sub> <sup>3-</sup>	1.02	0.22	1.55	1.78	0.82	2.0 mg/l
Sulfate/SO <sub>4</sub> <sup>2-</sup>	17	11	13	19	20	200 mg/l
UUA	0.0251	0.002096	0.000104	0.005096	0.3822	0.06 mg/l
Fe	7	4	4	5	16	0.3 mg/l

**Remarks:**  
 Turbidity, BOD and Fe Concentrations are greater than the permissible level.  
 Turbidity and Fe Concentrations are greater than the permissible level.  
 Fe Concentration is greater than the permissible level.  
 DO concentration is less than the permissible level and Fe, BOD concentrations are greater than the permissible levels.  
 Turbidity, BOD, UUA and Fe concentrations are greater than the permissible levels.

Prepared By: M. Rathnayake, Development Officer  
 Checked By: Eng. R.M.P.P. Rathnayake, Irrigation Engineer, Central Zone  
 Recommended By: Eng. T. Batagoda, Central Zone  
 Approved By: Eng. R.M.P. Karunaratne, Central Zone

දිසාවේ හඳුරුවා පිටිලන පවිත්‍ර කිරීමේ කටයුතු  
 Managing Rain Water - Make Sri Lanka Prosperous

Source: Department of Irrigation

Figure 5.6- Water quality Reports – 2016

**දිසාපාර්ශ්‍රිත අධ්‍යක්ෂකාරී කාර්යාලය - මධ්‍යම දිසාව**  
**OFFICE OF THE ZONAL DIRECTOR OF IRRIGATION - CENTRAL ZONE**

Address: KUNDASALE, KUNDASALE, KUNDASALE  
 Telephone Office: 2060737  
 Fax: 081-2060737  
 E-mail: di.centralzone@hotmail.com

Division: Nuwaraeliya  
 Weather condition: Dry Weather  
 Date of Sample collection: 30.12.2016 Time of sample collection: 10.00 am to 12.00 pm  
 Name of the Tester: Ms. Rathnayake & Mr. Jayasundara

Test	Barakplain Exit	Barakplain Entry	Katumana Exit	Katumana Tank	Katumana Entry	Permissible level
PH	6.42	6.54	6.47	6.45	6.32	6.5-8.5
Temperature	19	19	19	19	19	-
Conductivity	305	333	349	365	301	750 µS/cm
Turbidity	24	16.9	9.34	9.42	5.54	08 NTU
Alkalinity (total as CaCO <sub>3</sub> )						200 mg/l
Hardness (as CaCO <sub>3</sub> )	73	54	112	105	72	250 mg/l
COD	215	130	68	110	131	10 mg/l
DO	1.94	0.98	3.57	3.17	4.91	> 5 mg/l
Nitrate/NO <sub>3</sub> <sup>-</sup>	1.6	4.1	3.5	3.0	3.5	10 mg/l
Phosphate/PO <sub>4</sub> <sup>3-</sup>	0.21	0.79	0.11	0.14	0.07	2.0 mg/l
Sulfate/SO <sub>4</sub> <sup>2-</sup>	36	34	42	42	33	200 mg/l
UUA	0.014	0.0429	0.0020	0.00195	0.00304	0.06 mg/l
Iron/Fe	1.98	1.23	0.70	0.63	0.53	0.3 mg/l

**Remarks:**  
 pH and DO are less than the permissible levels. Turbidity, COD and Fe concentrations are greater than the permissible levels.  
 DO is less than the permissible level. Turbidity, COD and Fe concentrations are greater than the permissible levels.  
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 pH and DO are less than the permissible levels. COD and Fe concentrations are greater than the permissible levels.

Checked by: [Signature]  
 Certified by: [Signature]  
 Date: [Blank]

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 Managing Rain Water - Make Sri Lanka Prosperous

Source: Department of Irrigation



Table 5.2: Water quality report of Lake Gregory

Test	Unit	Method	SLS 614: 2013	Results					L.O.D	E.U.% (K=2)
				Lake Gregory Inlet	Lake Gregory Mid-Point	Lake Gregory near the School	Lake Gregory near the Bridge	Lake Gregory near the Sluice		
Odour	-	CML 1		Objec *	Objec *	Objec *	Objec *	Objec *	-	-
# Turbidity	NTU	APHA 2130 B	2	118	222	94.6	50.4	121	-	20
# pH at 25° C	-	APHA 4500 - H* B	6.5-8.5	7.62	8.21	8.26	8.22	8.32	-	-
# Chloride (as Cl)	Mg/L	APHA 4500 Cl - B	250	22	22	22	22	22	-	4
# Total Alkalinity (as CaCO <sub>3</sub> )	Mg/L	APHA 2320 B	200	43	46	47	43	46	-	4
Free Ammonia (as NH <sub>3</sub> )	Mg/L	SLS 614 : 2013, Appendix A	0.06	2.4	2.4	2.0	1.6	2.4	-	-
Albuminoid Ammonia ((as NH <sub>3</sub> )	Mg/L	SLS 614 : 2013 Appendix A	0.15	2.8	1.8	0.80	2.4	2.0	-	-
Nitrate (as NH <sub>3</sub> )	Mg/L	CML /NIM/02/02/019/V	50	5.0	5.0	4.8	5.3	4.8	-	-
# Nitrite (as NH <sub>3</sub> )	Mg/L	APHA 4500- NO <sub>2</sub> B	3	0.11	0.09	0.20	0.06	0.04	-	14
# Fluoride (as F)	Mg/L	APHA 4500-F C	1.0	0.37	0.36	0.36	0.50	0.36	-	6
# Total Phosphates (as PO <sub>4</sub> )	Mg/L	APHA 4500 – PB & C	2.0	1.4	1.5	1.1	1.4	1.3	-	10
# Total Dissolved Solids	Mg/L	APHA 2540 C	500	140	101	146	130	131	-	5
# Total Hardness (as CaCO <sub>3</sub> )	Mg/L	APHA 2340 C	250	45	49	51	45	44	-	4
Sulfate (as SO <sub>4</sub> )	Mg/L	Modified APHA 4500 SO <sub>4</sub>	250	ND	ND	16	ND	ND	10	-
Calcium (as Ca)	Mg/L	APHA 3500 Ca- D	100	14.5	15.7	18.9	15.1	14.9	-	-
Magnesium (as Mg)	Mg/L	APHA 2340 C & 3500 Ca - D	30	2.0	2.4	3.4	1.8	1.7	-	-
Cyanide (as CN)	Mg/L	CML 18	0.05	ND	ND	ND	ND	ND	0.05	-
Sodium (as Na)	Mg/L		200	9	9	8	9	8	-	-
Iron (as Fe)	Mg/L		0.3	0.75	0.46	0.66	0.80	0.50	-	-
Copper (as Cu)	Mg/L		1.0	ND	ND	ND	ND	ND	0.05	-
Manganese (as Mn)	Mg/L		0.1	0.08	0.08	0.11	0.11	0.10	-	-
Zinc (as Zn)	Mg/L		3.0	0.03	ND	ND	ND	ND	0.02	-
Aluminum (as Al)	Mg/L		0.2	0.84	0.65	0.94	0.91	0.53	-	-
Chromium (as Cr)	Mg/L		0.05	ND	ND	ND	ND	ND	0.05	-
Nickel (as Ni)	Mg/L		0.02	ND	ND	ND	ND	ND	0.01	-
Arsenic (as As)	Mg/L	USEPA -200.8	0.01	ND	ND	ND	ND	ND	0.001	-
Cadmium (as Cd)	Mg/L		0.003	ND	ND	ND	ND	ND	0.001	-
Lead (as Pb)	Mg/L		0.01	ND	ND	ND	ND	ND	0.01	-
Selenium (as Se)	Mg/L		0.01	ND	ND	ND	ND	ND	0.001	-
Mercury (as Hg)	Mg/L		0.001	ND	ND	ND	ND	ND	0.001	-
# COD	Mg/L	Modified APHA 5220 D	10	110	110	85	100	105	-	4
Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	Mg/L	APHA 5530 B & D	0.001	ND	ND	ND	ND	ND	0.1	-
Oil & Grease	Mg/L	APHA 5520 B	0.2	ND	ND	ND	ND	ND	2	-

Source: Central Environmental Authority

Table 5.3: Drinking Water Quality report

Sample Places within NEMC	Total clorifom Bacteria in 35 .C (100ml)	Total clorifom Bacteria in 44 .C (100ml)
	Pipe born water-02 Other 10	0
Pedro ( spring water)	→ 38	→ 4
Toppass ( spring water)	→ 68	→ 10
Hevan Seven Hotel (Haddon Hill Rd)	10	No
Post Box junction, Gamunu Mawatha	→ 72	→ 8
Tank near to Pedro Tank	→ 52	→ 2
Technical College	No	No
Haddon Hill Pump House (Outside Pipe)	No	No
Haddon hill Stock Tank	→ 48	No
Near to Kadireshan Kovil- Nanuoya Rd	→ 12	No
Tap- Gregory Lake Stage III	4	No
Mr. A.L.A.P. Udayakantha, Kalukele	No	No
Himaluwa Hotel, Magastota	→ 38	→ 8
Vegetable Estate- Sandathenna junction	→ 18	→ 2
"Sunil" Shop- Wijithapura junction	10	No
Magastota	No	No
Badulla Rd	→ 60	→ 14
Vajiraknana Vidyalaya, Ledy Machlam Rd, N'Eliya	→ 368	→ 240
Kandy Rd, Bambarakele	→ 120	→ 54
Nuwara Eliya MC Office	→ 710	→ 480

Source: Municipal Council, Nuwara Eliya

**02. Decreased quantity of drinking water**

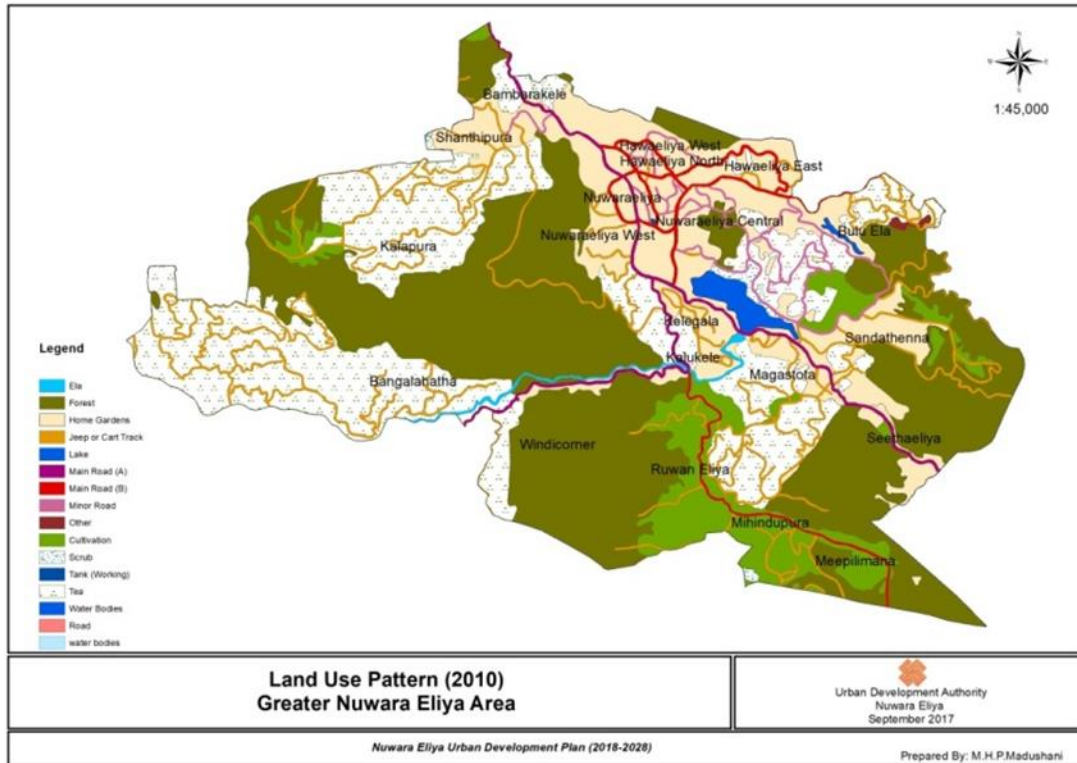
There are 13 pumping stations within the city to get drinking water purpose. Although the daily water demand is increased up to 5500 Cubic Meter, but decreased the water capacity to 3500 Cubic Meter in dry season. Therefore, tube wells use to supplying shortage of water demand due to the decrement of water capacity of the natural water resources. This issue is mainly disturbs to the tourism industry of the area.

**03. Decreased the forest coverage and encroachment of reservations**

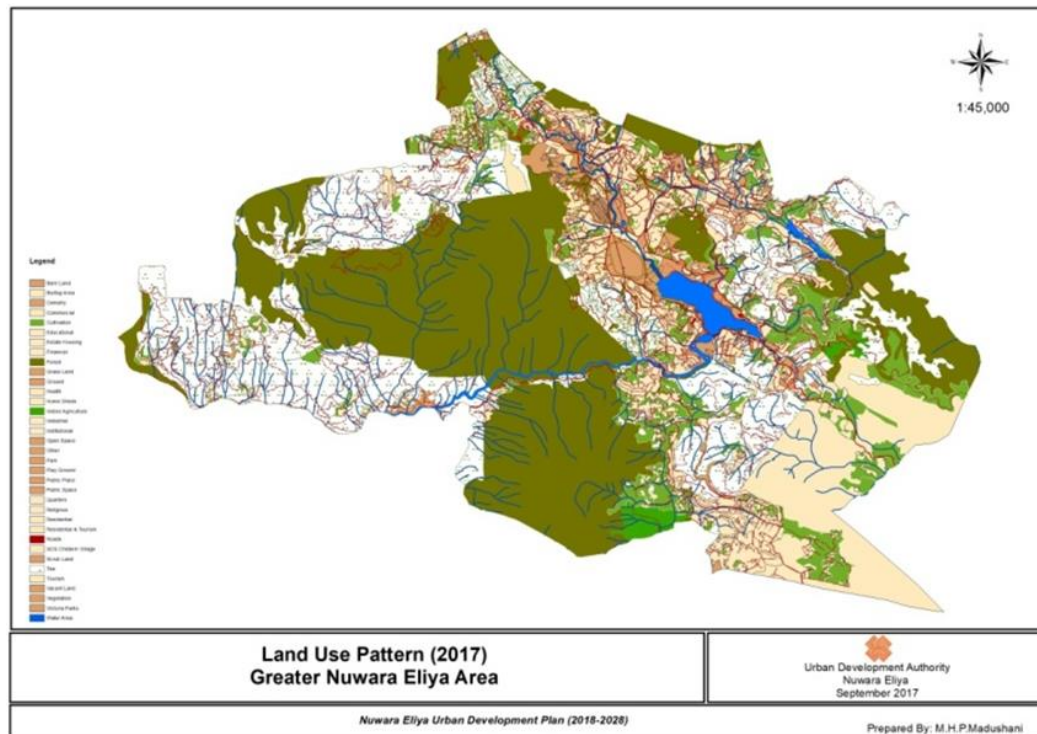
When considering about the sensitive environment of Nuwara Eliya is mainly focuses about natural forest coverage and mountain ranges. But the percentage of forest cover has been decreased gradually, 40% of forest cover in 2010 and it was dropped as 34% in 2017. Therefore, it became a main negative factor for changes of uniqueness of Nuwara Eliya



Map 5.5- Land Use Pattern 2010



Map 5.6- Land Use Pattern 2017



### 5.1.3. Opportunities

#### 01. Government Policies

- National Physical plan
- Sri Lanka Tourism Development Plan

Nuwara Eliya and Central hilly area is in the environmental sensitive area according to the National Physical Plan which prepared by National physical Planning Department. Other than that, the Tourism Development master Plan of Sri Lanka is focuses of main strategies to develop the tourism industry of the area. According to that, the government policies are helps to achieve our goals of the plan.

#### 2. Increased demand for the organic products.

Consideration of the demand for the organic agriculture products is increasing at present and therefore it is best opportunity to achieve the goal of preserve the natural environment and improve the water quality. Through that, can be decreased chemical fertilizers usage of the area.

#### 3. Proposed new sewage treatment plant

Municipal Council of Nuwara Eliya has been proposed to newly construct sewage treatment plant with JICA funding. It's better support to have clean environment.

#### 4. Sustainable Development Goals 2030 (SDG)

### 5.1.4. Threats

#### 01. Advertisements of the chemicals and fertilizers for agriculture of the private companies.

The main factor which is affected to the above identified issue of pollution of water bodies and decreased the water quality is high usage of chemicals and fertilizers for the agricultural purposes. This happens due to unawareness about fertilizer usage and high publication of the chemicals and fertilizers by multinational companies. Therefore many farmers are trying to use high dose of it.

<h2 style="margin: 0;">Strengths S</h2>		<h2 style="margin: 0;">Weaknesses W</h2>	
<ol style="list-style-type: none"> <li>1. Existing water body system (Nanu Oya, Water Field Drive, Lake Gregory, Barrack Plain, Glainfall, Lover’s Leap)</li> <li>2. High elevated mountain range (Piduruthalagala, Single Tree, Kikkiliyamana, Lover’s Leap)</li> <li>3. Salubrious climatic condition (Rainfall, Humidity, Temperature)</li> <li>4. Existing forest cover (Galways, Piduruthalagala, haggala)</li> <li>5. Tourist’s attraction places</li> <li>6. Existing buildings with British colonial architectural features</li> <li>7. Upcountry cultivation</li> <li>8. Tea estates</li> <li>9. Unique flowers and horticulture</li> </ol>	<p><b>5.2. Imaging unique context of Nuwara Eliya</b></p>		<ol style="list-style-type: none"> <li>1. Pollution of water sources</li> <li>2. Pollution of drinking water</li> <li>3. Decreased forest cover and encroachment of reservations</li> <li>4. Decreased the construction of buildings with British architectural features</li> <li>5. Disturbs to the viewing points of the area due to new constructions</li> <li>6. Distribution of slum and shanties within the town</li> <li>7. Agricultural lands use for constructions</li> </ol>
<p>01. International high demand for the tourism to the sensitive environmental areas</p>	<p><b>5.2. Imaging unique context of Nuwara Eliya</b></p>		<ol style="list-style-type: none"> <li>1. Climate changes and weather condition changes</li> </ol>
<h2 style="margin: 0;">Opportunities O</h2>		<h2 style="margin: 0;">Threats T</h2>	

## **5.2.1. Strengths**

### **1. Existing water body Network**

The existing water bodies like Nanu Oya stream, Water field drive, Lake Gregory, Barrack Plain, Glainfalll, Lover's Leap and other streams of the area are most valuable asset to achieve the goal of imaging unique context of Nuwara Eliya. Nearly about 2% from total land area of Nuwara Eliya is cover by water and specially those feature such as water falls, streams, lake are support to highlight of uniqueness of Nuwara Eliya.

### **2. High elevated mountain ranges**

The mountain ranges, elevated above 2000m which situate around the area are create scenic view for Nuwara Eliya. Piduruthalagala, Kikkiliyamanna, Haggala mountains get highest attraction in this point. Tea and natural forests are top of the mountains and therefore its helps to enhance the natural beauty of the area.

### **3. Salubrious Climatic condition**

Many tourists attract to the Nuwara Eliya due to the unique climatic condition which has average temperature of 20 0 C and high humidity. Also no other city within the South Asian which can comparable with Nuwara Eliya climate. Therefore many visitors attract to the area and it is most significant fact that supports to realize the goal.

### **4. Existing Forest Cover**

Forest coverage is the most special feature when considering of uniqueness of Nuwara Eliya. According to that, the forests of Galways, Piduruthalagala, Haggala is get high attraction with green. Nearly 34 % of area from the total land is covered by forest and it provides best support to lead the goal.

### **5. Existing buildings with British colonial architectural features.**

The buildings which built in the colonial period with Victorian, Georgian and Bristish architectural features are the most significant that shown the identity of Nuwara Eliya. There are about 129 number of buildings can be identified within the area. In addition, those are given support to attract more tourists.

**Figure 5.7 Post Office**



Post Office: This is one of the oldest building in the area and the Archeological department mentioned as listed building.

**Figure 5.8 -**



Grand Hotel: The original building, a single story bungalow, called 'Barnes Hall', was constructed as the holiday residence of Sir Edward Barnes, the fifth Governor of Ceylon

It has unique identical architectural features

**Figure 5.9 – The Hill Club**



*Captured By: Nilantha Paranagama March, 2017*

The Hill Club is a beautiful property surrounded by Nuwara Eliya's lush greenery.

**Figure 5.10- Queen Cottage**



*Captured By: Nilantha Paranagama March, 2017*

Built as an English country house, during the late 19th century by the British Colonial administration of the island, for the use of the Governor of Ceylon. Since independence in 1948, the house became the official vacationing residence of the Governor General of Ceylon and since 1972 the President after Sri Lanka became a republic



**Figure 5.11-** St Xavier’s Church



Initiated in 1838 the St Xavier’s Church was built to its current structure in a span of 10 years. The towering walls of the church are light brown in color following the same pattern of colonial houses.

*Captured By: Nilantha Paranagama March, 2017*

**6.Tourist’s attraction Places**

Unique characters of Nuwara Eliya are shown as main tourist destination and therefore many of attraction places locate sorrowing to there.

This is good potential to achieve the goals. Among them, Lke Gregory ,, Golf ground, Galways Park, Victoria Park, Horton Plains, Moon Plains, Seethaeliya Kovil, Ambewela Farm, Labukele Tea Factory, Kudaoya, Boralanda Tea Factory and tea estates are get major tourist’s attraction places .Other than that, Lover’s Leap water fall, colonial architectural buildings, flower farms are additional attraction places.

The following table shows the tourist’s arrivals of different places of the area

**Table 5.6- Tourist’s arrival details**

	2012	2013	2014	2015	2016
<b>Foreign Tourists</b>					
Haggala	12489	14713	18071	24188	29192
Horton Plains	39123	34065	69979	87962	131670
Galways	82	29	84	49	198
Lake Gregory Park					61622
Victoria Park					47294
Mon Plains					8673
<b>Local tourists</b>					
Haggala	587749	511879	578825	742133	956815
Horton Plains	184744	46511	198374	228858	319999
Galways	1521	1084	1669	2047	3345
Gregory lake Park					721495
Victoria Park					643725

Source: Tourism Development Authority/ Nuwara Eliya MC

According to that dueto tourist attraction for the Nuwara Eliya annually about 01 million local tourist and 130000 of forieng tourist area recorded in 2016. Therefore tourist sector mainly contributed to increase the Economy of Nuwara Eliya area. Annually 12000 million rupeas get from tourist and its related field to the area. 180 no of Tourist hotels and Geust Houses area located in this area with about 1600 numbers of Rooms. According to the 2012 census report , 20% of direct employees are engage in tourist field , Therefore this tourist attraction will help to achive the goal of “vibrant wealthy zone”

**Figure 5.12 Tourist Attraction Places**



*Captured By: Nilantha Paranagama March, 2017*

**Figure 5.13 Tourist Attraction Places**



*Captured By: Nilantha Paranagama March, 2017*

## 7. Upcountry cultivation

There are 897 ha of extent cultivation lands can be identified within Greater Nuwara Eliya planning area. The daily average production of Nuwara Eliya dedicated economic center is 150 tons and average annual income is Rs. Mn 5250. This is 23% of income of the upcountry vegetables.

*Figure 5.14*



**Captured By: Nilantha Paranagama**

### 07.Tea estate

Total High Grown Tea in Sri Lanka is 41137 Ha and production is - 64 Mn/Kg. Meanwhile the Nuwara Eliya Area provided 1.83 Mn/Kg and it is 2.8% of Sri Lanka total production. Therefore these tea production give Rs. 836 million income for the Area. It is 0.7% from the Sri Lanka tea income.

### 08.Indigenous flowers and horticulture

Types of flowers- Gebara, Deasy, Babandesiya, Kaneshan, Krishanthimum, Asthemeriya, Lili, Rose, Hydringia

Horticulture areas- Mipilimanna, Wajirapura, Lover's Leap, Shanthipura, kande Ela

Nearly around 270 farmers of horticulture are registered of the Flower association of the area.

About Rs. 10Mn of income can be earned through the cultivation

This is having high demand for tourism as well as to economic improvements and there are flower exhibitions within the seasonal periods.



