

1.0 Introduction

Kalutara town is a coastal town located within the Kalutara Divisional Secretary's Division in the Kalutara District in the Western Province. The annual temperature of this area is about 26 degrees centigrade and the average annual rainfall is between 2500 – 4000 mm.

Kalutara town is situated 40 km. to the south of Colombo and Sri Jayawardanepura respectively. Colombo serves as a commercial centre and Sri Jayewardanepura as an administrative centre of the country, and it is connected to the other towns like Galle and Matara (Map No. 1) through the highway and coastal railway line. Another significant factor is the location of the proposed southern highway to Matara, about 8 km. to the east. The connectivity of Kalutara with other internal roads in the district is provided by Palatota road which connects the town center with Naboda, the road which starts from Katukurunda Junction to Matugama and road which leads to Horana via. Nagashandiya.

Kalutara town is of special importance as a capital to Kalutara district, where not only the main service center of the district is located but also a town of religious importance due to the location of the sacred Kalutara Bo Tree and other religious buildings. There is an evidence regarding the existence of a harbour at Kalutara around its sea outfall prior to the development of the Galle harbour.

Kalutara town has gained importance, in relation to other towns in the district due to the close proximity of many National level state institutions namely, Institute of National Health, Police Training School, Teachers Training College etc.

Furthermore, a part of this town has been declared as a sacred area by the Department of Town & Country Planning w.e.f. 1st June 1979.

The Urban Development Authority has introduced a coordinated development program to promote integrated physical, economic, environmental and social development in the area. In accordance with the Structure Plan prepared for the Western Province by the UDA, Kalutara town is expected to be developed as a Grade I service centre.

In the studies carried out by the UDA for the purpose of preparing a development plan for Kalutara; it became evident that, Kalutara town is developing concurrently with the Kalutara Pradeshiya Sabha area. The commercial and service activities are the main functions in the town centre, the small and medium size industries, tourism and fisheries activities provide income and employment generation within the Kalutara Pradeshiya Sabha area.

Therefore, while planning the development of Kalutara as a district capital, Kalutara Urban Council area and the area of authority under Pradeshiya Sabha should be considered together and not in isolation. From a planning point of view,

the provision of land for housing and solid waste disposal are priority issues, which cannot be resolved within the limited land space available in the Urban Council area; but could be solved within a wider coverage combined with the P.S area. However, such an integrated approach is not been possible due to the fact that different political parties are managing the two levels of government and the total area has not been declared under the UDA. Accordingly, this plan basically covers only the Urban Council area.

2.0 Population

2.1. Total Population

The following table indicates the total population of urban local authorities comprising the Kalutara District and its increase during the period 1963 to 2001:-

Table : 1

Total Population of principal towns within Kalutara District and Population Increase (1963 - 2001)

U.C. Area	1963	1971	1981	2001	Population Growth Rate %	
					1971 - 1981	1981 - 2001
Beruwala	15393	19768	26320	33053	3.3	1.27
Kalutara	25260	28631	31503	37081	1.00	0.88
Panadura	23967	27720	31090	33432	1.21	0.37
Horana	6378	7576	8812	9149	1.63	0.19

Source: Census Report 2001

Department of Census & Statistics

According to the Census of Population Report - 2001, prepared by the Dept. of Census & Statistics, Kalutara town had a population of 37081. Population of 1963 was 25260. When compared with the population of other towns in the district namely, Beruwala, Panadura and Horana, the highest population of 37081 was recorded in Kalutara U.C. It is second to Beruwala in terms of population growth rate. When comparing the population growth rates for the inter census periods of 1971-1981 and 1981 - 2001, the population increase of Kalutara has occurred at a decreasing manner.