Figure 5.15 Flowers



Source: Internet

### 5.2.2. Weakness

#### 1. Pollution of water source

The unique character of having clean water body network of Nuwara Eliya is lost due to the pollution of drinking and surface water sources which identified according to the above mentioned paragraph 5.12. It causes to damage the environment system as well as bio diversity too. Therefore it has been negatively influenced to achieve the goals.

#### 2. Decreased forest coverage and reservation encroachment

The green environment and forest cover is most important feature of Nuwara Eliya. About 34% of forest cover helps to have uniqueness, but unfortunately this is decreasing day by day and it was 40% in 2010 and it has decreased up to 34% in 2017. Since, the decrement directly affects to the goals achievements of the plan.

#### 03. Changes of unique architectural features of Nuwara Eliya

The colonial architectural features of the area being loosened and changed at the present moment, due to the improper, unplanned constructions. The most powerful character which help to attract more tourists and with the changes it will cause to disturb to tourism industry development of the area.

**Figure 5.16**



Captured By: Nilantha Paranagama March, 2017

#### **04. Disturbs to viewing points of the area due to new constructions**

The viewing points and the water falls, mountain ranges has been covered Due to the improper new constructions. It distracts to show natural beauty of the area.

*Figure 5.17 Disturbs to viewing points due to constructions*



Captured By: Nilantha Paranagama March 2017



*Figure 5.18 New construction covered the Mountain*



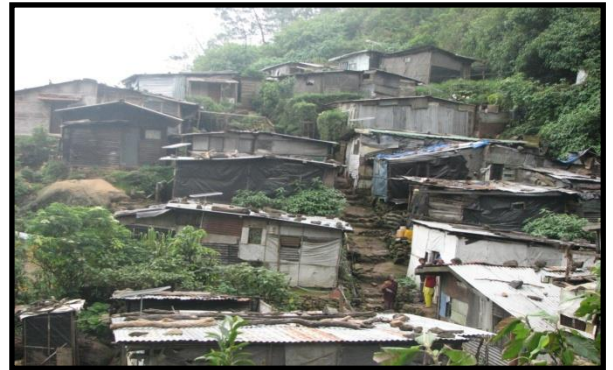
Captured By: Nilantha Paranagama March 2017

**05.Low income housing and slums**

There are about 21% of housing of Nuwara Eliya MC and its surrounding characterize as joint housing and line housings, The housing types of 21 GN Divisions which in the Greater Nuwara Eliya planning area show the following table. Addition to that, there are 3331 of population of 638 families lives in 590 of low income settlements. It's the main disturbance to having better economy and famous as tourism destination.

*Figure 5.16*

*Figure 5.17*



*Figure 5.18*



Captured By: Nilantha Paranagama March, 2017

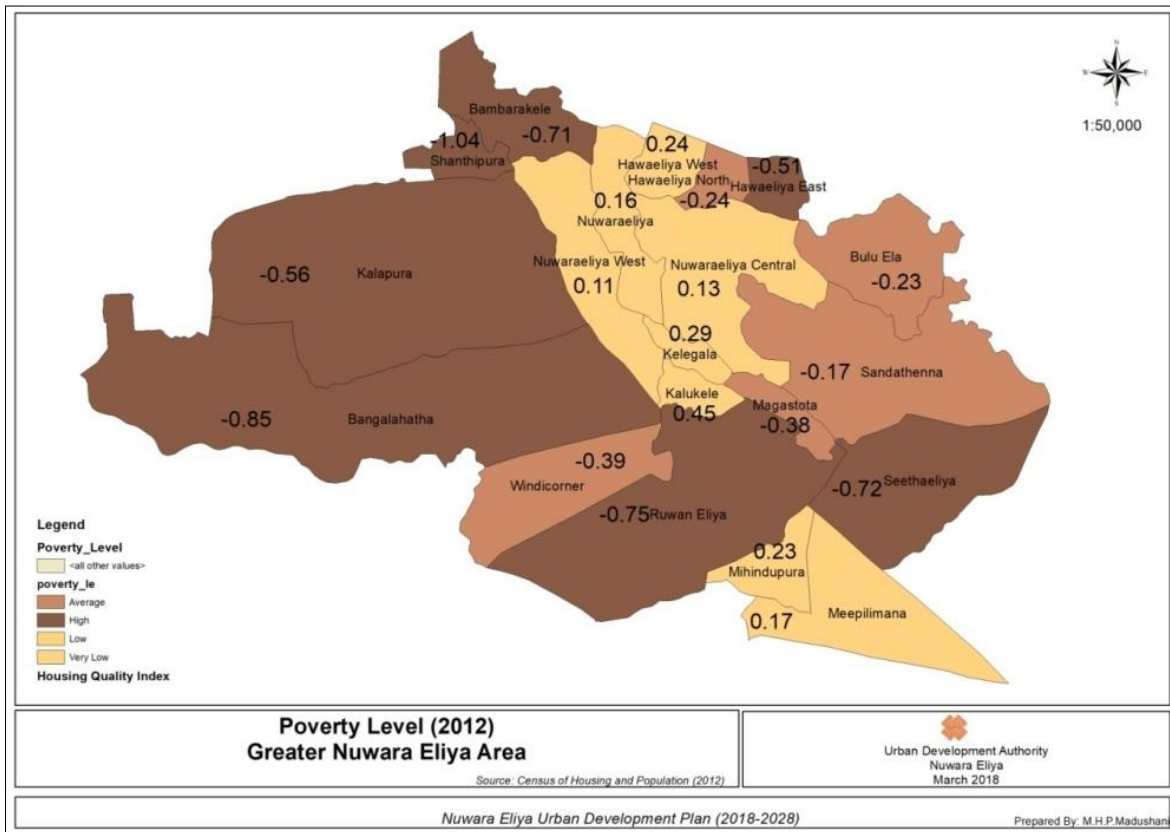
**Table 5.7 – Condition of the housing**

GN Division	No of families	No. of housing	Scarcity of housing	House with ground floor	2 story house	Houses more than 2 stories	Joint houses	flats	Dual houses	Line houses	Slums
Total	11008	10784	224	6861	791	71	483	19	231	2184	144
Percentage of existing housings			2.1	63.6	7.3	0.7	4.5	0.2	2.1	20.3	1.3

Source: Department of Statistics

The poverty level of the area is increased with that situation.

**Map 5.7- Poverty Level**



### 5.2.3. Opportunities

#### 01.High international demand for eco-friendly tourism

Table 5.8- Tourist’s arrivals- Sectional Wise

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Entertainment</b>	67.4	67.1	73.2	80.0	78.9	80.4	74.4	72.7	67.95	66.6	83.4
Business	17.8	10.5	8.5	8.6	12.7	8.0	9.0	5.2	1.33	1.3	1.8
<b>Meet relations</b>	7.6	8.3	8.3	5.2	5.4	8.2	11.7	12.4	27.45	25.5	11.5
<b>Conference &amp; meetings</b>	3.0	1.5	1.3	1.4	1.0	1.7	2.2	2.0	.29	.3	.8
<b>Cultural &amp; religious</b>	1.7	2.8	2.6	2.0	.8	.3	2.2	4.8	0.01	0.1	0.0
Health									0.53	3.2	0.6
Sports									0.53	0.7	0.4
<b>Duty</b>									0.11	0.2	0.0
<b>Other</b>	2.5	9.8	6.1	2.8	1.2	1.4	0.5	2.9	1.49	1.7	1.2
<b>Total</b>	100	100	100	100	100	100	100	100	100	100	100

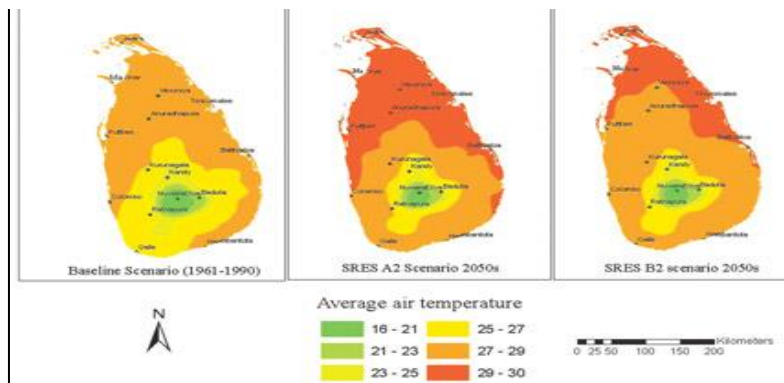
Source: Sri Lanka Tourism Development Authority

According to the above table, can be identified the arrivals of tourists increased in the section of environment and entertainment according to consider the statistics of last years. Accordingly, the future can get high attraction to Nuwara Eliya as more entertaining and environmental importance area.

### 5.2.4. Threats

#### 01.Changes of weather and climatic conditions

Figure 5.19: Climatic & Weather condition changes



Source: - MMI Research Report 2016

The climatic condition of the area has been changing with due to the global climatic changes. Those changes can identify through the above figures. It will be effected to the change the Nuwara Eliya unique climetic condition. There for it will treat for the Goal of Imaging Uniquenes of Nuwara Eliya

## Strengths S

1. Tourism attraction places
2. Existing colonial architectural buildings
3. Upcountry cultivation
4. Tea estates
5. Unique flowers and horticulture
6. Municipal council with high revenue
7. Seasonal festival of Nuwara Eliya
8. Locate near to upcountry railway line
9. Internationally famous tourism destination
10. Proposed and ongoing projects

## W Weaknesses

1. Polluted drinking water and inadequate water in dry season
2. Not get best and optimum use from the government land
3. Decreased the constructions with unique architectural features
4. Disturbs to viewpoints due to improper constructions
5. Distribution of low income settlements and slums
6. Agricultural lands use for constructions
7. Inadequate facilities for tourists

### Creating vibrant wealthy town

1. Sri Lankan Tourism Development Plan 2017-2020
2. Proposed Sri Lankan express ways network
3. Agriculture Development projects by Agriculture Department
4. Increment of tourist's arrival to Sri Lanka

1. Surrounding towns development as tourism strategic cities (Ella, Bandarawela, Haputhale, Nallathanniya)
2. Entering roads to Nuwara Eliya is become critical situation in rainy days
3. High no of tourists arrive to Nuwara Eliya within less no of days in April

## Oportunities

## T Threats

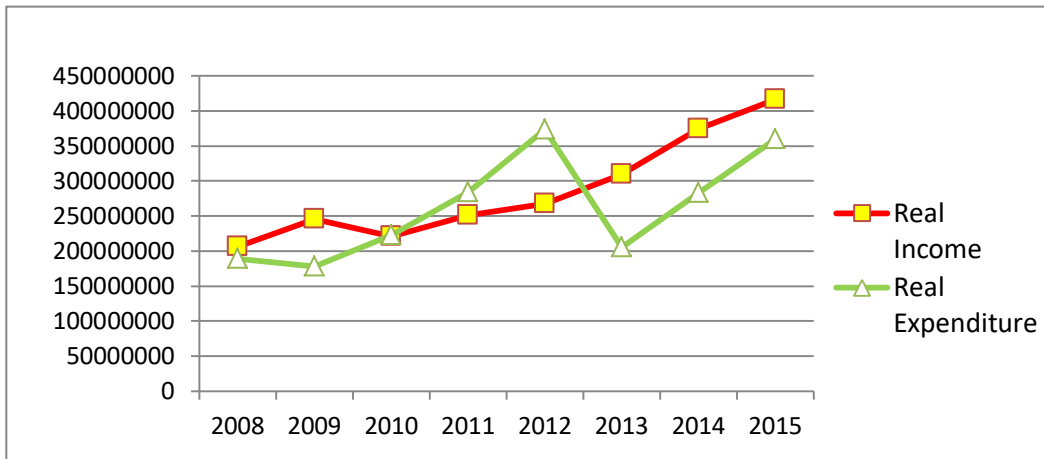


### 5.3.1. Strengths

#### 05. Municipal council with high revenue

There is high opportunity to invest for development due to having surplus revenue of the Nuwara Eliya Municipal Council. Therefore it is best support to development of town as well as its infrastructure facilities. The income and expenditure of the Municipal Council is display the following chart.

Figure 5.20 – Annual revenue and expenditure of Nuwara Eliya MC



Source: Nuwara Eliya MC

#### 06. Seasonal festival of Nuwara Eliya

The seasonal festivals and programs of Nuwara Eliya is held in April month of every year and therefore many of tourists attract to the area. It is main festival in Nuwara Eliya which attract 100000-200000 of Local tourist. The following graph shows the arrival of tourists and organizes many events and programs throughout the year. High demand for the hotels and guest houses within the seasonal period and helps to increase economic benefits for the area.

Figure 5.21



Captured By: Nilantha Paranagama March, 2017

**07. Locate near to upcountry railway line**

The location near to the upcountry railway line is the highest benefit to attract more tourists to the area. Especially the most of travellers select the train as their travelling mode due to the beautiful sceneries along the railway line. Nanu Oya railway station is the nearest station of Nuwara Eliya and also is major destination.

*Figure 5.22*

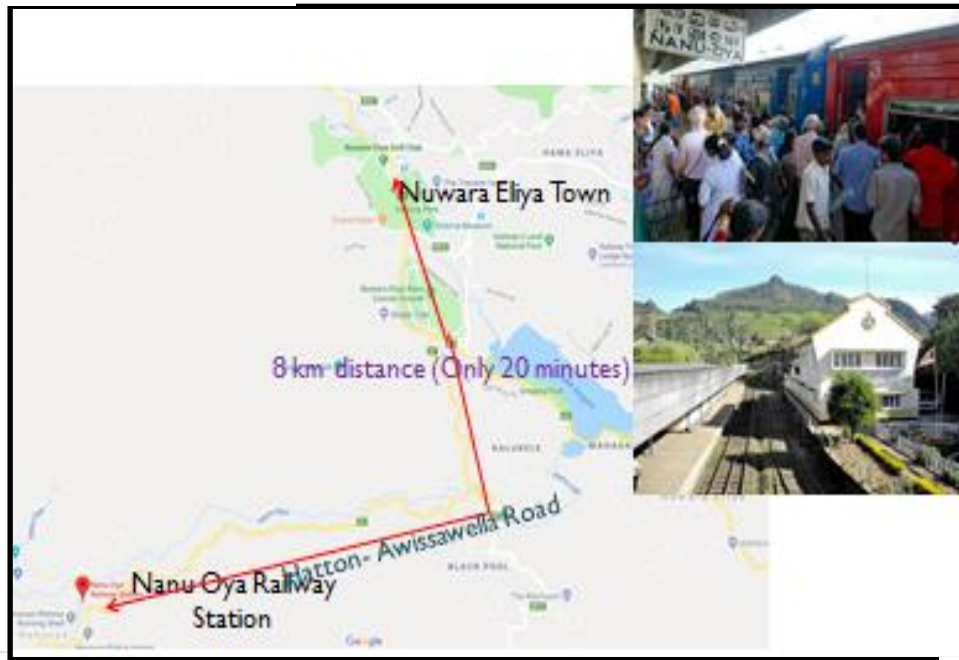


Figure 5.23

Figure 5.24

Source: Internet



Captured by: Nilantha Paranagama March, 2017



Captured by: Nilantha Paranagama March, 2017

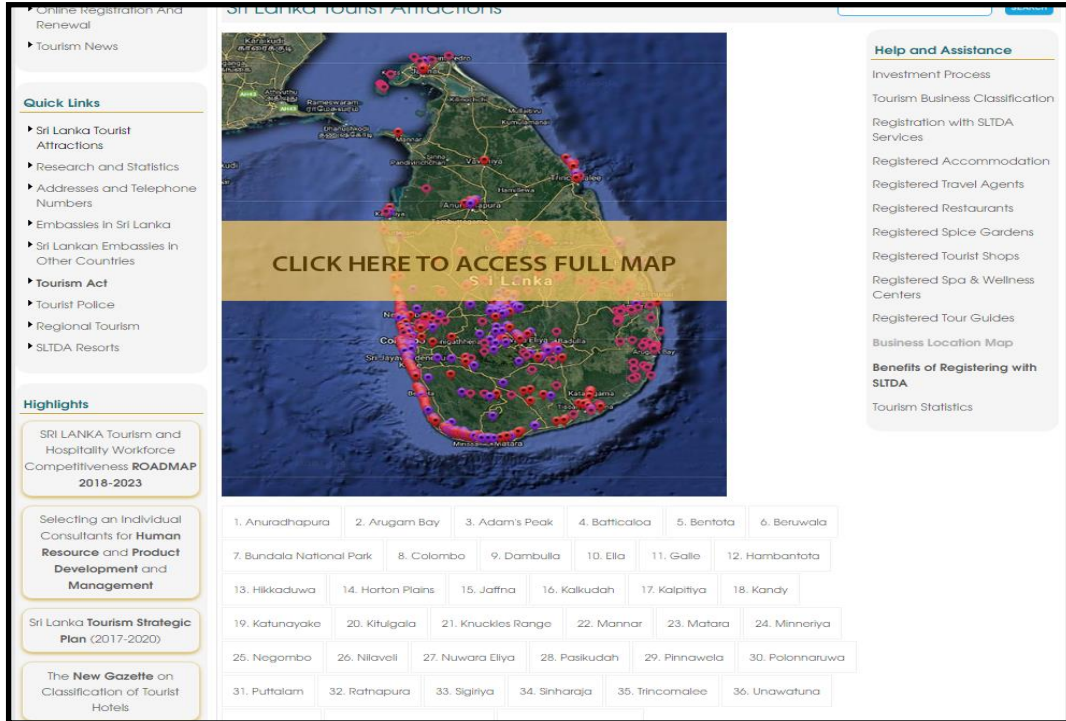
**08. Internationally famous tourism destination**

Nuwara Eliya town is famous as major tourism destination in locally as well as internationally and as that, it's great support to develop the tourism industry of the area. Also, according to



the international ecofriendly classification, Nuwara Eliya takes highest place. In addition to that, Nuwara Eliya recognized as main traveling destination within Sri Lankan context

Figure 5.22



Source: Internet

## 10. Proposed and ongoing development projects

Proposed new projects and ongoing projects within Nuwara Eliya area show the following table.

Table 5.9- Proposed and Ongoing Projects

No	Project	Present Status	Investment (Mn)	Funding Institute
1	Nuwara Eliya new hospital	Ongoing	14000.00	Ministry of health
2	Gregory Lake Landscaping Development Project	Ongoing	450.00	Urban Development Authority/ Nuwara Eliya Municipal Council

3	High altitude Sports Training Complex	Proposed	12000.00	Sports Ministry/ Private sector
4	Nuwara Eliya Central Market Developemnt	Ongoing	450.00	Urban Development Authority/ Nuwara Eliya Municipal Council
5	Housing Projects for Estate workers	Ongoing	-	Ministry of Upcountry New Villages, Estate Infrastructure & Community Development
6	Eco Villa Project at Ocklay Cottege	Proposed	-	Urban Development Authority
7	Middle Income Housing Project	Proposed	-	-
8	Ocean View Mix Development Project	Proposed	-	-
9	Nuwara Eliya Theme Park Project	Proposed	-	-
10	Central Water Treatment Plant	Proposed	-	-

Above main projects give highest contribution for the development of economy of the area.

### 5.3.2. Weakness

#### 07. Less facilities for the tourists

There were 02 Mn foreign tourists came to Sri Lanka in 2016 and 7.5% of among them visit to the upcountry areas of Sri Lanka as per the Annual Report of SLTDA.

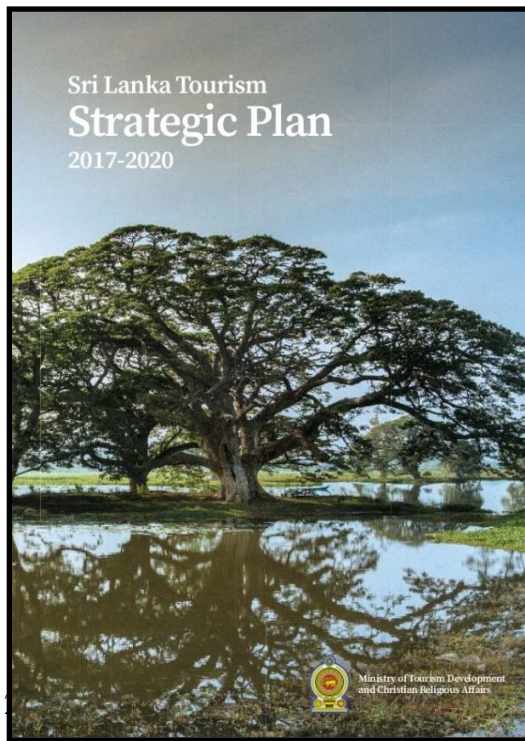
Most of the tourists arrived to country for the purpose of entertainment .It's 23% in 2016 and 66% in 2015.According to the statistics, there were nearly 950,000 local tourists and about 135,000 foreign tourists arrived to Nuwara Eliya and the existing tourist's facilities which are the commen facility and services centers,enough accomadation places, aren't sufficient to them. Therefore this is the main issue of the area.

### 5.3.3. Opportunities

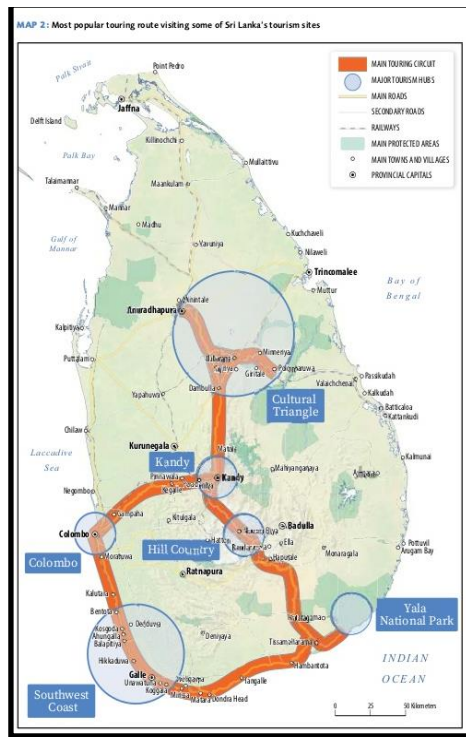
#### 1. Sri Lanka Tourism development Plan 2017-2020

Nuwara Eliya identified as one of the major town which is going to develop through the Tourism Development Plan by Ministry of Tourism Development. That is the great opportunity for the tourism development of the area. According to that, Nuwara Eliya is in first stage developing town.

Figure 5.23



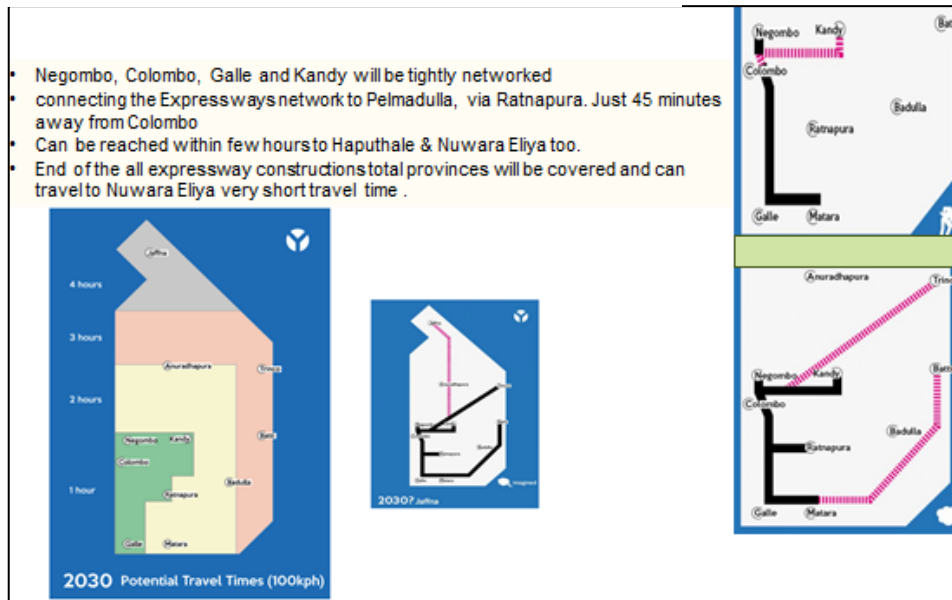
Map 5.9 – Tourism Development Plan



#### 02. New and Proposed High ways

The destinations of proposed express ways of Ratnapura , mattala and kandy which are most close to Nuwara Eliya and therefore travellers can be easily reached to Nuwara Eliya from above destinations. The products of the area can transport other places and tourists can be visited to here easier.

Figure 5.27 Proposed High way road



Source - Internet

### 03. Agricultural Development Projects of Agriculture Department.

The agriculture development projects and plans which prepared by Agriculture department and its institutions (2017-2020) are best supportive ways for development of agriculture sector of the area.

### 04. Increased tourism arrivals in Sri Lanka

The tourist's arrival rate of Sri Lanka is annually increased and therefore due to that can be expected to more tourist's arrivals to Nuwara Eliya as well. Following graphs show the table

Figure 5.28 – Tourist’s arrivals

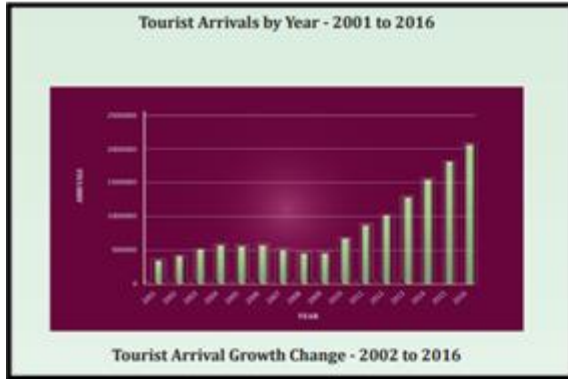


Figure 5.29- Development of Tourism Industry



Figure 5.30 – Tourist’s Arrivals

**Market Growth Trends by Nationality - Growth Indices  
(Average 1963/1966 = 100) - 2006 to 2016**

Table ( a )

Market	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average Annual Growth Rates
Western Europe	2,917	2,498	2,115	2,171	3,255	4,088	4,820	5,337	6,363	7,647	8,613	29.6
Asia	4,024	3,338	2,926	2,900	4,087	5,559	6,382	8,775	10,644	10,644	14,686	28.6
North America	1,014	806	660	712	1,153	1,525	1,612	1,990	2,065	2,614	3,216	7.2
Australasia	2,954	2,728	2,752	3,087	4,392	6,099	5,936	8,576	8,444	8,588	11,033	25.0
Others	3,536	5,749	6,492	6,507	9,461	11,980	17,092	23,193	30,450	30,776	30,776	54.0
All Markets	2,943	2,598	2,306	2,355	3,442	4,501	5,288	6,703	8,031	9,457	10,785	26.2

Source – Annual report . Sri lanka Tourist Board

### 5.3.4. Threats

#### 1. Surrounding town centers as tourism attractive towns.

Surrounding towns of Ella, Badasrawela, Haputhale, Nallathanniya is developing as major tourist’s attractive destinations and the arrival rates has been increased within last years. Therefore these changes affect to Nuwara Eliya tourism industry.

#### 2. Entering roads become dangerous situation during the rainy days.

The accessing roads to Nuwara Eliya of Awissawella- Hatton road, Kandy- badulla road, Badulla- Welimada road are become dangerous during heavy rainy days. Therefore most of the tourists disincline to visit to Nuwara Eliya due to above situation.

**Figure 5.31**

**Nuwara Eliya district prepares to face landslides**

By Shelton Hewitarachchi

With heavy rains expected in the next few months, the Government Agent and authorities in the Nuwara Eliya district are gearing up to face the possibility of landslides and other possible disasters in the Walapane area.



February 2011. The road close to St Sunergala Vidyalaya caved in due to heavy rains.

In November 2007 the rains left eleven dead and three persons went missing in the Walapane and Hangaranketa divisions of the district. The area is also prone to landslides. In 1953 thirteen persons died in landslides at Ketayapathana, while Wathumulla was affected by landslides in 2006 and in 2007.

The Red Cross and a number of other NGOs continue to provide relief to victims of these landslides. To face this situation the Red Cross has identified a number of vulnerable areas and commenced setting up centres to house victims of landslides in addition to training community based organisations in disaster management.

Ven. Kudalgamaare Seelavimala Thera of the Subodhararamaya said the Red Cross had helped victims of the 2007 landslide. The Principal of the Pussadeva MMV A.K.R.M Dayarathne, said the Red Cross had trained the students of his school to help victims of such disasters.

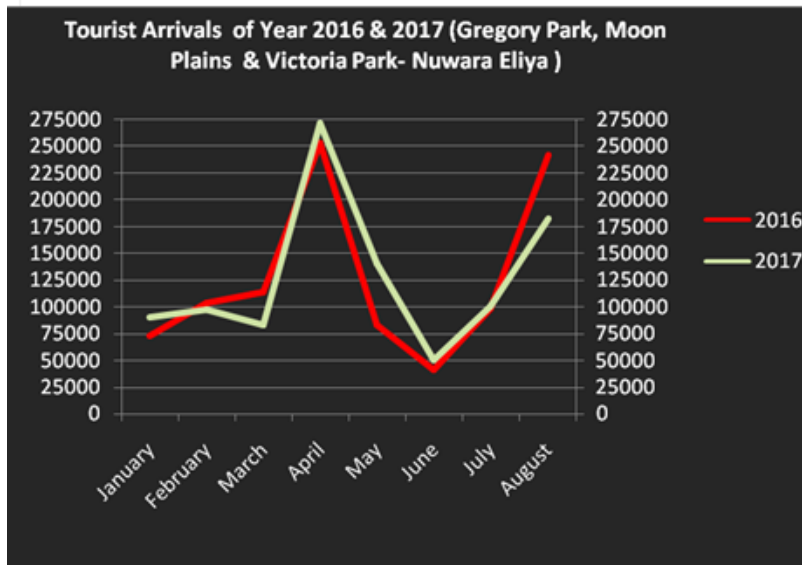
He added in the event of earth slips or landslides his school would be used as a disaster management centre and a centre to house the victims. The school can house up to 3,000 victims he said. Mr Dayarathne added the ICRC had undertaken to build a wall around the school for security reasons and provided first aid training to students to help victims of disasters.

He said the school also had adequate communication facilities but added it needed a stand-by electricity generator now that it had been designated a disaster management centre.

**03.Highest number of local tourists arrived to Nuwara Eliya within few days of April month**

There are high no. of local tourists visited to Nuwara Eliya within seasonal periods of the area and daily tourist’s arrivals from 10th to 20th of April season are nearly 100,000-150,000 . The situation arise congestion and also it become major issue when facilitating the infrastructure to them. Following graph shows the tourism arrival to Nuwara Eliya

*Figure 5.32- Tourist’s arrival- Nuwara Eliya*



Source: SLTDA and Municipal Council, Nuwara Eliya

# CHAPTER 06

## THE PLAN



## **6. The Plan**

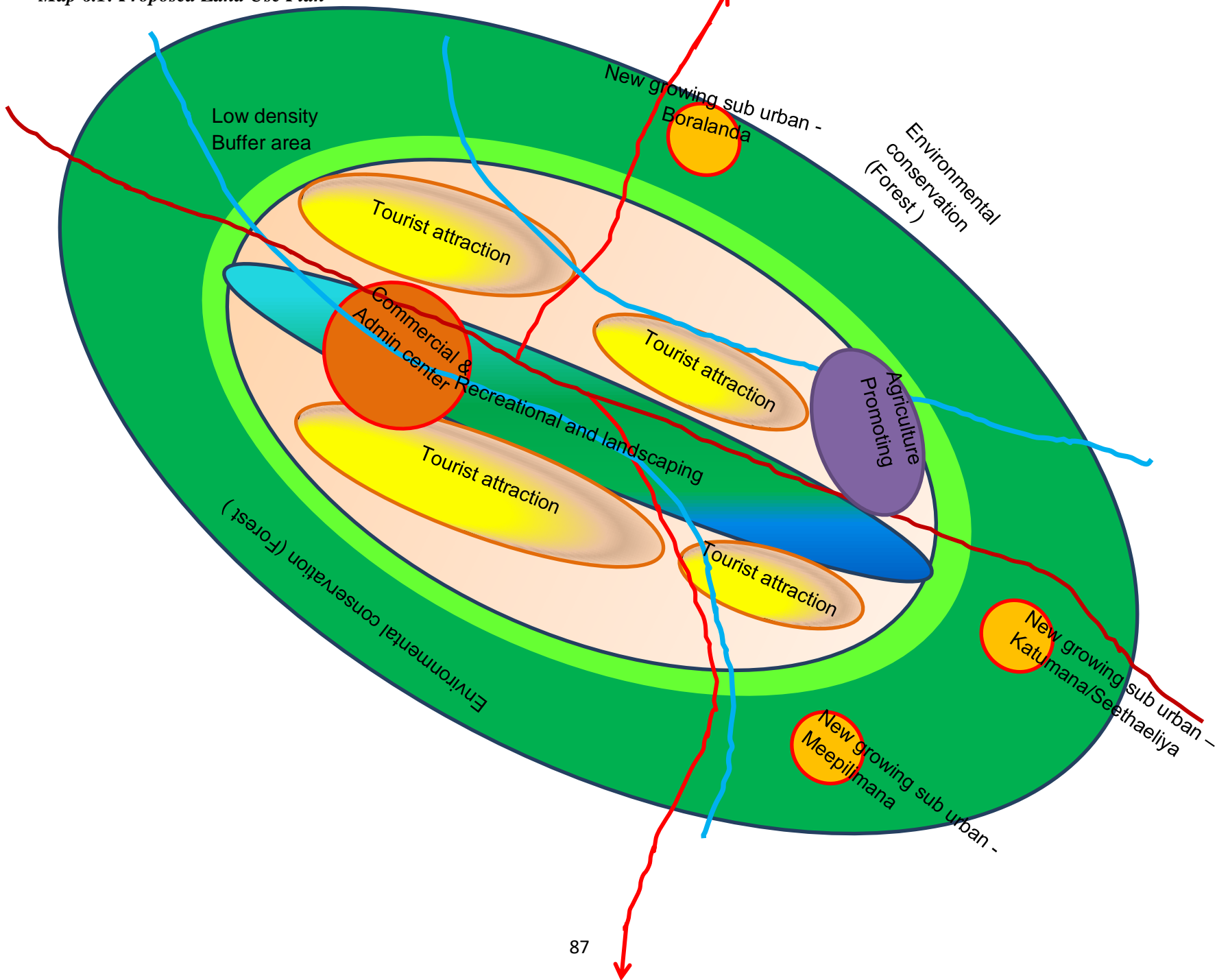
### **6.1. Concept Plan**

#### **6.1.1. Introduction**

The concept plan mainly focuses on preserve the natural sensitive environment, protect the forest cover around the mountain range and protect natural water body system

The natural mountain ranges of Kikiliyamanna, Single Tree, Magastota, Lover's Leap, Piduruthalagala, Seethaeliya which situate around the area supposes to preserve as green natural zone with making clean water body network of Nanu Oya Stream, Barrak Plain. Thalagala Oya and other sub streams. Also, expect to create entertainment zones and tourism zones for the people who live in the area as well as tourists by achieving sustainable development via enhancing quality of sensitive environment of the area. At the same time, supposed to provide infrastructure facilities related to socio- economic, commercial by centralizing the town area to all city users and hope to improve mix residential uses with humanizing unique upcountry cultivation in same manner associated in the surrounding town centers like Hawaeliya, Bambarakele, Miipilimana, Katumanna. Specially the cultivation pattern is hope to make as balanced ecofriendly environment system by practicing good agriculture practices via reducing harmful activities to the environment.

Map 6.1: Proposed Land Use Plan



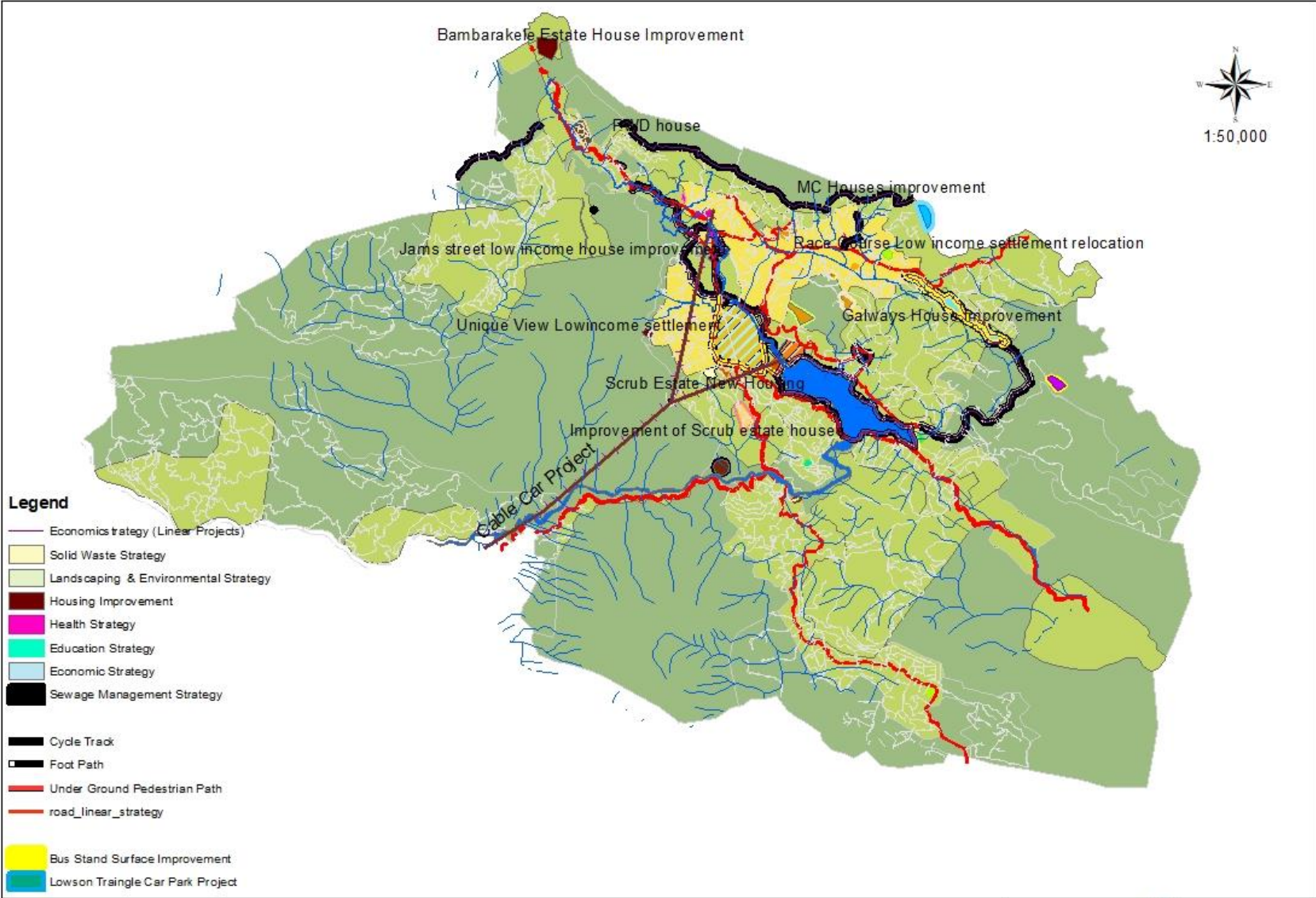
## 6.2 Proposed Land Use Plan

The city of Nuwara Eliya and its surroundings are prominent as best tourism destination with highest tourists' attraction due to the geographic situation, environment sensitivity as well as amazing and precious natural environmental features which can't be comparable with other areas. Other than that, upcountry vegetable cultivation and tea estates can be seen most parts within Nuwara Eliya as the salubrious climatic condition which is high valued assets of the area. When considering the above facts, Nuwara Eliya based on the economy with foremost upcountry cultivation as well as tea plus tourism industry and the most prominent factor is environmental equilibrium that essential to every factors.

The plan expects to achieve future goals and objectives through sustainable ecofriendly development accordingly the vision of *"THE PARADISE OF MISTY HILL"*.

Also the plan identified the development strategies and projects for facilitating maximum level of tourism infrastructure with entertaining and especially identifying tourist's attraction places with the objective of protecting and preserving the natural environment, water bodies and its related important places. In addition to that, proposed land use plan identified bringing the economic development through improving the services and infrastructure related to agriculture and tourism sector for the local people and then make a way to earn more profit from those industries. Zoning, strategies and projects as well as regulations has been identified through the plan

Map 6.2: Proposed Land Use Plan



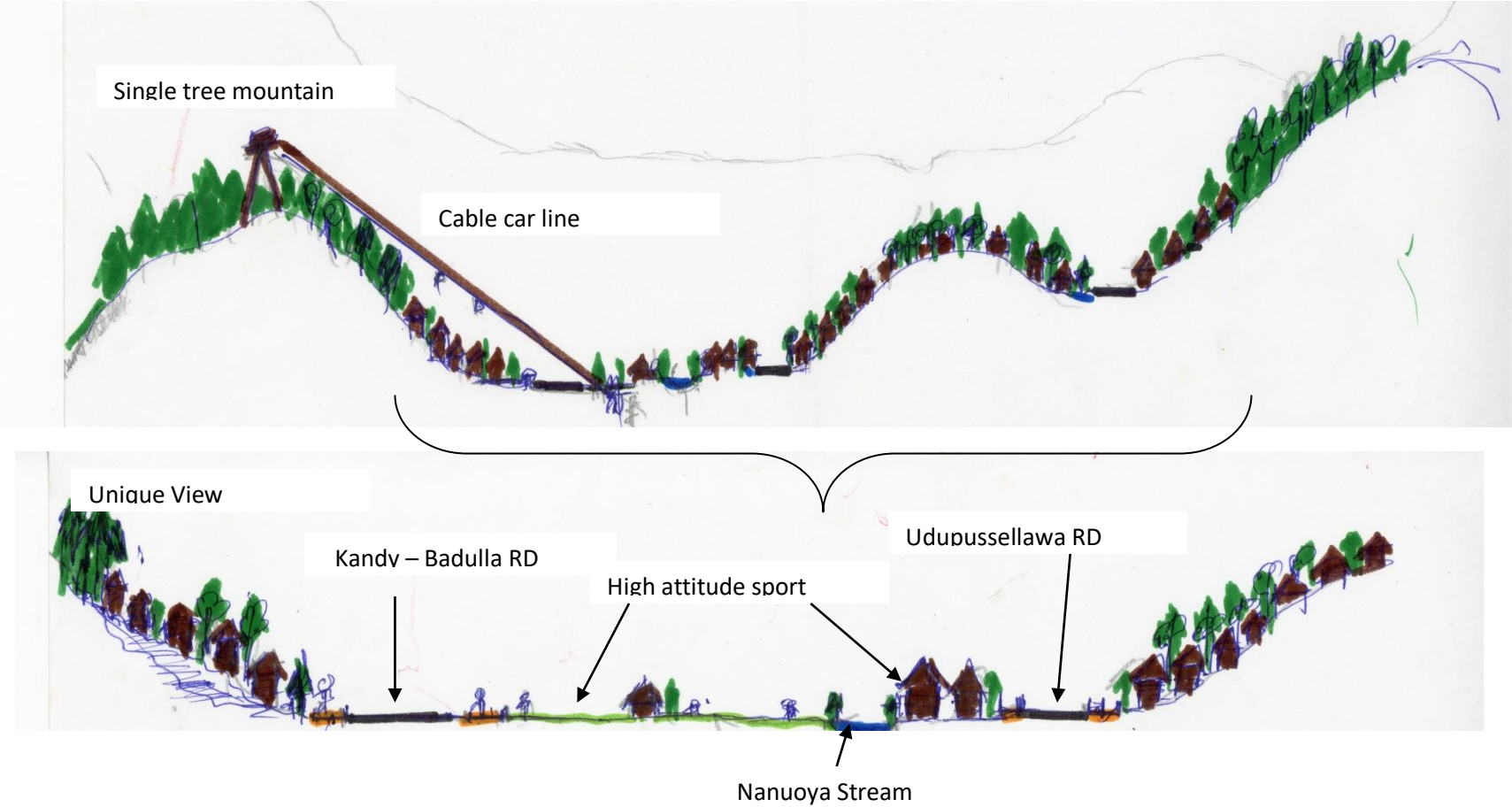
**Proposed Land Use Map  
Greater Nuwara Eliya**

Urban Development Authority  
Nuwara Eliya  
October 2018

Nuwara Eliya Urban Development Plan (2019-2030)

Prepared By: Nilantha/ Madushani

Cross section from Race course ground



## 6.3. Economic Development Strategies

### 6.3.1. Introduction

Tourism industry, upcountry vegetable cultivation and tea cultivation are the main income generation economic activities within the greater Nuwaraeliya development area. It is highlighted feature that the tourism industry is comprises of both local and foreign tourists. There are 147,470 foreign tourists and 1,400,000 local tourists arrive to Nuwaraeliya annually. 6% of foreign tourists arrived to Nuwaraeliya out of total immigrated foreign tourists to Sri Lanka.

6300 million rupees income generated by foreign tourists arrived to Nuwaraeliya. Its percentage is 1% of total tourism industry income. 5500 million rupees of income absorb to the Nuwaraeliya area from the local tourists visit to the town annually.

There are 180 hotels and guest houses within the Nuwaraeliya area based on the tourism industry and there are 1500 number of rooms in that accommodations. Certain number of direct and indirect employees were engaged in this sector. Mainly tourist guides, entertainment service employers in related to the industry in the generated employment in this sector. In the total number of employees engaged in the Nuwaraeliya area, most of employee are in the tourism related entertainment services, tourist guides to be a main service in this employment generation sector.

One of the main expected goal to achieve by this development plan in the year of 2030, is increases the foreign tourist up to 10% that's 65,000 number and local tourist up to 4 million and also expected staying nights in this town increase up to 2 nights to 4 nights by this development plan.

In between 125 – 150 tons of vegetable transports daily done in the town to other areas of the island. Vegetable cultivation is doing in 897 hectares of lands within the greater Nuwaraeliya development area. By this vegetable cultivation earned income is about 4200 million rupees. And also 5000 million of rupees income is flowing to the foreign countries through this dedicated economic centers. This amount is 23% of value compare to the total vegetable income in upcountry vegetable earning.

And also tea cultivation contribute to the Srilanka economy is certain extent and it assist to the development the tourism industry as well. Cultivated tea land extent in greater Nuwaraeliya development plan area is about 1332 hectares and it is 23% of the total land extent in the district. Estate workers 2550 are engaged in this tea cultivation within the area. Annually 250 million of income generated by the tea cultivation within the area and it is 0.01% in the total tea cultivation income in Srilanka.

In addition to that livestock management and flower cultivation also income generated sectors within the area. Reported number of 54 livestock farmers are in the area and their annually earned income is about 65 million rupees. There are 270 endemic flower cultivators are reported and also flowers were planted generally in all the home gardens within the area.



Annually earned income from the flower cultivation is about 6 million rupees within the area and main areas of flower cultivation within the area are Shanthipura, Loversleap, Meepilimana and Borlanda the areas are to be highlighted.

It is identified that the main income generated way as tourism sector in the greater Nuwaraeliya development area as it is a priority income earning sector at present in Nuwaraeliya. In related strategies to that are the targets to achieve the expected “vibrant economy” in the development planning area. And also through high tourism attraction, it is expected to achieve aims up to 10% tourist arrivals from the immigration tourists to srilanka and expected staying nights up to 4 nights.

### **6.3.2. Strategies**

#### **01. Strategies for facility development of tourism and develop the tourism attraction locations.**

From these strategies it is expected to develop tourism sector as it is the main source of the Nuwaraeliya town economy, in the year of 2030, expected daily tourist arrivals will be 25,000 and its highest target will be up about 50,000 tourists. It is essential factor that is in tourism sector development and to achieve targets for “vibrant economy”. Also it is expected to achieve and completed that Nuwaraeliya foreign tourists arrivals up to 12% out of the total Srilanka foreign tourist arrivals and staying tourists’ nights up to 4 nights from present as they are in at 2 staying nights.

According to that it is expected to make the lake Gregory surrounding environment zone as completed tourism zone through increasing the tourism activities. Theme park construction at the upper lake area, pedestrian and cycle paths development around the lake Gregory, construction of running ways for motor bicycles and motor cars, construction of tourist facility centers, as a sustainable development system. Construction of connecting foot paths and cycling ways from town center commercial area to entertainment zone at lake Gregory as a sustainable development system, introducing multi activity projects to the local tourists who are in around the lake Gregory surrounding area zone and it will be more time to stay there and also it is expected spread tourists arrival in all 12 months of the year.

It is fulfilling the aim of 12% increase of tourist arrival to Nuwaraeliya by making the new attractive zone for tourist in the urban area. Introduced the new entertainment activities with more attractive large medium and small scale projects within said zoning areas. Accordingly Race course ground will be a high altitude sports and athletic training center in the south Asia will be open next 3 years of time, and it is a fortunate opportunity to athletics to training sports in this town. It is another trend of tourist attraction to the town and it will increases the tourists at about 15,000 annually. Hence it will make tourists arrivals up to 1% by this strategy. Further it is expected that the cable car project to construct for tourist attraction at the starting point of old railway station to town center location of lovers leap waterfall crossing single tree mountain range and Gregory lake zone.

Indigenous medicine Ayurvedic spa and eco - tourism center to start targeting tourists is other main project in the development plan. It is helpful to attraction of excess tourists to the town by construction ayurvedic massage and clinical center to local and foreign tourists as presently many tourists are like highly for this type of services.

Mountain climbing and hiking are the other activities for tourist attraction and accordingly make the activities related to the mountain climbing associated with Kikiliyamana and Loversleap Mountains. Introduction of walkways at the edge of the forest boundary, it is proposed to build viewing points at the mountain peaks of Shanthipura and Single tree. Through the above activities improvements, it is expects more tourists attraction and up the staying nights in the town.

Barrackplain reservoir make as a Gregory lake entertainment zone and connecting these two zones through footpaths, walkways and foot cycle ways will be helpful to improve the tourism activities. Construction of tourists targeting open restaurant in the town center, flower exhibition will make with the candle forming images within the Victoria Park, creating a facility supply zone for Indian tourist associated with the Seetha Hindu temple kovil at Seethaeliya area can expect infrastructure development. Through the relaxation of the regulation, allow opportunity for entertainment like keroki and night club massage center where the animal loitering location at Unique view area. From those activities it will make the long time staying period for tourists by constructing bicycle tracking ways and pedestrian walkways in the town center near at Dharmapala circular road and Grand hotel road, and it will be a reason to develop the tourism activities.

## **02. Tourism infrastructure facilities development**

Identified tourism industry as a main base of the town economy through this greater Nuwraeliya development plan, and identified other services related to development associated infrastructure facilities also directly and indirectly contribute to tourism industry development. Accordingly identified infrastructure strategies for road storm water drainage and sewerage system also directly contribute to the tourism industry development. Especially, through making drinking water quality improvement will be resulted finally it will be a change of the belief of tourists regarding supplied drinking water, and that fact will be a reason for good services supply for tourists and increase arrivals to the area.

Creating centralized sewerage system will be a reason to preserving of environment and it avoided the water system pollution. It is again will be a reason to tourists' industry progress and economic development in indirect way. As such creating high density tourism zone through the zoning regulation giving priority tasks that targeting tourism industry, it will be a progress in tourism sector.

Through landscape strategy development will make scenic beauty increasing and it will be further enhance the tourism attraction. Introduced the development strategies

and regulations through this development plan to preserve environment. Those strategies indirectly impact to economic development.

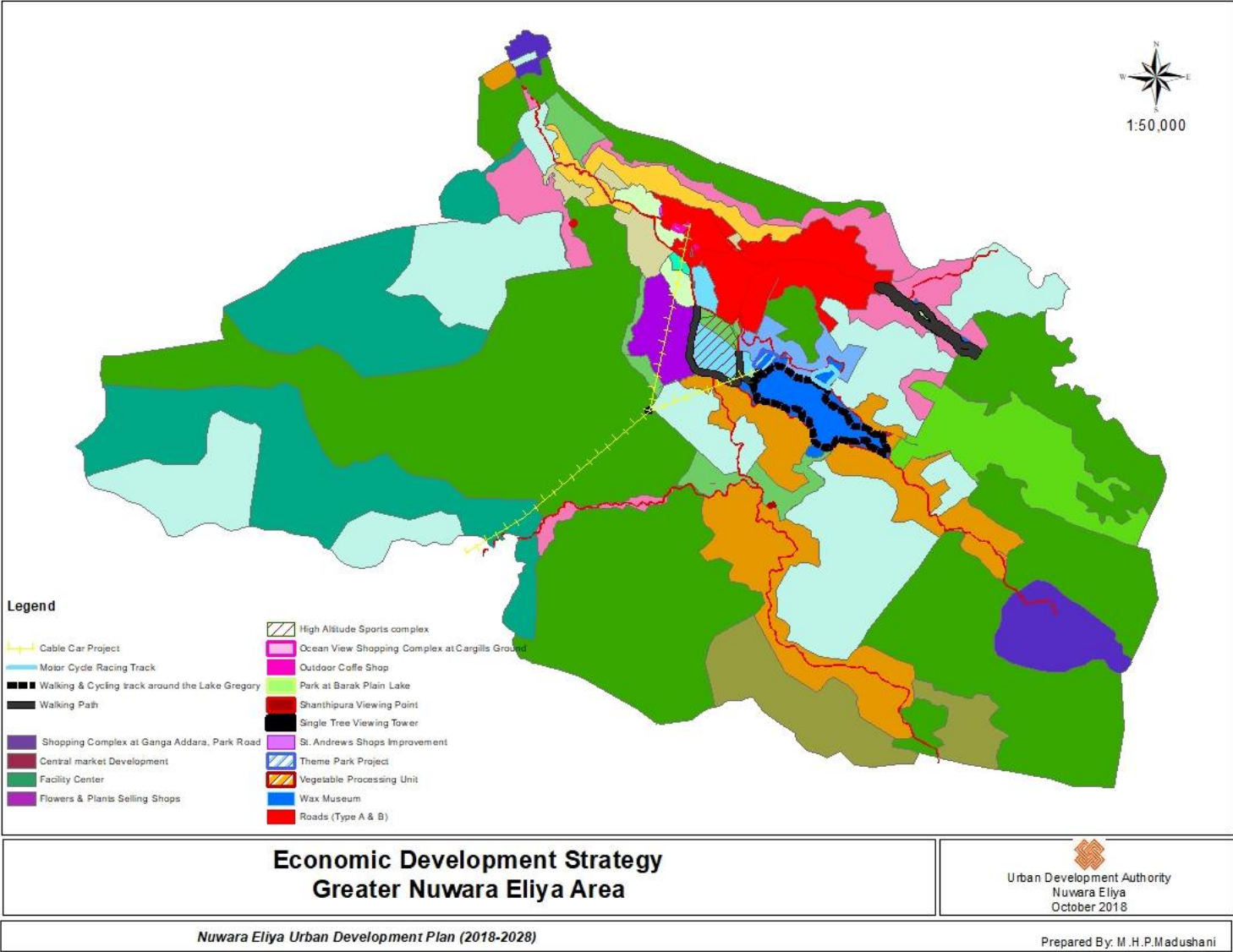
### **03. Strengthen the economy through the upcountry vegetable cultivation.**

From this development plan, it is expected to continue the upcountry vegetable cultivation as it is in the present situation, and upgrades it to earn high income to the Nuwaraeliya town economy. Daily tons of 100 – 150 of quantity upcountry vegetables transport to other areas of the island from Nuwaraeliya town. However the farmers do the vegetable transport directly from the vegetable farm lands without cleaning or proper packing. There is a strategy in this development plan to make cleaning and packing service for the vegetable transportation. For that proposed to build vegetable supply center in the town. According to the zoning plan, it is expected to limit the population density in the areas of Sandathanne, Shanthipura, Meepilimana where the vegetable cultivation in currently high areas and named as vegetable cultivation zones. Through that it is expected to minimizing the plot coverage further as well and to lessen the building constructions and land subdivisions in those areas. It is expected to keep the upcountry vegetable cultivation as the same as present and connect the endemic up country vegetable cultivation in Nuwaraeliya with tourism industry and to make regulation to develop tourism industry. And allow to agro-tourism projects within these zones by making plans. For the purpose of inclination of the farmers to carbonic vegetable cultivation, it is proposed to allow to projects related to carbonic vegetable cultivation in connection with tourism industry. It is recommended in this plan to obtain the GPA certificate from the agricultural department to all the agricultural activities. Through this, farmers will be motivate to cultivate carbonic fertilizer vegetable cultivation as well as minimizing the using of high pesticides so as to make reduce the impurity of water sources. It will be reason to supply of carbonic vegetable cultivation. These strategies will make fulfilling the strategies of that are need to environment balance as well as achieve the aims need to obtain water quality recommendation for reservoirs in the greater Nuwaraeliya development area from the central environment authority.

### **04. Commercial service development.**

Especially though this service it is expected to supply commercial infrastructure facilities in the town center residing population and as well as to expected tourism population in 2030. High density mix zone in Nuwaraeliya town center and Hawaeliya sub town zone commercial constructions identified in this development plan. For the purpose of consumer facility development, it is expected to do the retail trade as well as whole sale development in the town center area. To achieve that aims it is expected to central market renovation, cargills ground associated ocean view shopping complex, st. Andrews shopping complex, park road shopping complex and open restaurant constructions, will be the development for targeting tourists. Through these developments it will get the opportunity to services supplied in the central area commercial and related office services.

Map No 6.3- Proposed Economic Development Strategies.



## **6.4.Strategies for environmental sustainability.**

### **6.4.1.Environmental Preservation Strategies.**

#### **6.4.1.1 Introduction.**

Natural eco-systems are included with highly sensitive feature are in the high altitude zone in Nuwaraeliya. Accordingly in the national physical plan in 2011 and new national physical plan in 2017 of national physical planning department, this area named as highly sensitive environmental zone in Nuwaraeliya.

The mountain ranges, water sources, eco-systems and attractive natural scenes will make high intensive in greater Nuwaraeliya area. There are water sources, water reservoirs extent of hectares 59.6 that is 1.08% cover the greater Nuwaraeliya area. Mainly Gregory Lake, Nanuoya and related tributaries, Barrackplain reservoir and related waterways, lovers leap waterfall, Glenfall waterfall, Katumana reservoir, Magasthota irrigation reservoir are the water bodies in the area. Extent of Lake Gregory in about 90 hectares while Barrackplain cover the area of 40 hectares.

There are mountain ranges among the environmental features also considered as important features within the area. Highest mountain ranges of Piduruthalagala, Kikiliyamana and Haggala are also among them. These areas are over 2500 meters over the MSL.

There are forest areas of about 1782 hectares are in percentage of 38.8% of total land area in within the greater Nuwaraeliya area. Of these forests reservations single tree, Haggala, Piduruthalagala and Bomurualla are the main forests in the area. Main two rivers of Kothmala oya and Uma oya tributaries of Mahaweli river are nature by these forest catchments.

It is further helpful factor to beautify of surrounding area tea cultivation lands in extent of 1332 hectares for scenic areas of Nuwaraeliya further, Glenfall and lovers leap waterfalls in the town area also intensify the environmental beauty. Galways national forest park in extent of 29.42 also one other significant location in the eco-system. This area was declared as natural sanctuary in 1928 and again it was declared as national park in 2006. Birds endemic to Srilanka about 20 varieties are living in this sanctuary.

It is expected to create town preserving environmental sensitive eco-system with a vision of “Misty Hill Paradise” is for all the people can satisfied. For that it is identified in that vision is to achieve target of create purity water sources through preserving sensitive eco-system. To preserve environmental sensitivity, the main aims are, protecting existing forest areas, water quality of water spring sources are to be improved, make use of GAP certificate for all agricultural areas, In view of preserving the environment.

Misty hill paradise is the vision of the development plan, and for that main targets as preserving environmental eco-system and under the purity water sources system it was identified 5 aims. Out 5 aims, 4 are the main aims are, supply of pure drinking water in the year of 2030, improve the water quality of main reservoirs and get release the environmental

encroached lands in the water sources. Existing forest percentage is keeping as it is in the present, and the preserving sensitive eco-system in the directly contribute strategy to achieve all those above aims.

Vibrant economic development and embodied construction features hereditary to Nuwaraeliya of the other targets also contribute in their strategy to fulfil above targets completely. Scenic angles and landscaping beauty of the areas open to see entering tourists to Nuwaraeliya, though the preserving the eco-system in the Nuwaraeliya area. By making environment sensitive green toward moving town and it will reason to tourist arrival increase to the town. It will indirectly help to staying nights increase up to 4 number.

#### **6.4.1.2. Strategies**

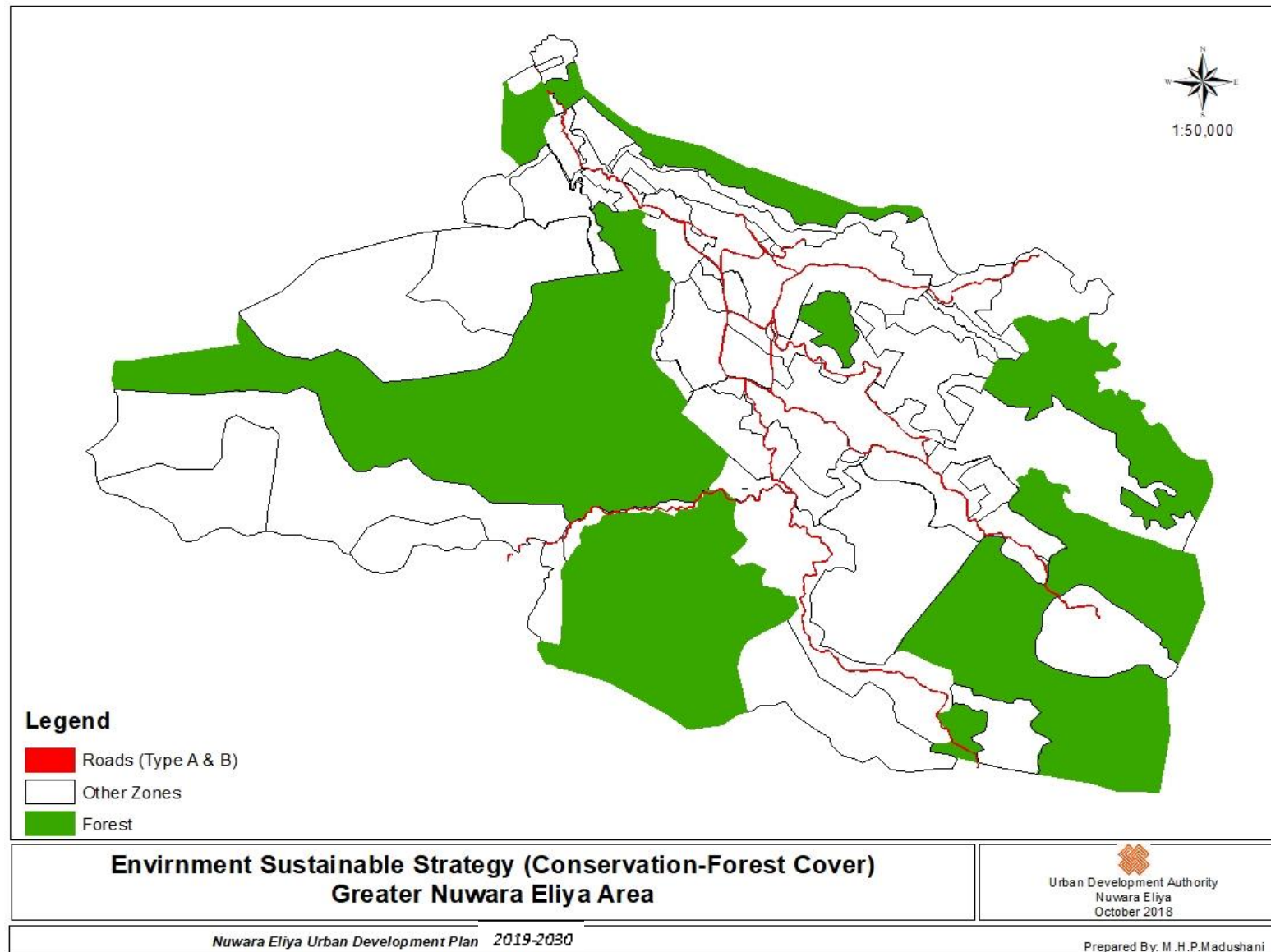
##### **1 – Sensitivity Preserved forest eco-systems.**

As the dense forest cover area reduced by 6% during the last 5 years of time, in future it is expected not to lessen the cover area below 34% of existing forest at present rather than that extent. It is confirmed that forest limit area separated and zone the area and regulation are imposed to that area not allowed to any kind of construction. To prevent the unauthorized exposing of the forest, it is proposed to make foot path along the forest limit as an obstruction method. This footpaths fulfil the people walking facility and natural environmental season feeling necessity.

Also it is name on an obstruction zone at the edge of the limit of forest area, limit the development activities within the forest area. It is expected to build 6 meters reservation from the edge limit of forest reservation. Regulation imposed to preserve those factors to help preserve existing eco-system.



Map No 6.4- Proposed Forest Eco-system.



## **2 – Reservation allocation to water sources.**

These are the activities proposed for reservation are, allocate less reservations allocation for main water ways, declared Gregory lake surrounding area as environment sensitive area and control the building construction, create boundary limits surrounding Barrackplain reservoir and construct pedestrian and cycle walk ways. It is expected from those activities to preserve water ways.

It is a new activity to avoid water contamination by human excreta and waste water is to regulations enforced to compulsory to build waste water refinery system with new building construction.

Create cluster refinery systems for existing hotels and tourist hotels, presently implementing project for control sewage system by Nuwaraeliya municipal council associated with JICA, are the two projects to helpful further preservation of environmental sensitive areas. These are identified lands for the proposed sewage system in this development plan. Regulation enforce for the reservation land covering the water sauces have to be used for cultivation under the GAP certificate.

## **3 – Water front activity.**

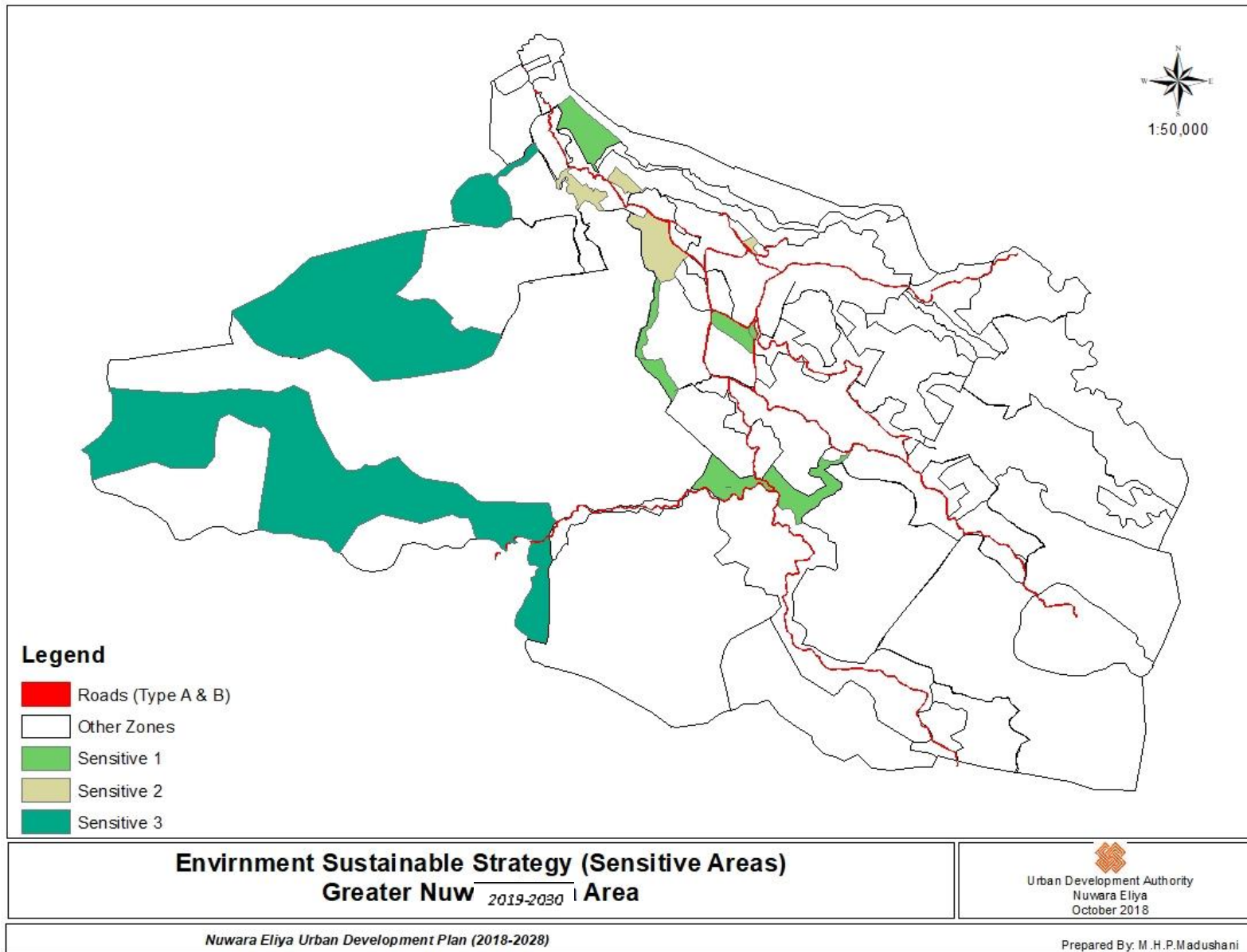
Water ways of Nanuoya ela, Barrackplain ela and excess water ways are imposed minimum reservation, through that reservation people can have opportunity to enjoy using that area as walking path way facility, from that activity it will preserve the water reservation encroachment and will keep it clean the area and minimizing water contamination.

## **4 – Enforced limitation conditions for preserve of environment sensitive areas.**

Identification of environmental sensitive areas and named as environmental sensitive zones, accordingly sensitive zones numbering as 1, 2, 3 as main strategy. Identified areas as high sensitive area through the sensitivity study to consider for their zoning limitation areas.

Near the boundary limits of Udaradella and Shanthipura, shanthipura entering road with Bambarakele steep slope, two side area of Bambarakele Nanuoya ela, st Andrews road church and its associated forest, overspill of the lake Gregory land strip along the ela up to Blackpool, near the area of Uniqueview forest, are the main areas. Strict regulation enforced in this area for construction control start forestration in this area. And they will help to improve sensitivity. And also eco-system sensitive tea lands are enforce regulation not to release for constructions will also doing this regulation imposing. Under this the identified sensitive areas are tea land associated Windiconer area, and tea land associated Bambarakele tea lands.

Map No 6.5 – Sensitive Zones



**Strategies 5 – Prevention of obstructing scenic angles and increase of green dense forest.**

In this chapter, it is expected that tourist attraction of arrived tourists to Nuwaraeliya and other people feel the taste of environmental scenic beauty and sensitivity further. Not allow the constructions obstructing the scenic plains of the surrounding area mountain ranges of the town. By this idea it is expected that at least 2/3 of the all mountain ranges sceneries to view the tourists.

All the buildings will be constructed and parallel to that at least 5 number of trees should be planted within the building land premises and also need to plant trees to cover the buildings to obstruct the view plain to the tourists. And also proposed to plant trees around the lake Gregory reservation and further it is proposed to implement all the other area road side tree planting projects for to continue to preserve sensitive environment of the town.

**Strategy 6 – Environmental friendly Agricultural uses.**

However, upcountry vegetable cultivation is identified as main income generating way in the economy of Nuwaraeliya town area, it creates impurity to the environment and the water sources is an identified problem. Hence it is proposed to lessen the using of the non-organic vegetable cultivation and also lessen the use of pesticides and farmers make inclined to organic vegetable cultivations in the extent of 200 hectares of lands in upcountry vegetable cultivation areas in Nuwaraeliya urban area. Accordingly it is recommended that all the agricultural activities should be done under the GAP certificate issued by the agricultural department.

Accordingly this strategy inter related to the strategy of solid waste disposal system of town area. And all the homestead garden should have to keep composting bin to make fertilizer.

## **6.4.2 Landscape and beautification plan.**

### **6.4.2.1. Introduction.**

It can be consider that especially landscape beauty area Nuwaraeliya got the people fame on due to its own possession of natural scenic area connected unique beauty sensitive destination. Main reason for that is greater Nuwaraelya town area as a whole is located in an environmental landscape scenic area. Especially, it is the reason for Nuwaraeliya town possess of natural environmental beauty, from the past history, this area named as natural sensitive area. When the British ruled period, after they enter the area they thought that this area should be kept preserved area and continue it a resort town. And also it is the reason that landscaped based natural eco-system to increases of tourist arrivals to this area.

Main component among the above situation are that the existing eco-system, natured water falls, open lands, golf ground, Lake Gregory around associated environmental entertainment zone. 18 hectares of forest area and about 2 hectares of open areas and play ground as well as 13.3 hectare of tea cultivation and 5 hectares of water spread areas and about 8.5 hectares of upcountry agriculturel lands are within the sensitive greater Nuwaraeliya area, intensify the landscaping beauty.

In addition to this natural eco-system, there were about 130 buildings constructed at the time of British period with Victorian architectural features as hereditary human features beauty intensify further. After sometime build Gregory Lake Park, Victoria park landscape beauty of Nuwaraeliya intensify further as well.

However endemic natural landscaping beauty of Nuwaraeliya weaken at present due to high-rise buildings constructed covering scenic beauty plain, weaken natural forests resulted not appearance of water falls and scene of water ways, impurity of water ways, mainly influenced to this situation. On behalf of the hereditary architectural features applied another architectural features make hindrance to beautification. It is seen more construction of innovative buildings substitute for natural green constructions can be seen in the past.

### **6.4.2.2.Strategies.**

#### **01.Natural landscape plains promotion.**

Promotion of natural landscape beauty idea behind this is give the first priority to the natural eco-system in the landscape development. Accordingly in future need to do the continuation of the existing natural eco-systems more than to construction of artificial landscaping.

Following locations were identified for preservation of natural forest areas and new endemic tree planting areas in Nuwaraeliya. Accordingly Bambarakele, shanthipura sensitive zone and Unique view sensitive zone, Nanuoya ela bank two sides, upper part

area of Gregory lake, front vehicle parking area of lake Gregory club, Race course ground, Udupussallawa road reservation, near the Blackpool bridge and Nanuoya ela bank two side area will be preserved as landscape areas.

01. Town center Recreational zone and landscaping.

Land plots where at Gregory lake zone in the town center in Nuwaraeliya town area, Racecourse playground, Golf course, Victoria park and president mansion, commander general's mansion, prime minister's mansion and associated lands of that premises will be used for minimum building uses preserving natural landscaping scenic beauty view plains. For that zoning and building regulations were identified for enforcement.

02. All the lands are homestead.

Except high density mix, high density tourism zones, all other zones as 50% enforced regulation high density mix and high density tourist zones 60% as homestead were enforced by regulation for flower cultivations, vegetable cultivation or landscaping activities and all homestead are planted at least 5 trees as compulsory as regulation.

03. Town beautification through water ways associated landscaping.

It is expected to achieve as a main resource of Nuwaraeliya water saucers associated landscape scenic plains protection and further promotion of that activity. Accordingly Barrackplain reservoir surrounding landscape project, two sides of Nanuoya ela banks landscaping, Katumana Lake and ela reservation landscaping, Magasthota Lake and ela associated landscaping, Magasthota lake associated area landscaping are targeted projects.

02. Town landscaping and preserve the naturally formed the structure features.

It is targeted to cover the manmade concrete formation by green covers in the town center and along the road sides. And minimize of such construction in the future. Accordingly minimize the concrete formed constructions in the near road sides and currently existing constructions of concrete wall/brick walls and drains make beautification by green covers. Hoarding for commercial publicity will enforce by regulations of standard measurements, introduced common notice boards at the entering points of the sub-roads, enforced limitation conditions for trade notice boards, enforced to that by giving standard sizes by regulations as well as fixing locational standards, enforce the regulations to use suit colour for walls and roof of the buildings. Introduced the hereditary architectural features for Nuwaraeliya by regulations. Building high controlled by enforcing regulations so as to avoid covering of scenic areas beauty view plain by constructions. Entering points of Nuwaraeliya town at Toppass, Blackpool, Katumana and



Boralanda will be beautified by making landscape with hereditary features of Nuwaraeliya.

### 6.4.3 Disaster Management Plan

#### 6.4.3.1 Introduction.

Main disaster of earth slip and water flooding can be identified within the greater Nuwaraeliya planning area and according to data of national building research organization there are 3 earth slip prone areas within the area. (Map No. )

Accordingly the areas of upper part of Uniqueview area, upper part of Bambarakele Shanthipura road, upper part of Waterfield, are the areas prone to earth slips.

When experienced torrential rain in the Nuwaraeliya town, it resulted to overflowing the water ways and inundated lowlands and associated residential areas would be effected with flooding. Following table No 6.1 shows the areas that would be effected to disasters.

*Table No 6.1- Disaster Locations*

Location	No of families	Disaster
PWD Houses	60	flooding
St. Andrews Drive	20	flooding
James Street	25	flooding
Uniqueview upper part	58	earth slip
Race course ground	54	flooding
Mahinda mawatha low land	34	flooding

#### 6.4.3.1 Strategies

##### 01. Disaster area named as less developed zones.

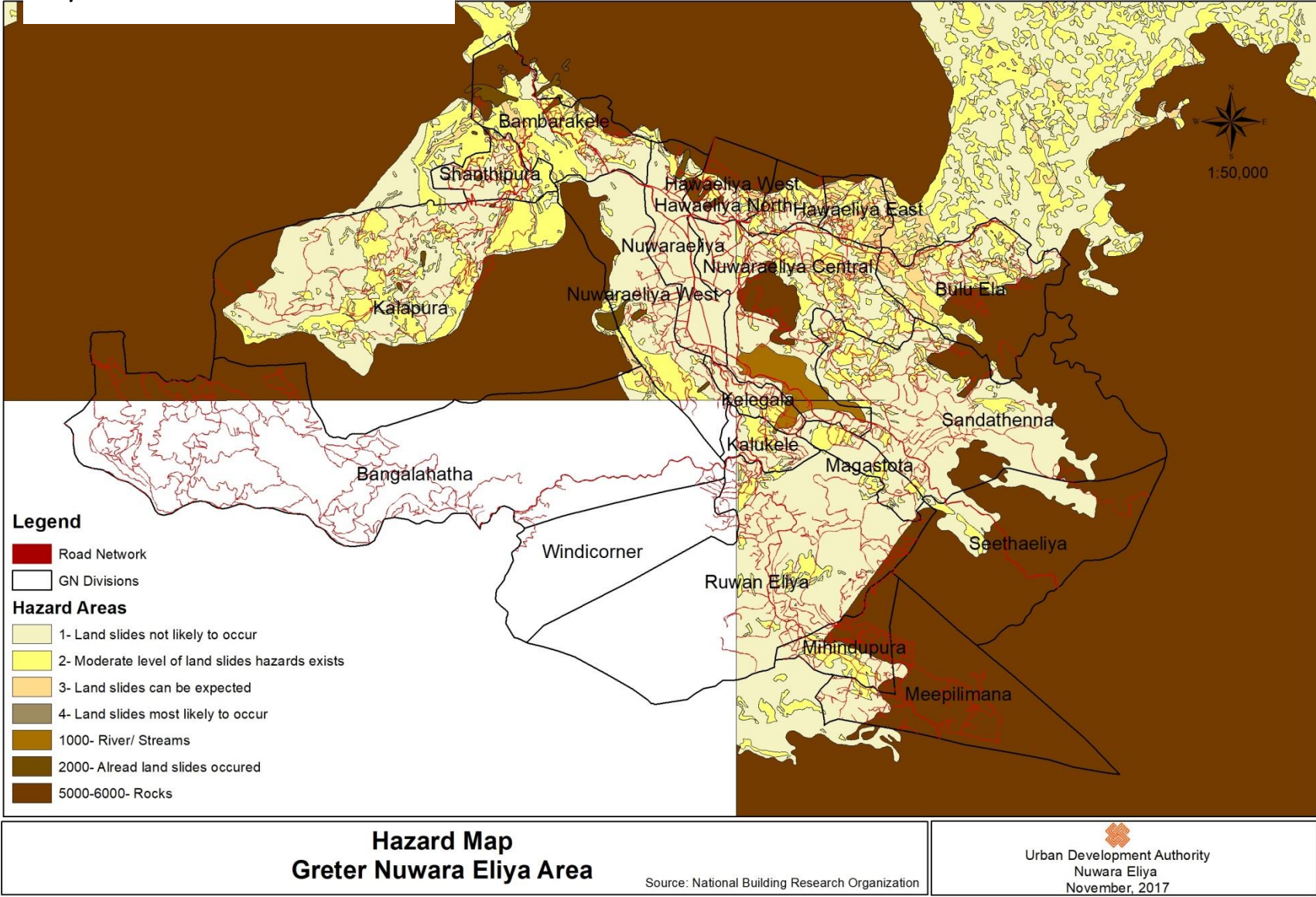
Upper area of Uniqueview, upper part of the Shanthipura in the slop area of upper part of Bambarakele named as sensitive area, upper part of Waterfield drive and adjoining part of Boralanda forest reservation named as low density housing areas, and it will be a control of development activities.

##### 02.Relocation of settled families.

(i).The High attitude sport complex project is proposed and parallely 54 families currently live in race course ground to be relocated to the Hawaeliya lands belongs to the municipal council.This families facing to flooding of Nanuoya stream..

(ii)'Under the new housing development project, it is proposed to relocate 24 families presently settled in earth slip prone unique view area to Scrub state housing project.

Map 6.6. Hazard area



**03. Removal of silt deposited in main reservoirs.**

- I. Demarcation of reservoir boundary of Barrack plain and remove deposited silt.
- II. Removal of deposited silt in Katumana reservoir.

**04. Widen the water ways that are already damaged.**

Widen the water way of Barrackplain, Water field drive, Thalagala oya and Nanuoya flows across race course area.

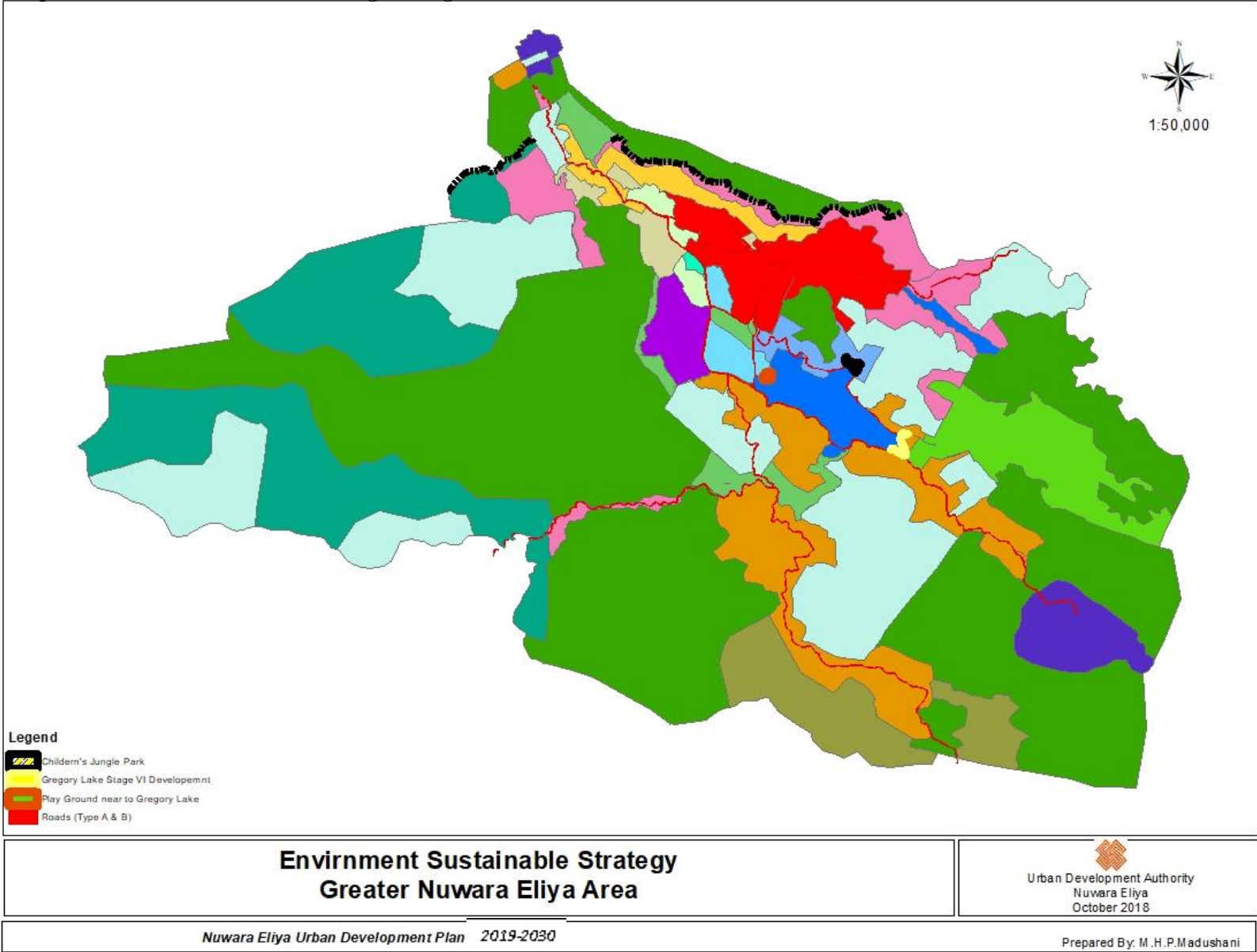
**6.4.3.2. Development plan vision make suit to the targets.**

Directly and indirectly supportive to achieve the targets of above disaster management strategies through preserving eco-system to win the vision of vibrant prosperous town center. Through minimizing the residential uses in the catchment areas of associated sensitive eco-system in the areas of water spring water sources can be avoided the impurity of that sources.

**6.4.3.3. Other connected strategies.**

Interconnected to the strategy of storm water flowing drainage system with increase up of the water volume of the reservoirs and water sources through minimizing disasters in the disaster management housing project, it is connected with the James street housing development project and unique view upper part houses relocation project. The low income family housing project for 54 families in proposed high altitude sport complex land to relocation project connected with strategies of economy development.

Map No 6.6 – Environment Preserving Strategies.



## 6.5 Social and physical infrastructure strategies

### 6.5.1. Service plan

One of the aim of this development plan is a supply the facilities and fulfill the service necessities of the connecting population as well as residential population through making sustainable development to all can be satisfied within the greater Nuwaraeliya development planning area to achieve the target of misty hill paradise.

It is targeted that the tourist arrivals for the all area is about 4.5 million in the year 2030 and its daily average is 24,000. Residential population for 2030 year will be targeted to 60,000. On the other hand the employers and employees daily travel to the town is about 40,000 in the year of 2030. (annexure 05 population forecasting ) according to that it is analyzed the needed services for the residential and migration population by the strategies. Special attention will be forecast for the need of health, education and housing for the growth population in this development plan.

#### 6.5.1 (A)Housing

Housing conditions of the greater Nuwaraeliya development area are in the lower level is a problem. Poverty level is 21.6% percentage of total population in the area and it is the reason for they are occupying substandard houses. And also low facility houses as well as there are 2328 number of houses are shanties in the area. Main slum area locations are unique view, Kelegala, Nesby state, Galways area, Mc houses, PWD houses, Police lane houses, Scrub line houses.

According to censuses and statistic department reports there are number of 224 families not have them to own houses. there are 2328 houses in the area were shanties and line houses.

it is identified that the 21.6% percent of substandard houses were targeted to reduce to 10% by the greater Nuwaraeliya development plan. Population of this area in 2016 is 49,331 and in 2017 it was 52,302. According to that growth rate it will be 60,000 population can be expected in 2030. Number of families were in 2012 was 11,008 and in 2017 it was 11,644. According to that the family size in as 4.4 can be calculated.

Having backlog in 2012 was 242 and it was 2017 is 247. Hence the population needed housed in 2030 will be 7698 and the needed houses will be 1749.

The housing backlog in 2017 was 2.1% and comparative to it 2030 will be increased. And expected to reduce 3% by development of houses and needed other quantity will be fulfilled by the housing market in the area. Accordingly needed housing backlog can be analysis shown in below.

2030 needed excess quantity of houses	1749
Obselet houses	116
2030 needed total houses	<u>1865</u>
Direct construction of houses 03%	179
2017 housing backlog	<u>247</u>
Direct construction of housing	<u>422</u>
1. Supply of direct houses	422
2. Market supply of houses	1443

### **6.5.1.(A) Strategies**

#### **1. Direct housing projects.**

Implementation of 2 middle income housing projects.

01.Scrub estate UDA land houses	80
02.Proposed middle income housing land-Hawaeliya.	
Meteorological department land houses	100

It is expected that the housing market will supply the needed facilities for the housing and develop the infrastructure facilities, through the planning and zoning regulations identified as medium density zones at Blackpool, Meepiliman, Ruwanpura, Katumana to implement by this development plan.

#### **6.5.1.(B) 2.Renovation of low income houses.**

According to the data it was identified that needed houses in 2012 was 2328(21.6%) and in 2017 it was 2533. specially in the margin zones and Nanuoya estate associated labour houses were lime houses, shanties are included to the backlog and to develop these houses proposed to through several strategies.



**Table No 6.2 – Housing renovation strategies.**

<b>A.A</b>	<b>Location</b>	<b>No of houses</b>	<b>Land ownership</b>	<b>Housing renovation strategies</b>
1	Bambarakelle PWD houses	55	National housing development authority	Renovation with private investors at the same location
2	Bambarakelle estate houses	150	Estate companies/land reclamaiton commission	construction by the instruction of UDA at the same location
3	James street	50	golf houses	Renovation with private investors at the same location
4	Lady Maccalam Drive Mc houses	400	Nuwaraeliya Municipal council	Access area and common open space develop according a plan
5	Galways land houses	60	Nuwaraeliya municipal council	Supply of infrastructure facilities develop according a plan at the same location.
	Scrub estate	300	LRC /Estate facilities	develop at the same location

**6.5.1.(A) 3 Relocation strategies****Table No 6.3- Housing construction strategies**

<b>No</b>	<b>Location</b>	<b>No of houses</b>	<b>Land ownership</b>	<b>Housing construction strategies</b>
1	Unique view housing scheme	54	Government	Aquire the 2 acres of land in scrub estate and relocation needed famillies and concomitantly renovation the scrub houses.
2	Scrub estate	100	Government	Relocation to new houses
3	Golf houses	54	Golf land municipal council	connected the relocations to altitude sport complex project.
4	Boralanda low income housing	50	Urban development authority	Invested by the owners at the same location.

### **6.5.1 (B) Education**

It is took value when compared to the primary and secondary education levels of other educational zones of the district with greater Nuwaraeliya development planning area. In the year of 2016 the national percentage of G.C.E.(O/L) examination result got through the examination in 71% percentage and it was of the G.C.E.(A/L) got through results percentage is 70%. However it was that the result percentage is the greater Nuwaraeliya development planning area 53% and 50% respectively. There are 14 schools in this educational zone and students 8600 are getting education. Out of that 30% of students daily travels for further educational purpose to other ares.

#### **6.5.1 (B) 1. Strategies**

01. There are only 5 schools have the sufficient playground out of 14 schools within the planning area and expects other 04 playgrounds to develop through this development plan. They are as follows.

- i. Hawaeliya wajiraghana school play ground to be develop properly.
- ii. Meepilimana Senananda school play ground development.
- iii. Kalukale primary school playground development.
- iv. Magasthota Madduma bandara school play ground development.

#### **02. Primary educational section development.**

Space allocation for pre schools associated projects of proposed relocation of golf houses, associated scrub new houses, MC houses, Galways land houes, Nesby estate houses.

#### **03. Tertiary educational developoment.**

There are 4 main institutions are located within the area for the tertiary educational developepment. Namely vocational training authority , National Apprentice and technical training authority, Technical collage of Nuwaraeliya and youth service council. In addition to that 2 private educational centers in the area.

New oppotunities created targettiing training caurces for tourism and agricultural related development.

- I. Start hotel school within the premises of vocational training authority.
- II. Promote flower plant cultivation in the Bambarakel primary school as agricultural livestock associated vocational training center.
- III. Start short term causes for ariculcral sector within the premises of seethaeliya seed potatoes reach institute. Causes starts for converting GAP certificate methodology and make awareness of proper agricultural methods for farmers.

### **6.5.1 (C). Health services.**

Nuwaraeliya general hospital is the main medical facility supply center for the area. And it's new hospital complex act as a extending of the hospital for the standerd of national hospital. There are 425 beds are presently use for patients and give services for No of ..... patients daily. No of doctors 105 and it's propotion to patient is ..... excess to 525 number of beds are included to the new hospital complex as well.

#### **6.5.1 (C).1. Strategies**

##### **1. Sufficient parking area facility development for new hospital complex.**

I. As emergency entering way to the hospital, develop the lady Macclam drive for doctor's vehicle and emergency service vehicles coming in to the hospital complex.

II. Road widen up to 12 meters and develop it from Udapussallawa road to hospital complex.

III. Develop the main parking area of the hospital.

Make large the waste water refinery system of the hospital and establish the incinerator for hospital solid waste within the hospital premises.

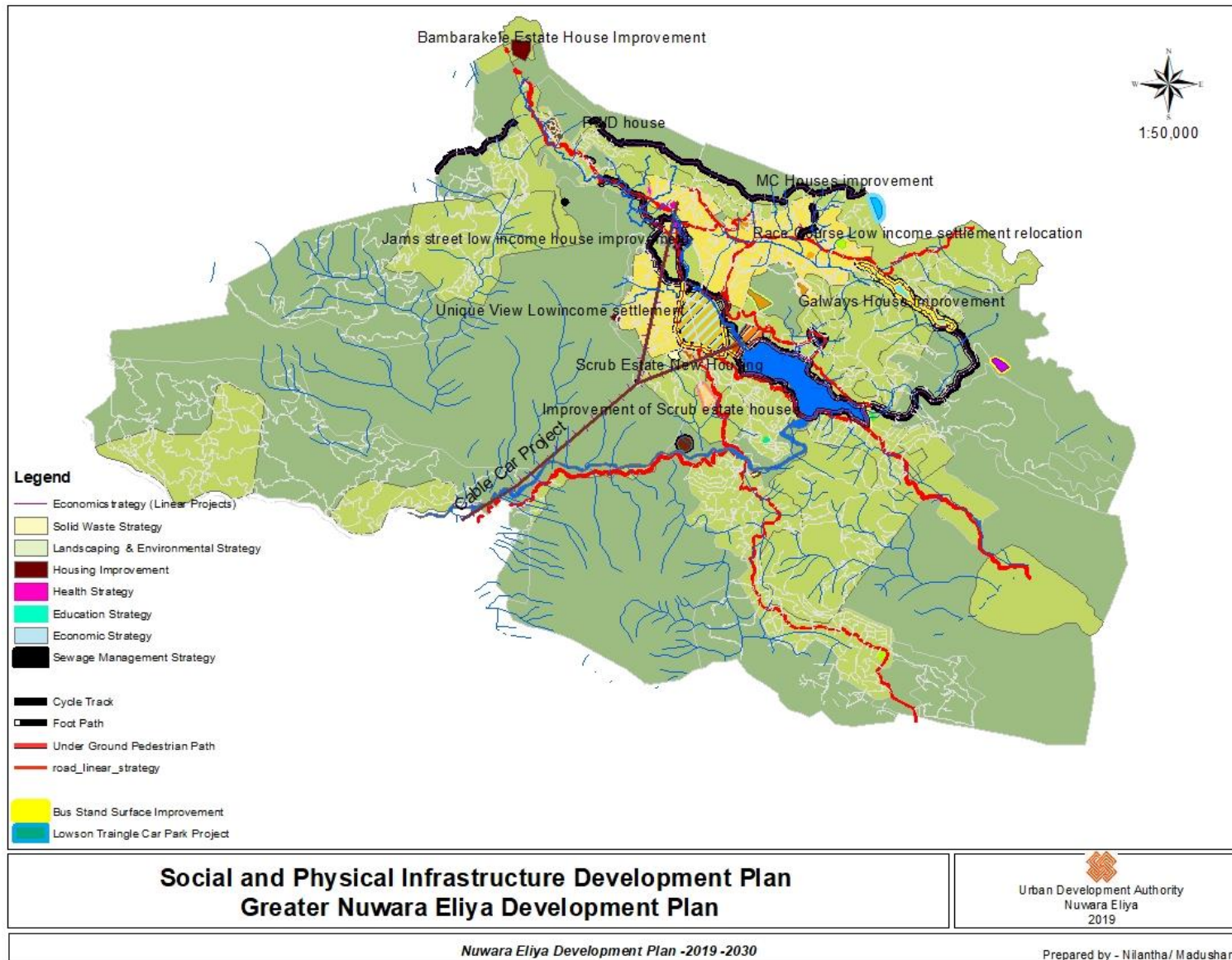
##### **2. Promotion of private hospitals.**

there is only one private hospital in the Nuwaraeliya area and it comprises 39 beds. However for the future tourism infrastructure facility promotions, it is suitable to allow the private hospital comprises of 10-20 beds within the high density mix zone.

##### **3. Indegenous Ayurvedic therapy promotions.**

It is arises the need of the Ayurvedic hospital for the tourism industry. With the tourism sector development in the area need arise to start ayurvedic hospital as a treatment center. For that make open oppotunity to private and public sector to participate and allocation of 2 area UDA land at Oaklay cottage premises can be provided.

Map No 6.6- Social and husical Infrastructure Strategies



In view of misty hill paradise, preserve the existing eco-systems and purity water sources systems and highlights hereditary features to Nuwaraeliya and vibrant town economy are the targets need to achieve the targets by the strategies through direct or indirect way.

Construction of new houses, renovation of low income substandard houses and they will be resulted to down the poverty level it will be comes to achieve vibrant economy within the environmental associated eco-system in PWD houses, Unique view houses, giving them to alternative solution and make minimize the effect harmful to the eco-system and preserve eco-system and make purity of water sources and can be fulfill the targets.

Meanwhile the 21% of shanties and low income housing percentage 10% to reduce and through by the renovation of substandard houses and uncover the scenic beauty areas and make reflecting of hereditary features of Nuwaraeliya of said facts can be fulfill the targets, it is helpful to residential attraction are the facts, living standards of residential population will up by the developing playground development and primary school development through achieve vibrant prosperous economy to increase housing demand through upgrade living standards.

Under the tertiary education development make training in the field of tourism and agriculture to services supply for 24,000 number of daily arrival of tourists by human resources training programme through that it can be achieved the target of vibrant prosperous town. People can train to proper agricultural uses, and through that can be achieved to the target of preserving eco-system.

Through the promotion of hospital vehicle parking under the health service, may help to health development of health service getting people, and it will achieve the target of vibrant prosperous economy.

Through the private hospital promotion and ayurvedic hospital construction may help to tourist arrivals and it can be achieved the target of the vibrant prosperous town.

## **6.5.2 Transportation**

### **6.5.2.1. Introduction**

Nuwaraeliya town is a tourist center and as well as district administrative center. Population of the district in 2012 was about 706210 while it will be about 7012000 in 2030. Accordingly travel population for administrative and other purposes to the town is about 62000 daily. Daily average tourist arrivals will be about 24000 as well while in the year of 2016 it was about 52,500 and population will be 59,000 in the year of 2030.

Out of whole tourist population 75% percent uses the private transport system and the community population 50% of the people travel by passenger transport services.

### **6.5.2.2. Strategies**

#### **01.Strengthen the common transport services.**

Transport services that are using by the people strengthen and proposed to more passengers to travel by common transport services.

(A) Create transport service for the passengers who travel to Nuwaraeliya from Nanuooya railway station as connecting transport service with trains. though this service it is expected more passengers arrivals to Nuwaraeliya.

(B) To making the Nanuooya railway station as a center, and from that point to town center, Gregory lake park, and tourist targetted cable car project transport services connect for tourists.

(C) Second stage of the nuwaraeliya bus stand development implementation and bus stand space management will be done properly.

(D) Waiting bus stand is proposed to develop at the Udapussallawa road, and by the sides of upper lake road and Gregory lake park can use for parking.

#### **02 Sustainable transport system for internal town centers..**

(A) town associated center area and Gregory lake entertainment zone, high density tourist zone and high density commercial zone connecting pedestrian and bycical transport system. Through this system Gregory lake associated zone to Nanuooya ela reservation and also ela reservation up to Peradeniya Badulla A5 road and along the Udapussallawa road pedestrian and bycical road ways construction.



(B) Construction of pedestrian path ways along the grand hotel road, new kandy road and park road, lady maccalam drive road, Unique view roaad.

(C) Town service transport system will implement when the more tourists arrival high time in the April season by this it can be minimize the vehical conjesion in the town.

(D) When in the pedestrian crowd are high time, to minimize the conjested problems, it is proposed to build under ground bridges at in front of Loson squire and it extent up to proposed market building and other one is proposed build at in front of bus stand for the pedestrian using telecom pathway.

(E) Construction of pedestrian network starting from unique view road junction to connecting grand hotel road via Glenfall road paralleled to Badulla road.

(F) proposed to build pedestrian pathway from right bank of Nuwaraeliya and associated area of park road pedestrian to use.

### **03.Covered pedestrian pathways.**

(a) Town center Queen Elizebeth road, New Kandy road, Udapussallawa road, Court road, park road, Lawson street of all the pedestrian path ways proposed to build with covering roots.

### **04.Minimize the traffic congestion in town center**

Weekend vacation and specially in the summer season when the tourists arrivals are high town center roads block with traffic congestion(Map No ) the Peradeniya – Badulla main road can be highlighted. Traffic congested other roads are unique view road Glenfall road that were the many tourists hotels located, Haddon hill road, Upper lake road, Gemunupura road and baker’s farm road. To minimize the traffic congestion on the above road need to widen those roads with facilitating pedestrian pathways.

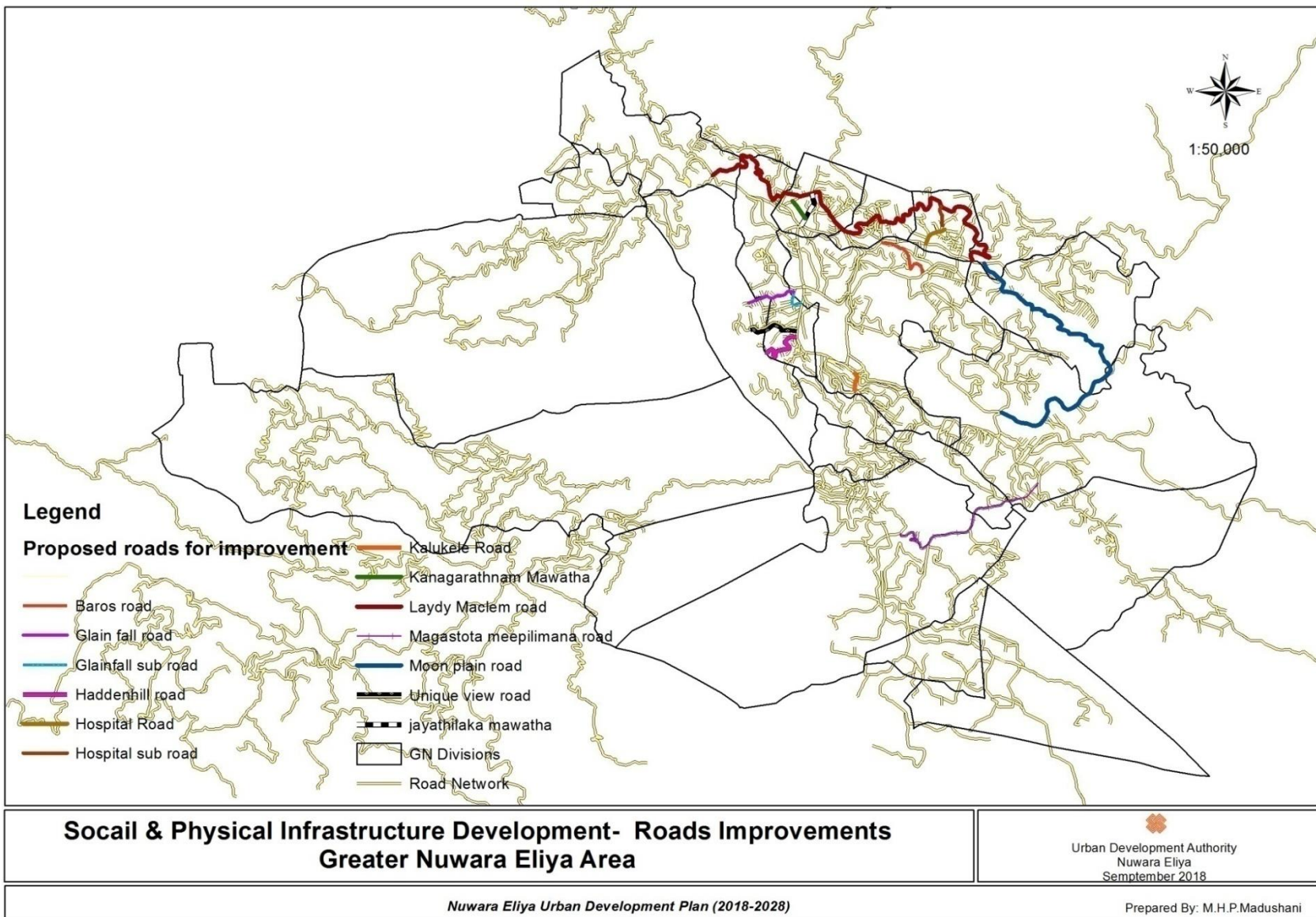
Accordingly below mentioned roads proposed to widen at least 9 m width from the place of spot location number.

**Table No 6.4- Road development projects**

No	Road	Spot location		
		Index No	latitude	longitude
a	Unique view road	1	6.963183°	80.766802°
		2	6.963303°	80.762125°
b	Glenfall road	1	6.967167°	80.766553°
		2	6.966035°	80.762083°
c	Haddonhill road	1	6.962537°	80.766718°
		2	6.961483°	80.763590°
d	Lady maccalm road	1	6.970334°	80.784507°
		2	6.973198°	80.771879°
		3	6.977272°	80.768346°
		4	6.976908°	80.767072°
		5	6.977326°	80.765488°
		6	6.976876°	80.765215°
		7	6.976525°	80.764472°
e	Upper lake road	1	6.966681°	80.772169°
		2	6.952154°	80.787155°
f	Magasthota – Blackpool road	1	6.947405°	80.791090°
		2	6.945892°	80.789567°
		3	6.942315°	80.777272°
g	Sandathenna road	1	6.954727°	80.787399°
		2	6.970076°	80.785663°
h	Baros road	1	6.972220°	80.775379°
		2	6.968925°	80.779421°
i	Jayathilake mawatha	1	6.973944°	80.767163°
		2	6.977217°	80.768351°
j	Kanakarathnem road	1	6.974697°	80.767670°
		2	6.976469°	80.766378°
k	Glenfall sub road	1	6.965870°	80.767262°
		2	6.967150°	80.766555°

05.All the roads are standerds enforce to landscaping beauty and pedestrian crossing accordingly in future road development shoud done with at least 1 m width pedestrian pathways in to the sides at least 0.5 m width land strip for tree planting or endemic flower planting, and paralleled to the road land should allocate for service suppling multi service duck. Above land allocation should compulsory according to regulations.

Map No6.7- Road Development Projects



### **6.5.3 Drinking water supply**

#### **6.5.3.1. Introduction**

Water supply distribution is done by the Nuwaraeliya municipal council within the limit of municipal council area. 35,000 of citizens out of total population within town limits are consumed municipal council water supply and there were 6977 commercial and residential water connections. Water connection categories are residential units 3950, commercial units 411 not residential units 950 and institutional and other units 245. Needed daily water volume is 4500 cu.m. and it's percentages are 72% residential, 18% commercial and tourism, and 10% for public and private institution are distributed.

All the water supply system are feed by 9 spring water saucers of within water catchment forest areas. Water storage tanks 15 in the area divided 7 distribution zones to covers all the municipal areas. Excess water supply needed for dry season will be supplied by 9 tube wells. Water volume supplied in the dry season by the water spring saucers are limited to 3500 cu.m. and the excess water supply by the tube wells are 1000 cu.m.

Out of all consumed water supply 70% is used in the Haddon hill zone and the main spring water sources are Pedrew estate and Toppas spring sources. Commercial, residential and tourism zones are covered by 5 main water storage tanks.

Hawaeliya Mahinda Mawatha around hospital area cover by the lovers leap and lower area zones daily supplied water volume is for the tank is 1750 cu.m. Main residential area with high density zone and location of the main hospital is in this zone is supplied water from this water catchment area.

Supplied water volume to this zone reduce down to 900 cu.m. in the dry zone during the January – April time was supplied water from H1,H2,H3,H4 tube wells and distributed.

However other dry season from December to April time also got down the water volume daily to 3500 cu.m. due to decreases water in the water sources. And water demand going up to 5500 cu.m. daily. Reason for this is increases of tourism arrival in this grama niladari division of Ruwanpura, Meepilimana, Katumana, Blackpool and Shanthipura area are water distribution is done by the separate divisional and rural water supply projects within the Nuwaraeliya pradeeshiya sabha. For that there is no proper mediation by the Nuwaraeliya pradeeshiya sabha.

### 6.5.3.2. Strategies.

#### 01 . Confidential water supply.

It is the aim from this chapter is continuous water supply for the residential and tourism population within the town. It was estimated the needed water volume for a day is 9500 cu.m. for the forecasted population in 2030 of town residential population 59,000 daily tourism population 35,000 , people who coming for other purposes are 52,000 as accordingly forecast. Total population daily is the town in 2030. On the above forecasting figures in addition to daily supply water volume of 4500 cu.m. Other excess water volume needs 5000 cu.m. for 2030 as identified.

(A). Centralized water refinery center

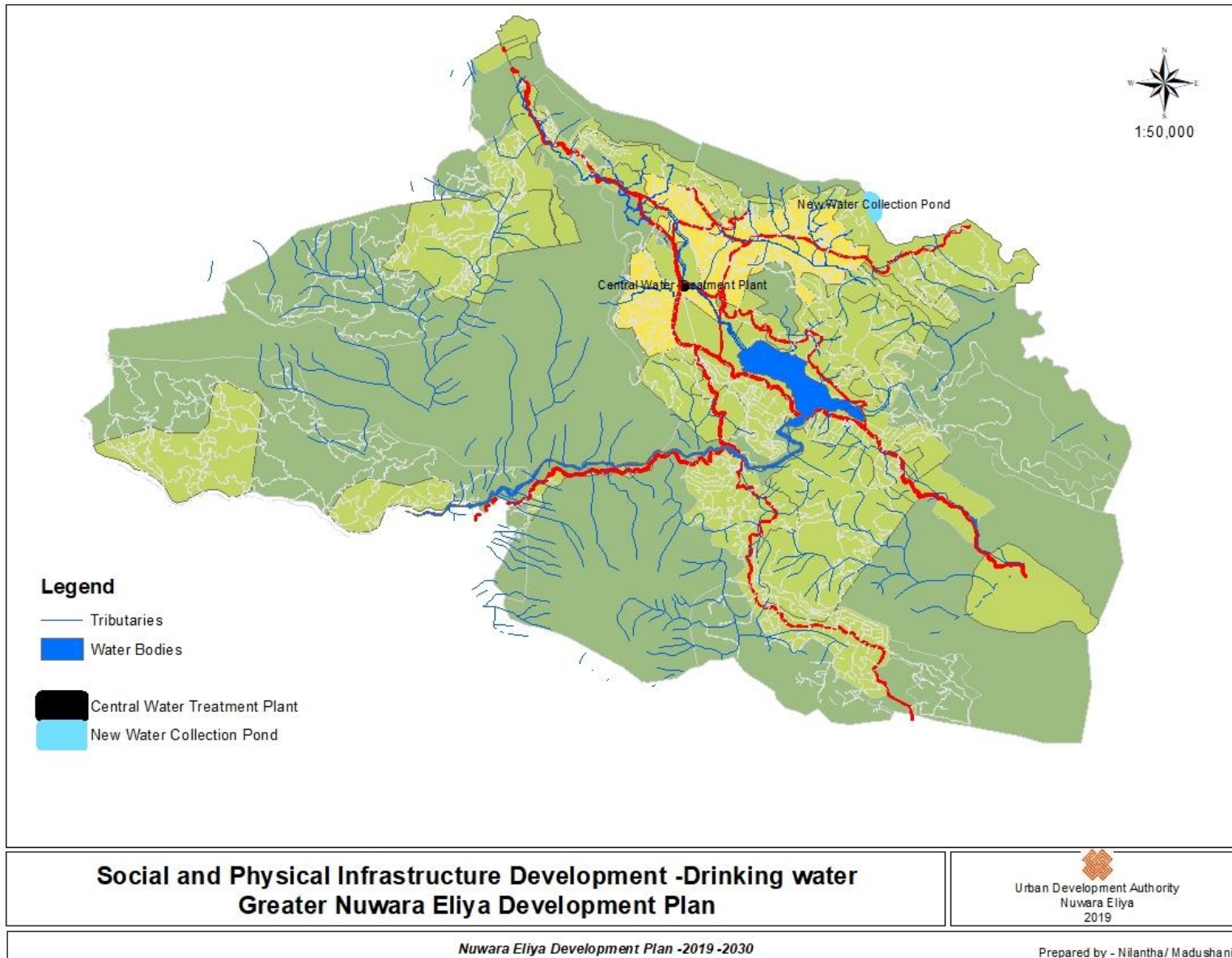
(B).Loversleaf water tank

Water collecting reservoir in proposed to build within the 7 area land in the bottom of loversleaf waterfall land owned to pedrew estate. It will be collected water volume in 15 acres of cu. feet. Main water source for that is loversleaf waterfall.

(C).Implementation of 1000 cu.m. project for residential and tourism units using water sources is Haggala forest associated with Katumana and Seethaeliya area.

(D). Implementation of water supply project capacity of water 2000 cu.m. for residential and tourism purposes for 2030. Proposed to supply water to the areas of Meepilimana and Ruwaneliya area. The project is connecting with the Municipal council Nuwaraeliya water supply system as it is institute presently doing the water supply for the said area.

Map No 6.8- Centralized Water Refinery Unit and Water Tank.



## **6.5.4 Electricity and Telecommunication facilities**

### **6.5.4.1 Introduction.**

It was reported that the population of greater Nuwaraeliya area is about 52,000 was in 2017 and it is daily average tourist for the town is extent of 7300 population. Maximum tourist arrivals reported was 50,000 in 2017. While the commuter daily travel to town for other purposes (except tourist) was 40,000 and it will be in 2030 for 60,000. The Residentail population will be 59000 in 2030 and average daily tourist will be 35000 and ita maximum will 60000 per day.

All the area within the greater Nuwaraeliya development area are supplied electricity continuously by the electricity board, the extent of electricity supply is 8156 kilo watt for the day. Excess kilo watt 1500 needed for residential, tourism and commuting population for 2030. Accordingly it can be forcasted needed electricity vome 2030 is kilo watts 9656.

When considered about telecom facility forecasting of the area, all the area coverd teelecome and other private mobile phone facilities sufficiently available in the area. However it is expected tourist arrival will be 33,000 ups for 2030 and tourist staying noights will be up to 4 nights in 2030. Due to that it is needed sametime calling facility for 100,000 subscribers within the area in the year of 2030.

Accordingly for the future tourism promotion, needed main infrastucture facilities of electricity and telecommunication would be fulfilled and it will be reason to promotion of tourism sector and can acheived the target of vibrant prosperous economy in the greater Nuwaraeliya planning area.



## 6.5.5 Storm water drainage, sewage and sewerage plan

### 6.5.5.1 Introduction.

When consider the rainfall of past 10 year period of duration in the Nuwaraeliya area, it's average annual rainfall is 2000 m.m. and in the same duration in 2010 reported rainfall was 2000 m.m. in and year of of 2010 it was 2157 m.m. in the year of 2013, reported as highest rainfalls. ( Table No 6.4) shows the figures.

*Table No 6.5 – Annual average rainfall.*

Year	Average Rainfall
2007	1675.7
2008	1587
2009	1639.9
2010	2182.3
2011	1699.6
2012	1971.1
2013	2157.9
2014	1857.7
2015	2021.2
2016	1137

Source –department of meteorology

However it is reported that the highest rainfall reported in June, July, August and September months and the highest rainfall reported in one day on 05.02.2015 as 120 m.m. Accordingly rainfall experienced area was 56.78 sq.k.m. area got highest rainfall of 6,814,000 cu.m.

However it is 50 sq.k.m. extent of area covered by forests, tea estates and agricultural lands within greater Nuwaraeliya development planning area. And adsorbs the rainfall water of 50% and half of storm water volume will flows in the area water ways to streams.

For that drainage there are about length of 23. k.m. extent of drainage streams are disapers in the area. The storm water flowing main streams are Nanuoya ela, Barrackplain ela, Thalagala oya, Waterfield ela, Glenfall ela, Katumana ela are main streams. These streams are nurtured Gregory lake, Barrack plain reservoir, Katumana lake and at last to Mahaweli river.

However water flowing drains in the town are obstructing by the waste, main water ways diposited by still near the reservoir and people enchrochment reservation of streams are identified as a problem situation in to the drainage system.

To preserving the existing system in the Greater Nuwaraelliya planning area and to achieve target of purity water sources make it avoid of all obstruction to smooth water flowing of the water ways. Hence strategies of this plan will be achieved targets by direct and indirect way.

It is needed to avoid of depositing waste water and excreta in the water sources for that need to do the separated refinery systems for each projects and to establish centralized refinery system with area cover network for waste water purification. Main target of this plan is purified water sources through preserving eco-system can be fulfilled direct way from these strategies.

### **6.5.5.2 Strategies**

#### **01.Opportunity for free and natural water flowing.**

According to the geographical situation lands are located with the angles of 10 20 degrees to 40 degree slope for proper water flowing. However the water flowing in the areas of town center associated area of Nanuoya and near the associated area of Gregory lake and Barrack plain lake associated area low lands are got unundated due to slowly water flowing. To avoid water flooding of those areas need to free flow of water ways without obstructions is main idea of this chapter. Accordingly it is expected to do the widening of water supplying main drain to Barrack plain reservoir removed of deposited silt in the reservoir water way flowing through district secretary premises and Municipal council Nuwaraeliya of their drains need widen. Associated water ways in Sandathanne will be improved. Thalagala oya, Waterfield ela and Nanuoya ela reservation remove encroachments near waterfield drive, Nanuoya widen the Nanuoya ela, remove encroachment and clear the water way. Widen the Katumana ela to waterflow freely.

#### **02.Construction of silt traps for drainage water ways.**

From this chapter it is proposed to build silt traps for minimize the silt depositing quantity within the area of Greater Nuwaraeliya development planning area. Accordingly it is proposed to build silt traps at before the connecting point of Nanuoya to Gregory lake. Two silt traps for two water ways of Barrack plain reservoir and construction of silt trap for Katumana ela are the main projects for silt trap constructions.

#### **03.Sewerage system development.**

there is no sewerage system for the town within the Municipal council area. And it was proposed for the project of centralized sewage and sewerage project for to investment for the loan agreement with Japanese aids by the Municipal Council Nuwaraeliya. Accordingly proposed to cover the high population and tourist hotel areas for the sewerage system and after the project completion by the 2030, it will help for tourism

development and the centralized purification center will be located Blackpool area GPS latitude No 6.950552 and longitude No 80.768683 point.

In the future develop tourist hotels over 5 rooms and other hotels need to established a refinery to purify the waste water. For that regulations are proposed in this development plan.

### **6.5.6 Solid waste and waste water management.**

There are 25 tons at solid waste collected by the Municipal council within the limits of Municipal council area daily, and out of its total 20 tons (80%) of solid waste were digestible solid waste and 5 tons (20%) of waste non digestible solid waste.

Pradeshiya sabha area is located out limits of Nuwaraeliya Municipal Council area and it is visible that the solid waste collection are doing by the two sides of the road and not visible that collection is doing covering the residential area within the Nuwaraeliya pradeeshiya sabha area. Nuwaraeliya municipal council owned Sandathanne sanitary land filling project use for disposal of solid waste, they are not making separation of solid waste, therefor they can't use it for longer time to use and reset 10-15 years it will enough for waste disposal uses. Further it will leave to fill the volume of 60,000 cu.m. capacity of solid waste. However this solid waste disposal locaton can be use further 30 years of time by proper solid waste management doing efficiently fruitfully. And it is identified 3 strategies through this development plan for manage it for longer period of time for solid waste disposa. Agriculture development strategies suit with this strategies directly and indirectly impact in the development of tourism industry and inter connected those strategies each other for the economic development of the town.

#### **6.5.6.1 Strategies.**

##### **01.Waste further not waste.**

It is expected that the further growth of population and immigration population growth, collection daily solid waste extent is 32 tons in 2030. Extent of solid waste volume can be reduce by the housing premises through the waste management systemfor 20 tons per day within the town limit of Nuwaraeliya. Digestable waste composting system to develop to all the medium density zone, less density zones and all the premiseses in residential and tourism zones. In this zones it is compulsory to establish the composting bin and it is imposed by the building regulations, and emporced to do the waste collection only non digestive center for estsblish to collect non digestable waste can be located in the Sandathanne waste disposal site. Accordingly motivate the householders to establish the composting bins all the residential and other premises in above all zones. In this way they are use to composting organic vegetable cultivations. Plot coverage is the above zones are

50% and balance land should use for upcountry vegetable cultivation and flower cultivation also it is allowed for landscaping.

Through this process to need collection of digestive waste and it will be reason to reduced the waste within the limit of municipal council area.

**02.Reuse of the non digestive waste.**

In the year of 2030, the estimated non digestible waste extent is 8 tons and that quality only use for the container establish in disposal project. However in future for the tourist population make awareness for non digestible waste uses need to minimize non digestible waste collection should be done by the Municipal council and reuse of polythin and plastic collection need to improve.

## 6.6 Strategies for the common open spaces.

### 6.6.1 Introduction

Common area can be divided into two categories as open and indoor and again it can be divided as active and passive. Accordingly existing open and indoor spaces can be categorized as follows.

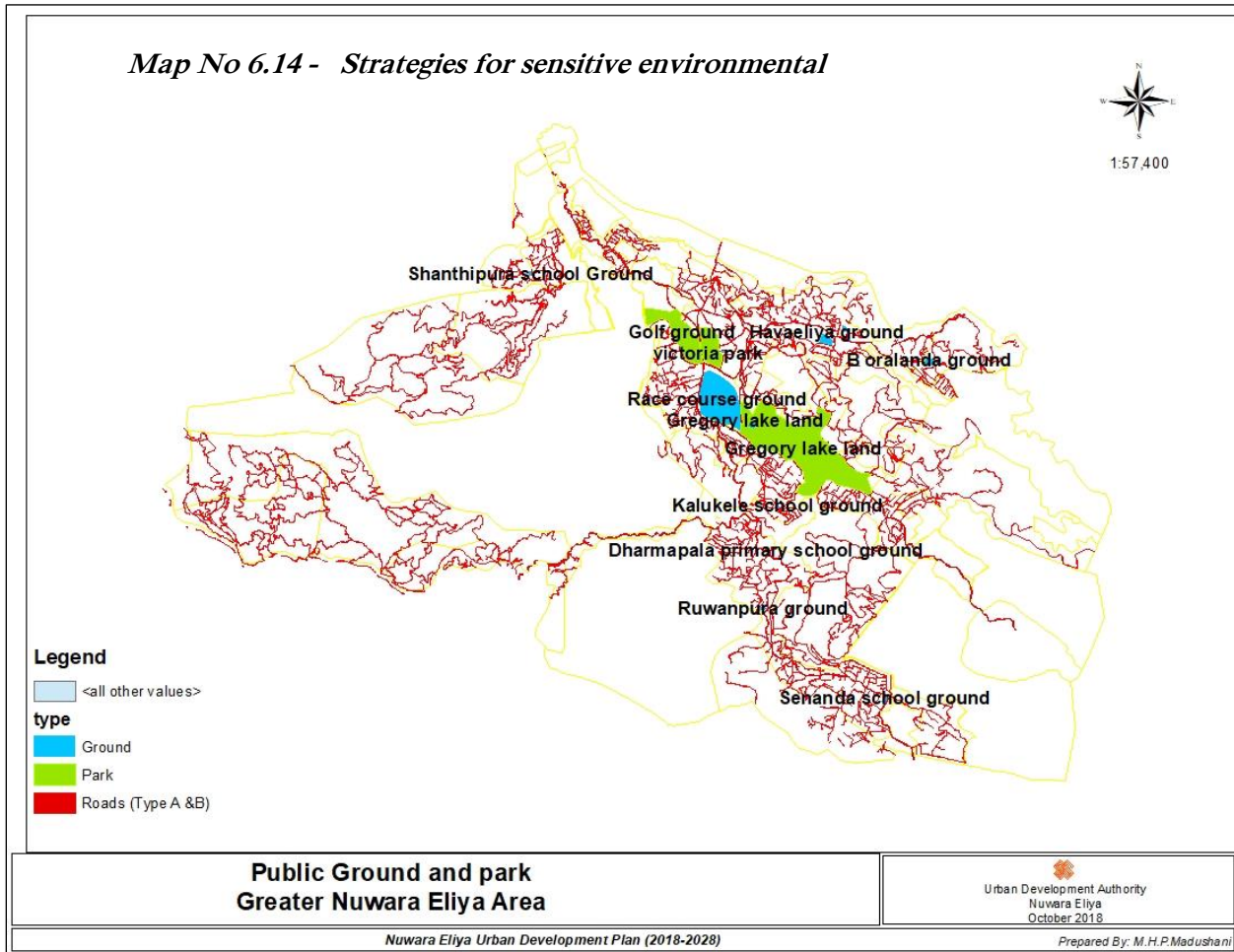
*Table No 6.6 Common open spaces*

Indoor/open	type	Location	Quantity(sq.m.)		
Indoor	active	Cenesita indoor stadium			
		Common market exercise Gymnasium (Gym)			
		Nuwaraeliya sport club			
		Nuwarealiya motor racing society.			
		Old kandy road exercise location			
	Passive	Cinecita auditorium			
		Town Library			
		Regal cinema			
		Keepilimana community hall			
Open	active	Race course ground	29		
		Gregory lake entertainment zone	88		
		victoria park	10		
		Golf ground	20		
		Hawaeliya play ground	1.6		
		Vajiragnana school playground	0.5		
		Kalukele school playground	0.2		
		Senanayake school playground	0.4		
		Dharmapala school playground	0.01		
		Shanthipura school playground	0.1		
		Boralanda Playground	1		
		Holytrinity school playground	0.1		
		Good sheperd convent school playground	0.1		
		Ruwaneliya Playground	0.5		
			Passive	Shanthipura, Piduruthalagala, Single tree view point	
				Old buildings building features shown British period Nuwaraeliya Architectural construction near 129	
				Old century constructed British period	
		Hawaeliya urban cemetery			

Source : NEMC

Accordingly open spaces and playground of 153 hectare of spread over the town area.

**Table No 6.9 – open land and playground**



In the year of 2030, population of Nuwaraeliya area is 60,000 and daily tourists arrivals 35,000, and commuting population to the town for various purposes is 52,000 Accordingly open spaces and playground needed quantites.

Residential population - 60 hectare

Tourist population - 35 hectare

Daily commuting population - 13 hectare

(It is estimated needed open space 25% is estimated as for percentage of total population to propotion)

Accordingly all land extent is 108 already existing land for open space and this extent is sufficient for next coming year.

Though the out of town area more land available and less land available in Meepilimana area.

### **6.6.2 Strategies.**

To avoid this situation below play ground development are proposed.

1. Develop the Boralanda play ground.
2. Develop the existing of vajiragnana playground.
3. Ruwaneliya playground extenting and development.
4. Meepilimana senananda school playground extenting and development.

### **6.7. Cultural and Historical locations development strategies.**

There are 129 buildings in British colonial period are in greater Nuwaraeliya development area. Architectural features of Victorian, Georgian and British type buildings were named for needed presence buildings is the town area. (Building list in Table 6.7)

Building architectural features of that buildings to be preserved and further the building features need to be promotion by applying those features to new buildings . Accordingly identified the regulations. ( Regulation No.....)

One of the aim of this development plan is to preserve the hereditary building architectural features in Nuwaraeliya.

Enforced regulations are compulsory for main road near associated identified zones.



Historical and Architectural valued buildings  
Nuwaraeliya Municipal council area - 2002

**Table No 6.7 – Preserved buildings**

Street Name		Assesment No	land extent					Not available details	Total	Age of the building (Years)		Not available details.	Total
			>10	11-20	21-30	31-40	over 41			>100	101<		
01	Queen Elizebeth road	Queen’s couottage , 44,140,02U.V.,132A,126,114,108,104,50,01,42,38	03	02	05	01	02	-	13	01	10	02	13
02	Upper lake road	39,34,43/2,71(71/1,71/2,71/3),55,(55/1),35,(35/2,35/3,35/4,37),85,(85/1),81/2	02	02	02	01	-	01	08	-	04	04	08
03	Badulla road	162,34,68,66,46,142,1/1,25,144,136/3,156	07	01	02	-	-	01	11	07	02	02	11
04	Haddonhill road	16(17),07,02,71	02	01	-	01	-	-	04	02	01	01	04
05	Wedabon road	02,05,12,14(14/1),24,09,7/5,22,13(13/1,13/2)	03	04	-	-	-	02	09	03	05	01	09
06	Church road	06,6/1,15,10,12,26,(26/1,26/2),30(30/1,)1/22,30,34/1,32	08	02	01	-	-	-	11	02	07	02	11
07	Park road	25,31(31/1)	01	01	-	-	-	-	02	02	02	-	02
08	Kandy road	340,381,395,(395/1,401/1,325/1	03	-	-	-	-	01	04	02	02	-	04
09	St. Anrew’s road	150,132/1,128,20,100,160,124	01	03	-	-	-	-	07	01	03	03	07
10	Watetrfield road	102,96,98,92,55,56,26,46,20/1	03	06	-	-	-	-	09	-	04	05	09
11	Lady macclm road	02,11,17,18,20,33,26,28(28 <sup>sp</sup> ),35,4,3/4,90/4,4/2,2/2,10,80,190,55,01,149,157	07	06	02	01	02	02	20	02	09	09	20
12	Uniqueview road	07	-	01	-	-	-	-	01	-	-	01	01

Source : Urban development authority - Nuwaraeliya

13	Lebenon road	112/11	01	-	-	-	-	-	01	-	01	-	01
14	Glenfall road	¾,1/1,25	02	01	-	-	-	-	03	-	03	-	03
15	Udappussallawa road	95,123,125,2/143* Old railway building	01	01	-	-	01	02	05	02	02	01	05
16	Mount marry road	18(24/1)	01	-	-	-	-	-	01	-	-	01	01
17	Rahula mawatha	07,06,20,	03	-	-	-	-	-	03	-	-	03	03
18	Keena road	25	01	-	-	-	-	-	01	01	-	-	01
19	Grand hotel road	17,29,76,19/10,10,21	04	02	-	-	-	-	06	02	04	-	06
20	Hill street	14,	-	-	01	-	-	-	01	-	01	-	01
21	Kanagarathnam mawatha	09,11	01	01	-	-	-	-	02	-	02	-	02
22	Old bazaar	90	-	-	-	-	01	-	01	-	-	01	01
23	Long street	05	-	-	01	-	-	-	01	01	-	-	01
24	Cross street	25	-	01	-	-	-	-	01	-	01	-	01
25	Jayathilake mawatha	24,10,20,17	01	03	-	-	-	-	04	-	04	-	04

\* Assessment No

U.V. – Unique view

Source: Urban development authority - Nuwaraeliya

## Identified street wise preserved buildings distribution.

Table No 6.8 – Road wise preserved buildings.

Name of the street		Total of the units	Plot coverage (purches)					Building Age ( years)					
			< 10	11-20	21-30	31-40	Over 41	Not defined	Over 100 years	75-99	50-74	Below 49	Not defined
01	Queen Elizebeth street	13	03	02	05	01	02	-	10	01			02
02	Upper lake road	08	02	02	02	01	-	01	04	-	-	-	04
03	Badulla road	11	07	-	03	-	-	01	03	03	03	-	02
04	Haddonhill road	04	02	01	-	01	-	-	01	-	02	-	01
05	Wedabbon raod	09	03	04	-	-	-	02	05	03	-	-	01
06	Church road	11	08	02	01	-	-	-	07	01	01	-	02
07	Park road	02	01	01	-	-	-	-	02	-		-	-
08	Kandy road	04	03	-	-	-	-	01	02	01	01	-	-
09	St. Andrew road	07	04	03	-	-	-	-	03	01	-	-	03
10	Waterfield road	09	03	06	-	-	-	-	04	-	-	-	05
11	Lady Macclam road	20	07	06	02	01	02	02	09	01	01	-	09
12	Unique view road	01	-	01	-	-	-	-	-	-	-	-	01
13	Lebanon road	01	01	-	-	-	-	-	01	-	-	-	-
14	Glenfall road	03	02	01	-	-	-	-	03	-	-	-	-
15	Udapussallawa road	05	01	01	-	-	01	02	02	01	01	-	01
16	Mount marry road	01	01	-	-	-	-	-	-	-	-	-	01
17	Rahula mawatha	03	03	-	-	-	-	-	-	-	-	-	03
18	Keena road	01	01	-	-	-	-	-	-	01	-	-	-
19	Grand hotel road	06	04	02	-	-	-	-	04	-	01	01	-
20	Hill street	01	-	-	01	-	-	-	01	-	-	-	-
21	Kanagarathnam road	02	01	-	-	-	-	-	02	-	-	-	-
22	Old Bazaar	01	-	01	-	-	01	-	-	-	-	-	01
23	Long street	01	-	-	01	-	-	-	-	-	-	-	-

24	Cross street	01	-	-	-	-	-	-	01	-	01	-	-
25	Jayathilake mawatha	04	01	03	-	-	-	-	04	-	-	-	-
<b>Total</b>		<b>129</b>	<b>58</b>	<b>37</b>	<b>15</b>	<b>04</b>	<b>06</b>	<b>09</b>	<b>68</b>	<b>13</b>	<b>11</b>	<b>01</b>	<b>36</b>

*Table No 6.7 – Preserved buildings.*

**Table No. 6.9- New Project List**

<b>Project</b>	<b>Marks</b>	<b>Priority</b>
Centralized Water Purification Centre	272.5	1
Construction of Central Market	257.3	2
Centralized Sewerage System	247.3	3
Construction of theme park at upper part of Gregory lake.	246.8	4
Construction of Loves leap reservoir	226.0	5
Construction of international high altitude sport complex.	211.4	6
Remove deposited silt from Barrackplain reservoir and Katumana reservoir.	209.0	7
Construction of an entertainment zone reservoir near Barrackplain.	192.8	8
Widen the Glenfall by pass road.	191.7	9
Widen the Barrackplain ela and remove deposited silt.	183.8	10
Widen the Unique view road.	182.8	11
Develop the hospital road as minimum width of 12meters.	181.4	12
Development of Unique view housing project.	180.8	13
Develop the drain system floors through district secretariat and Nuwaraeliya municipal council premises.	178.6	14
Development of 2 <sup>nd</sup> phase Nuwaraeliya bus stand.	178.2	15
Construction of common playground at Magasthota near Gregory lake	175.0	16
Develop the vehicle parking area of the main hospital.	172.4	17
Construction of cycle tracks and walk ways from Gregory lake zone to commercial zone for tourists.	171.7	18
Construction of walk ways for tourist at the forest boundary limit.	170.2	19
Construction of walk ways at the right side bank Nanuoya and near Park road for pedestrians.	161.9	20
Relocation of houses in proposed racecourse sport complex ground.	153.7	21
Cable car project.	150.7	22
Construction of silt trap for Nanuoya ela.	149.1	23
Bambarakele PWD housing complex.	146.9	24
Park road shopping complex.	141.8	25
Construction of pedestrian walkways near Grand hotel road, New Kandy road, Park road, Lady Maccalum road and Unique view road.	138.7	26
Construction of silt traps for Barrackplain ela.	130.3	27
Widen of refinery for waste water purification near main hospital and establish incineration for hospital waste for new hospital building.	125.5	28
Widen of Glenfall road.	122.2	29
Construction of new entrance roadway to the hospital from Lady Maccalum road.	121.7	30

Widen the streams of Thalagala oya, Waterfield ela and Nanuoya ela remove encroachments from the reservations	117.1	31
Composting project for daily digestible waste.	114.0	32
Widen of Hadden hill road.	108.5	33
Construction of Ayurvedic medicine hospital.	103.8	34
Widen of Lady Mccalum road.	103.3	35
Construction of the silt trap for Katumana ela.	95.4	36
Construction of viewpoints at the mountain peaks of Shanthipura and Single tree.	94.0	37
James street housing development project.	92.8	38
Construction of new pedestrian walk way network from Unique view road to Glenfall road connecting Grand hotel road	92.4	39
Pedestrian tunnel way in front of Losan triangle.	88.4	40
Widen of Katumana ela water way.	84.0	41
Lady Macckalum rosd Mc housing project.	81.0	42
Widen of Magasthota - Blackpool road project.	79.8	43
Ocean view shopping complex project.	78.3	44
Pedestrian walk way covering project in the town center.	77.7	45
Construction of children park near the Upper lake road.	75.1	46
Vegetable processing center.	73.4	47
Galways park housing project.	72.5	48
Scrub estate housing project.	71.3	49
Renovation of Boralanda playground.	68.3	50
Bambarakele estate housing project.	68.1	51
Widening of upper lake road.	65.8	52
Properly develop the Havaeliya wajiraghana playground.	62.6	53
Katumana Seethaeliya water project.	60.3	54
Widen and renovating Ruwaneliya playground.	58.6	55
Boralanda low income housing complex.	55.8	56
Widen of Jayathilaka Mawatha.	55.7	57
Widen of Baros road.	54.4	58
Widen of Sandathenna road.	54.4	59
Open Hotel school within the premises of Vocational Training Authority.	53.7	60
Bambarakele primary school, Floor cultivation, converted into Agriculture / Livestock development associated vocational training centre.	53.3	61

Meepilimana Senananda college plaground development.	52.9	62
Sandathenna road drain system development.	52.6	63
St. Andrews road shopping complex project.	52.4	64
Water supply project for Meepilimana and Ruwaneliya zones.	51.7	65
Middle income housing project 01.	48.7	66
Widening of Kanagarathnam road	45.7	67
Middle income housing projects 02.	45.1	68
Construction of floor plants and floor exhibition hall in Victoria park.	39.8	69
Develop the Magasthota Madduma Bandara school playground.	35.4	70
Develop the Kalukele primary school playground.	29.2	71



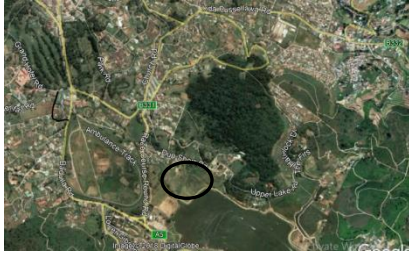
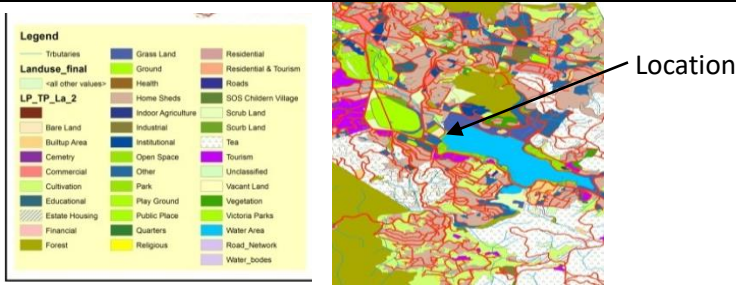
**Nuwara Eliya Glainfall Sub Road Expansion Project.**

Project title	Glainfall Sub Road Expansion Project.						
Project	Tourist’s infrastructure development						
Project proposal	This road connecting to close by Glenfall road from the Badulla road that is one of main access road to the town as a sub way. This accesses is specially road expansion project is identified to lessen the traffic congestion originated due to the large tourist crowed arrival in the summer season. This accesses road facilitate to the road way to the people who need to enter the town from Badulla road direction and enter Glenfall road via Grand hotel road and evade Anagarika Dharmapala roundabout and the town center to Kandy road and also the people who need accesses to reach to Badulla road from Kandy direction can get the access from Sampath bank to Badulla road avoiding the town center. This road also easy access to pedestrians who need to evade the town center for their destination, for that it is proposed to make pedestrians path ways parallel to the road with attractive landscaping.						
Project location							
Location	Province	Central		District	Nuwaraeliya		
	Divisional Secretariat	Nuwaraeliya		Local authority	Nuwaraeliya M.C.		
Boundaries	North	East		South	West		
Access	Badulla road						
Location map							
Adjoining land usage (Details with map)							
Project arrangement							
Project type	New		Improvement	√	Extenti on		Land development

								only	
Project type	Preservation	Commercial	Landscape	Historical preservation	Houses	Resettlement	Other		
									√
Project modal	Economic			Social		√			
Project aims	This access way project can be implemented as to lessen the traffic congestion originated in the summer season carnival time in Nuwaraeliya. Improve the associated sub way condition in the Nuwaraeliya town. Road way usage for pedestrians and tourists to make attractive and easy level.								
Project suitability	This is a vary needed project to implement within next two year time as it is a very urgent solution to lessen the traffic congestion when the most tourist crowded in the town.								
Present land ownership	U.D.A.		Private		State		Nuwaraeliya M.C.		
Is it free of obstacles	Yes		Not	√	If not concerns details		Land acquisition need to be done when reservation need for construction.		
Ownership related details	Road way ownership with the municipal council Nuwaraeliya								
Details of the survey plan.	Survey plan No.		Survey plan No.		Date		Land extent		
							...ace.	...ro.	....per
Project details									
Project duration	Short (Yrs. less)	√	Medium term (Yrs. 1-3 )		Long term (Yrs. 3-over)		Total estimated cost(Rs. millions)	15	
Funding method	Nuwaraeliya municipal council funds/treasury								
Infrastructure facilities									
Water	Needed volume		-		Electricity	Needed volume		-	
	Existing volume		-			Existing volume		-	
Zone	High density tourism				Compatible with the zoning		Yes		
Present position (With detailed descriptions)	Presently less usage of this road due to 5 meter width.								


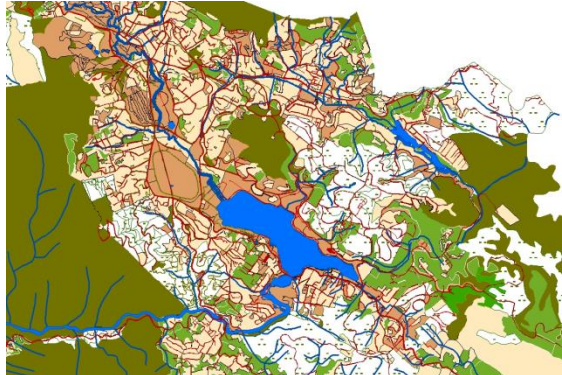
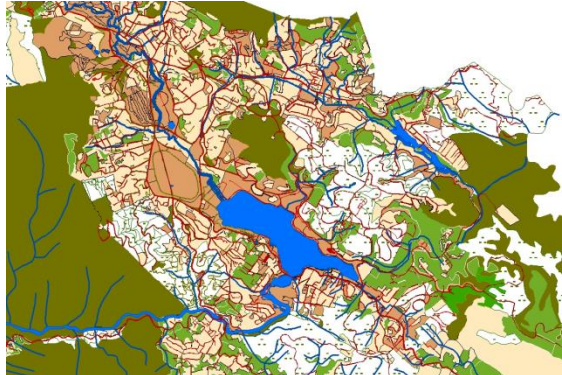
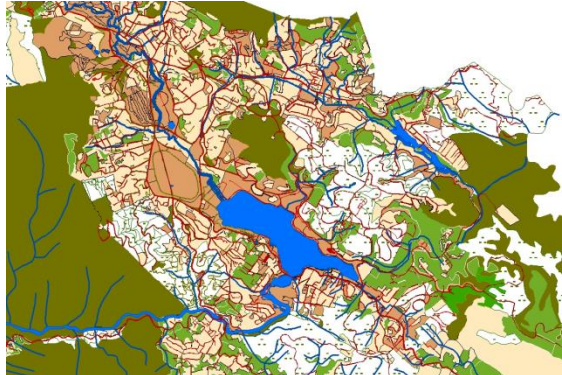
Project cost	Activity	Cost Rs. Millions.
	Road way expansion	10
	Pedestrians ways and area landscape	05
	Total	15
Approval needed institutions		
Activity	Relevant Institution	Authorised officer
Regulations	Should be develop the road with minimum access of 9 meters.	

Nuwaraeliya Theme Park -

Project name	Theme Park – Nuwaraeliya						
Project	Tourism Infrastructure Facilities Development						
Project proposal	International standard theme park construction for the improvement of entertainment activities for arriving tourists in Nuwaraeliya.						
Project location							
Location	<b>Province</b>	Central		<b>District</b>	Nuwaraeliya		
	<b>Divisional Secretariat</b>	Nuwaraeliya		<b>Local Authority</b>	Nuwaraeliya Municipal Council		
Boundaries	North	East		South	West		
	Dun short cut	Balanced land portion of Gregory lake		Nanuoya stream	Lot No. 01 of Survey plan No. 51588		
Access	Upper lake road – Dun short cut						
Location map							
Adjoining land usage (Details with maps)							
Project arrangement							
Project type	New	√	Improvement		Extention		Land development only
Project type	Preservation	Commercial	Landscaping	Historical preservation	Houses	Resettlement	Other
		√					
Project modal	Economic		√	Social			
Project aims	<ul style="list-style-type: none"> <li>• Improvement of the relevant infrastructure facilities for local and foreign tourist.</li> <li>• Improve the income generating activities in the town and employment activities.</li> <li>• Keep up the more staying nights in the town in arrived tourists.</li> </ul>						

Suitability of the project	Land area located at the upper part of the lake Gregory is most suitable for the aforesaid project for the paradise area of Nuwaraeliya for local and foreign tourist to fulfil the lacking sectors of the tourist industry.							
Present land ownership	U.D.A.		√		Private		State	
Is it free of obstacles	Yes	√		Not		If not cocernd details		Land acquisition need when on construction in the reservation
Ownership concerned details	Urban development authority has the ownership with transfer deed							
Survey plan details	Survey plan No.				Date		Land extent	
	Lot No.... of survey plan No. 4026.						12 Acre	02 Ro.
Project details								
Project duration	Short term (Yrs.. less)		Medium term (Yrs. 1-3 )	√		Long term (Yrs. 3-Over)	Total estimated cost (Rs. Million)	
Funding method	Through private funds							
Project details (with maps)								
Infrastructure facilities								
Water	Needed volume			Electricity		Needed volume		
	Existing volume					Existing volume		
Zone	Entertainment 1					Is it compatible with the zoninig		Yes
Building plan								
Project cost	Activity				Cost			
Approval needed institution								
Activities	Relevant institutions				Authorized officer			
	U.D.A.							
	Central environment Authority							
Regulation and conditions	It should be compatible with the orders of No.1487/10 and 2017.03.05 dated, central environment authority extraordinary gazette notification. And also the development planning regulations of the U.D.A. as well.							
Annex detail								

### Pedestrians walk ways And Foot cycle ways construction



<b>Project Name</b>	Greenbelt of Nanuoya Stream							
<b>Project</b>	Nuwaraeliya Landscape Development							
<b>Project Proposal</b>	Construction of pedestrian walk ways and foot cycle ways as an environment friendly transport medium from Gregory lake entertainment zone to high density mix zone and entertainment zone 01 and 02. And also in related natural landscape views improvement in the eco system.							
<b>Project location</b>	From Gregory lake along the Nanuoya to town center and then up to town center to Bambarakele area.							
<b>Location</b>	<b>Province</b>	Central	<b>District</b>	Nuwaraeliya				
	<b>Divisional secretary</b>	Nuwaraeliya	<b>Local authority</b>	Nuwaraeliya municipal council				
<b>Boundaries</b>	<b>North</b>	<b>East</b>	<b>South</b>	<b>West</b>				
<b>Access</b>								
<b>Location map</b>								
<b>Adjoining land usage (details with maps)</b>	<table border="0"> <tr> <td><b>Legend</b></td> <td> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d2b48c; border: 1px solid black; margin-right: 5px;"></span> Bare Land</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f5deb3; border: 1px solid black; margin-right: 5px;"></span> Builtup Area</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d2b48c; border: 1px solid black; margin-right: 5px;"></span> Cemetry</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f5deb3; border: 1px solid black; margin-right: 5px;"></span> Commercial</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90ee90; border: 1px solid black; margin-right: 5px;"></span> Cultivation</li> <li><span style="display: inline-block; width: 15px; 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Project arrangements							
Project type	New	√	Improvement		Extension		Land development only
Project type	Preservation	Commercial	Landscaping	Historical preservation	Houses	Resettlement	Other
			√				
Project Modal	Economic		-	Social			√
Project aims	<ol style="list-style-type: none"> <li>1. Motivate people to use the environment friendly green transport methods.</li> <li>2. Inter connect the all entertainment zones parks in the town, and connect the playground and commercial zones by the pedestrians walk ways and foot cycle ways.</li> <li>3. Improve the environment condition of the Nanuoya stream.</li> <li>4. Improve the needed walking and foot cycle facilities for the tourists.</li> <li>5. Preserve the Nanuoya stream reservations.</li> </ol>						
Project suitability	It is a main aim of this development plan is to do the transport methods through green mode of system by constructing attractive pedestrian foot cycle ways target for tourists in 2030. And also preserve the natural landscape views as well. Through this it is expected to lessen the vehicle usage and create environment friendly transport modes. And can be avoided the unauthorized constructions and land encroachments on stream reservations as it is public common area.						
Present Land Ownership	U.D.A.			Private		State	N.H.D.A.
						√	
Is it free of obstacles	Yes	√	Not		If not concerned details		
Details related to ownership	Land is belong to RDA and Divisional Secretary						
Survey plan details	Survey plan No.		Lot No.		Date	Land extent	
						Ace..	Ro. - Per.
Project details							
Project duration	Short term (Yrs.. Less)		Medium term (Yrs. 1-3)	√	Long term (Yrs. 3-over)	Total estimated cost (Rs. Million)	246
Funding method	Treasury funds / Nuwaraeliya municipal council.						
zone	Entertainment zone/sensitive zone / High density mix				Is it compatible with the zoning	Compatible	
Present position	No available of foot path and cycling tract Along the Nanuoya stream and main road . Space for the project is available.						
Project cost	Activities				Cost Rs. Millions		
	Stream banks preservation				100		
	Foot cycle and Pedestrian way				100		





	development	
	Landscape beautification	46
<b>Approval needed institution</b>		
<b>Activity</b>	<b>Relevant institution</b>	<b>Authorized officer</b>
Plan preparation and construction	Urban development authority/ Irrigation department and Nuwaraeliya municipal council.	
<b>Regulation and conditions</b>	Should be done the development activities under the recommendation and supervision of irrigation department and the urban development authority.	

### Construction of Barreckplain Entertainment Zone

<b>Project title</b>	Construction of Barreckplain reservoir associated entertainment zone						
<b>Project</b>	Improvement of tourist infrastructure facilities and preservation of waterways reservations						
<b>Project proposal</b>	Removal of deposited silt in the Berreckplain reservoir, already 75% of the extent of the reservoir was filled with mud and wastes. Marking of preserved area of the reservoir and develop as an entertainment zone. Widen the streams that convey the water to the reservoir and landscape its reservations.						
<b>Project Location</b>	Havaeliya Berreckplain reservoir and its associated streams.						
<b>Location</b>	<b>Province</b>	Central		<b>District</b>	Nuwaraeliya		
	<b>Divisional Secretariat</b>	Nuwaraeliya		<b>Local authority</b>	Nuwaraeliya municipal council		
<b>Access</b>	Havaeliya – Sandathenna road and Udapussellawa road						
<b>Location map</b>							
<b>Adjoining land usage (Details with maps)</b>	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>Legend</b></p> <ul style="list-style-type: none"> <li>Bare Land</li> <li>Buildup Area</li> <li>Cemetery</li> <li>Commercial</li> <li>Cultivation</li> <li>Educational</li> <li>Estate Housing</li> <li>Financial</li> <li>Forest</li> <li>Grass Land</li> <li>Ground</li> <li>Health</li> <li>Home Sheds</li> <li>Indoor Agriculture</li> <li>Industrial</li> <li>Institutional</li> <li>Open Space</li> </ul> </div> <div style="width: 45%;"> <ul style="list-style-type: none"> <li>Other</li> <li>Park</li> <li>Play Ground</li> <li>Public Place</li> <li>Public Space</li> <li>Quarters</li> <li>Religious</li> <li>Residential</li> <li>Residential &amp; Tourism</li> <li>Roads</li> <li>SOS Childem Village</li> <li>Scrub Land</li> <li>Tea</li> <li>Tourism</li> <li>Vacant Land</li> <li>Vegetation</li> <li>Victoria Parks</li> <li>Water Area</li> </ul> </div> </div> 						
<b>Project arrangement</b>							
<b>Project type</b>	New	√	<b>Improvement</b>		<b>Extention</b>	<b>Land development only</b>	
<b>Project type</b>	<b>Preservation</b>	<b>Commercial</b>	<b>Landscaping</b>	<b>Historical conservation</b>	<b>Houses</b>	<b>Resettlement</b>	<b>Other</b>
	√		√				
<b>Project modal</b>	<b>Economic</b>		√	<b>Social</b>		√	
<b>Project aims</b>	<ol style="list-style-type: none"> <li>1. Re-establish the exact water volume in the Berreckplain reservoir.</li> <li>2. Landscape reserved parts of the reservoir.</li> </ol>						

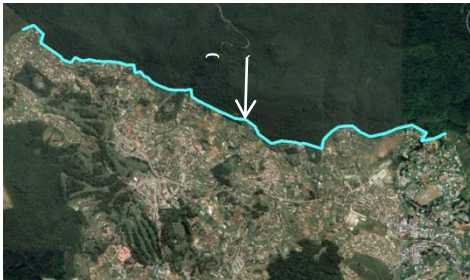


	<b>3. Increase the entertainment activities for tourists.</b>					
	<b>4. Avoids the water flooding near stream lands.</b>					
<b>Project Suitability</b>	It is expected to bring up the tourist arrival for 7 million in 2030 to the area. And It is identified through this plan to make their normal staying nights up to 4 by arranging entertainment activities. Also it is need to develop and preserve the environment sensitive areas. For that it is identified this as a suitable project.					
<b>Present land ownership</b>	<b>U.D.A.</b>		<b>Private</b>		<b>State</b>	<b>N.H.D.A.</b>
					√	
<b>Is it free of obstacle</b>	<b>Yes</b>	√	<b>Not</b>		<b>If not concerned details</b>	
<b>Ownership related details</b>	Irrigation department and divisional secretary					
<b>Survey plan details</b>	<b>Survey plan No.</b>		<b>Lot No.</b>		<b>Date</b>	<b>Land extent</b>
						Acr. 20   Ro. -   per.
<b>Project details</b>						
<b>Project duration</b>	<b>Short term (Yrs. less)</b>	<b>Medium term (Yrs. 1-3)</b>	<b>Long term (Yrs. 3 over)</b>	√	<b>Total estimated cost (Rs. Million)</b>	250
<b>Funding method</b>	Treasure funds / Nuwaraeliya municipal council					
<b>Infrastructure facilities</b>						
<b>Water</b>	<b>Needed volume</b>		<b>Electricity</b>	<b>Needed volume</b>		
	<b>Existing volume</b>			<b>Existing volume</b>		
<b>Zone</b>	entertainment zone and sensitive zone		<b>Is it compatible with zoning</b>		Compatible	
<b>Present situation (with detailed descriptions)</b>	Nuwaraeliya municipal council and irrigation department prepared plans together for development activities of the Barreckplain reservoir. Urban development Authority mediate to do the landscaping activities of its reservations.					
<b>Project cost</b>	<b>Activities</b>				<b>Cost Rs. Million</b>	
	Removal of silt in the reservoir				150	
	Landscaping on reservation and development of tourist facilities.				50	
	Widen the catchment streams and preservation.				30	
	Construction of silt traps				20	
<b>Approval need institution</b>						
<b>Activities</b>		<b>Relevant Institution</b>			<b>Authorized officer</b>	
Plan preparation and removal of silt		Irrigation department				
Landscape plans and development of reservation		Urban Development Authority /Nuwaraliya Municipal Council				
<b>Regulation and Conditions</b>		Development activities should be done under the recommendation and supervision of irrigation department and UDA.				

### Construction of lovers leap reservoir

<b>Project title</b>	Lovers leap reservoir construction						
<b>Project</b>	Lovers leap reservoir construction						
<b>Project proposal</b>	The residential population of the Nuwaraeliya town forecast to the year 2030 will be about 50000 and its daily tourist population 25,000. For that population, needed water volume is Qu.M. 9500 to supply this storage tank proposed to construct for the need of their drinking water purposes.						
<b>Project location</b>	Land portion owned to Pedrew estate adjoining to the Lovers leap waterfall.						
<b>Location</b>	<b>Province</b>	Central		<b>District</b>	Nuwaraeliya		
	<b>District Secretariat</b>	Nuwaraeliya		<b>Local Authority</b>	Nuwaraeliya municipal council		
<b>Boundaries</b>	<b>North</b>	<b>East</b>		<b>South</b>	<b>West</b>		
<b>Access</b>	Nuwaraeliya Paryeshanawatta road or Boralanda Junction						
<b>Location map</b>							
<b>Adjoining land usage (Details with maps)</b>							
<b>Project Arrangement</b>							
<b>Project type</b>	<b>New</b>	√	<b>Improvement</b>		<b>Extention</b>	<b>Land development only</b>	
<b>Project type</b>	<b>Preservation</b>	<b>Commercial</b>	<b>Landscaping</b>	<b>Historical preservation</b>	<b>Houses</b>	<b>Resettlement</b>	<b>Other</b>
							√
<b>Project Modal</b>	<b>Economic</b>		-		<b>Social</b>		√

<b>Project Aims</b>	<b>1. Supply the water demand of qu.m. 9500 volume when in need 2030.</b> <b>2. Make uninterrupted water supply to the people.</b>								
<b>Project Suitability</b>	IT is forecast that the residential population in the year of 2030 in the greater Nuwaraeliya development planning area is 50,000 and daily commuting population is 25,000. For that population needed water volume is 9500 qu.M. Presently supply water volume is 4500 qu.m. Therefore it is needed to construct store tank for balanced water volume to store, And proposed for lovers leap waterfall near tank to build as it has continuous water supply in the whole year.								
<b>Present land ownership</b>	<b>U.D.A.</b>		<b>Private</b>		<b>State</b>		<b>N.H.D.A.</b>		
<b>Is it Free of Obstacles</b>	<b>Yes</b>	√	<b>Not</b>		<b>If not concerned Details</b>				
<b>Ownership related details</b>	Land reform commission owned lands rent out to estate companies								
<b>Survey plan details</b>	<b>Survey plan No.</b>		<b>Lot No.</b>		<b>Date</b>		<b>Land extent</b>		
							Ac. 10	Ro. -	per.
<b>Project Details</b>									
<b>Project duration</b>	<b>Short Term (Yrs. less)</b>		<b>Medium term (Yrs.1-3 )</b>	√	<b>Long term (Yrs. 3-over)</b>		<b>Total estimated cost (Rs. Million)</b>	200	
<b>Funding Method</b>	Treasure funds / Nuwaraeliya Municipal council								
<b>Infrastructure facilities</b>									
<b>Water</b>	<b>Needed Volume</b>				<b>Electricity</b>	<b>Needed volume</b>			
	<b>Existing Volume</b>					<b>Existing volume</b>			
<b>Zone</b>	High density residential				<b>Is it compatible with zoning</b>		Compatible		
<b>Present situation(Detailed descriptions with maps)</b>	For the construction of reservoir in this land, basic plans are being made by the irrigation department by the proposal submitted by the municipal council.								
<b>Project cost</b>	<b>Activity</b>					<b>Cost Rs. Million</b>			
	Construction of reservoir					200			
<b>Approval need institution</b>									
<b>Activity</b>		<b>Relevant Institution</b>				<b>Authorized Officer</b>			
Construction and plan preparation		Irrigation department							
<b>Regulation and conditions</b>	Development activities should be done under the recommendation and supervision of irrigation department and national water supply and drainage board.								


**Create footpaths along the forest margins.**



Project Title	Create footpaths along the forest margins of Toppass and Piduruthalagala mountains																																																	
<b>Project</b>	Tourist's infrastructure facility development																																																	
Project Proposal	Creating footpaths along the forest margins of Top Pass and Piduruthalagala mountains. The project facilitates to walk along the forest area. Specially the main objective of the proposed footpaths is to protect forest cover from human interventions and it will act as barrier. This is basically only for pedestrian access and the main tourist's facility improvement project																																																	
Project location																																																		
Site	<b>Province</b>	Central		<b>District</b>	Nuwara Eliya																																													
	<b>Divisional Secretariat Division</b>	Nuwara Eliya		<b>Local Authority</b>	Nuwara Eliya MC																																													
Boundaries	North	East		South	West																																													
	Forest area	Seethaeliya		Residential zone	St. Andrews Road																																													
Access	Badulla road																																																	
Site Plan																																																		
	Piduruthalagala mountain				Top Pass mountain																																													
Nearest land use (with descriptions)	<p><b>Legend</b></p> <table border="0"> <tr> <td>Tributaries</td> <td>Grass Land</td> <td>Residential</td> </tr> <tr> <td>Landuse_final</td> <td>Ground</td> <td>Residential &amp; Tourism</td> </tr> <tr> <td>-all other values-</td> <td>Health</td> <td>Roads</td> </tr> <tr> <td>LP_TP_La_2</td> <td>Home Sheds</td> <td>SOS Children Village</td> </tr> <tr> <td>Bare Land</td> <td>Indoor Agriculture</td> <td>Scrub Land</td> </tr> <tr> <td>Buildup Area</td> <td>Institutional</td> <td>Scrub Land</td> </tr> <tr> <td>Cemetery</td> <td>Open Space</td> <td>Tea</td> </tr> <tr> <td>Commercial</td> <td>Other</td> <td>Tourism</td> </tr> <tr> <td>Cultivation</td> <td>Park</td> <td>Unclassified</td> </tr> <tr> <td>Educational</td> <td>Play Ground</td> <td>Vegetation</td> </tr> <tr> <td>Estate Housing</td> <td>Public Place</td> <td>Victoria Parks</td> </tr> <tr> <td>Financial</td> <td>Quarters</td> <td>Water Area</td> </tr> <tr> <td>Forest</td> <td>Religious</td> <td>Road_Network</td> </tr> <tr> <td></td> <td></td> <td>Water_bodies</td> </tr> </table>				Tributaries	Grass Land	Residential	Landuse_final	Ground	Residential & Tourism	-all other values-	Health	Roads	LP_TP_La_2	Home Sheds	SOS Children Village	Bare Land	Indoor Agriculture	Scrub Land	Buildup Area	Institutional	Scrub Land	Cemetery	Open Space	Tea	Commercial	Other	Tourism	Cultivation	Park	Unclassified	Educational	Play Ground	Vegetation	Estate Housing	Public Place	Victoria Parks	Financial	Quarters	Water Area	Forest	Religious	Road_Network			Water_bodies				
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		Water_bodies																																																
Project list																																																		
Project type	New	√	Improvement		Collecting	Land development																																												
Project category	Conservation	com	landscapi	Archeolog	Housing	Resettle	Other																																											
	√	merc	ng	ical		ment																																												
Project type	Economic			Social		√																																												
Project Objectives	<ol style="list-style-type: none"> <li>1. Protection of main unique character of forest range</li> <li>2. Foot paths act as barrier to control human interventions towards to the forest area</li> <li>3. Facilitate better experience for people who prefer to walk</li> </ol>																																																	
Project	When considering the forest coverage of the area during the periods of 2010 and																																																	

proposal	2017, can be identified it has been gradually decreased. Therefore, forest cover as the unique feature of Nuwara Eliya essential need to protect for the future. Since, the plan identified that the strategic actions which are direct to protect forest stripe will be more applicable than introducing new rules and regulations. Thus, the project will initiates by connecting tourism with environment aspect.						
Present land ownership	UDA		Private		Government		√
Free from obstacle	Yes	√	No		If no, please describe		
Ownership details	Owned by Divisional Secretariat and Forest Conservation Department						
Survey plan details	Survey plan no			Date		Land extent	
						A ....	R.... P.....
Project details							
Project period	Short term (Above 1 year)	√	Medium term (1-3Years)		Long term(above 3 years)	Total estimated cost (Rs Mn)	
Funding mechanism	Treasury /Nuwara Eliya Munciple council						
Infrastructure facilities							
Water	Required capacity		Electricity		Required capacity		
	Existing capacity				Existing capacity		
Zone	Forest		Does match with zoning plan		☑		
History							
Project cost	Activities				Cost		
					<b>25</b>		
Relevant authorities for approvals							
Activities		Relevant authorities			Authorized person		
Identification of the project zone		Forest Conservation Department, Urban Development Authority, Nuwara Eliya Municipal Council					
Confirmation of land clearances		Nuwara Eliya Municipal Council Divisional Secretariat Office, Nuwara Eliya					
Construction of foot paths		Nuwara Eliya Municipal Council					
Compensation for private land owners that falls for the projects		Nuwara Eliya Municipal Council					
Cloture of final stage of the project		Nuwara Eliya Municipal Council					



## Nuwaraeliya Bambarakele PWD Housing Development

Project Name	Housing Development			
<b>Project</b>	Bambarakele PWD Housing Improvement			
Project proposal	<p>These houses were identified as low income facility houses located by the side of the main access to the Kandy road to Nuwaraeliya in the Bambarakele area. Living people in these houses are mostly employees associated to Nuwaraeliya town area employments and the land area where the houses were constructed is limits to Nanu oya stream reservation and the main road. Hence it is identified that the main factor for impurity of the water in the Nanuoya stream is a cause for constructed houses in this area. Also it is observed theses houses were not suitable for residential purposes and it is also observed that the above houses were not suitable for the living condition of the residents and that this residential area near the stream is a main reason for the water pollution of the Nanuoya stream. Therefore it is proposed to upgrade the environmental condition of the area, improve the social level of the residents, construction new houses in the same land for residents. And it is proposed to construct new houses by the private developers for the above residents in the balance portion of the same land by this project. And proposed to make systematically Nanuoya stream reservation through this project as well.</p>			
Project location				
Location	<b>Province</b>	General	<b>District</b>	Nuwaraeliya
	<b>Divitional secretary</b>	Nuwaraeliya	<b>Local authority</b>	Nuwaraeliya M.C.
Boundaries	North	East	South	West
	Kandy Rd	Nanu oya stream	MC housing	Stream
Access	Kandy Road			
Location map				

<p>Land usage adjoining area(Detail with maps)</p>								
<p>Project arrangement</p>								
<p>Project type</p>	<p>New</p>		<p>Improvement</p>	<p>√</p>	<p>Extention</p>	<p>Land development only</p>		
<p>Project type</p>	<p>preservation</p>	<p>Commercial</p>	<p>Landscaping</p>	<p>Historical preservation</p>	<p>Housing</p>	<p>Resettlement</p>	<p>other</p>	
<p>Project model</p>	<p>Economical</p>			<p>social</p>	<p>√</p>			
<p>Aims of the project</p>	<ol style="list-style-type: none"> <li>1. <b>Water supply system improvement through preserving Nanuoya stream and its bank reservation as it is a main water source.</b></li> <li>2. <b>Improve the living standard of the residents of these houses.</b></li> <li>3. <b>Make most attractive zone of this area as it is main access area to the town.</b></li> <li>4. <b>Make opportunity to use high valued lands near the town for development activities.</b></li> </ol>							
<p>Suitability of project</p>	<p>Make creative environmental background for the arrived tourist to the Nuwaraeliya town as it is environmentally attractive town to make attitude to tourist in regard to Nuwaraeliya town. It is difficult to achieve above aims due to not possessing of hereditary architectural pattern of houses within this area near the main access road. It is needed to upgrade the social level standard from low level living condition in this area. Therefore considering the above factors identify this project to implement.</p>							
<p>Present land ownership</p>	<p><b>U.D.A.</b></p>		<p><b>Private</b></p>			<p><b>State</b></p>	<p>N.H.D.A.</p>	
<p>Is it free of Obstacles</p>	<p>Yes</p>	<p>√</p>	<p>Not</p>	<p>If not related details</p>				
<p>ownership details</p>	<p>Housing Development Authority</p>							
<p>Survey plan details</p>	<p>Survey plan No.</p>		<p>Survey plan No.</p>		<p>Date</p>	<p>Land Extent</p>		
						<p>.....Acr</p>	<p>.....Ro</p>	<p>80P</p>
<p>Project details</p>								
<p>Project duration</p>	<p>Short term(Yrs.. less)</p>	<p>Medium term (Yrs.. 1-3 )</p>	<p>√</p>	<p>Long term (Yrs.. 3-</p>	<p>Total estimated cost( Rs. Millions</p>	<p>100</p>		

				over)		
Investment System	Both private and state bilateral funds					
Infrastructure facilities						
Water	Needed volume		Electricity	Needed volume		
	Existing volume			Existing volume		
Zone			Is it compatible with zoning			
History(if need)	Part of these low income settlement was improve on 2005 by the Ministry of Urban development					
Present condition	50 no of families living in this location and Building was bulled before about 60 years as a labour quarters.					
Project cost	Activity			Cost (Rs. Mn)		
	Construction of House			85		
	Improvement of Stream			10		
	Landscaping			10		
Institutions approved						
<b>Activities</b>	<b>Relevant institutions</b>			<b>Authorized officer</b>		
Road reservation	Road development Authority					
Stream improvement	Divisional Secretary					
Development of houses	National Housing Development Authority					