Table : 2

2.2 Total Population of Kalutara by Sex (According to Wards) 2001

No.	Name of the Division	Population	Sex	
			Male	Female
01	Katururunda	2535	1200	1335
02	Cinnamon Gardeans	3841	1910	1931
03	Heenatiyangala	3508	1760	1748
04	Baskethall	3224	1604	1620
05	Main Street	2520	1240	1280
06	Park	2095	1044	1051
07	Sri Sumangala	4038	2028	2010
08	Good Shed	2412	1189	1223
09	Asokaramaya	2817	1396	1421
10	North Railway Station	4856	2436	2420
11	Hospital	5235	2601	2634
	Total	37081	18408	18673

Source: Census of Population & Housing - 2001
Department of Census & Statistics

A study of population data of wards of Kalutara U.C. reveals that the highest population of 5235 is recorded in the Hospital ward while the lowest population is recorded in the Park ward. The high concentration of population in Hospital ward could be attributed to the fact that it accommodates many state institutions. The Park ward has the lowest concentration of population amounting to 2095, as it includes Kalu Ganga river reservation area.

The highest male population of 2601 is recorded in the Hospital ward and the lowest population of 1044 is in the Park ward. Similarly, the highest female population of 2634 is recorded in the Hospital ward while the lowest female population of 1051 is recorded in the Park ward.

Accordingly, Kalutara U.C. area has a total male population of 18408 and a female population of 18673 and the sex ratio of Kalutara is 100 males to 101 females.

2.3. Population Density

Population density of the U.C. areas within the Kalutara district in 2001 is given in the following table:-

Table : 3

**Population Density of Urban Areas of
Kalutara District - 2001**

Urban Council	Extent km.	Population Density Persons per km.
Beruwala	5.18	6880
Kalutara	7.64	4853
Panadura	5.9	5666
Horana	5.43	2020

Source: UDA study - 2001

According to the population density Kalutara U.C. ranks third in Kalutara district. It had a density of 3747 persons per km. in 1971, which increased to 4123 and 4853 persons per km. in 1981 and 2001 respectively. The Structure Plan for Western Province Mega-polis projects the population density to 2600 per sq. km in 2025 for the Kalutara Electorate.

When the population density of Kalutara U.C. area is examined in terms of wards, the highest density of 61 persons per hectare is recorded from Kalutara North Railway Station Ward. This could be attributed to the existence of a large fisheries settlement in this ward.

The lowest population density of 14 persons per Hectar is in Katukurunda ward which could be attributed to the fact that this area is subject to frequent flooding. As well due to high concentration of public institutions, population density of 27 persons per hectare is also recorded in Arogyashalava ward (Map No. 2).

2.4. Daily Commuting Population

According to the survey, the daily commuting population falls within 75,000 to 100,000. Kalutara town is basically an administrative and a service centre, the commuting population increases approximately to 125,000 on Wednesdays and Fridays. The increase of commuting population on holidays and Poya days are due to the existence of places of religious worship and holiday resort at Kalido beach.

According to the census of 1981, Kalutara District had a population of 829,704 in 1981, out of which 413,262 were males and 416,442 were females while in Kalutara U.C. area, the population was 31,503 consisting of 16,150 males and 15,353 females. Out of the total population of 37,081 as per the census of 2001, 18,530 were males and 18,551 were females.

2.5 Population by Ethnicity and Religion:

The population of Kalutara has a multi-racial and multi-religious composition as indicated in Table 04,. This aspect has to be taken into consideration in the formulation of development proposals for the area.

Table No : 4

Population Composition by Ethnicity - 2001

Race	Population	Percentage %
Sinhala	26552	71.60
Sri Lankan Tamil	582	1.56
Indian Tamil	552	1.48
Sri Lankan Muslim	9582	25.84
Burger	66	0.17
Maley	15	0.04
Other ⁻	31	0.078
Total	37081	100

Source :- Census and Statistics Dept. - 2001

The Sinhalese form the majority accounting for 71.6 % of the total population while Ceylon Moors constitute 9583 which amounts to 25.84% and the remaining percentage include the minority groups such as Indian Tamils, Ceylon Tamils Burger, Maley, Indian Chetty.

The Buddhists form the majority, the other religious groups such as Islam, Christianity and Catholicism form the minority group in Kalutara. Please see Table 5. This multi-racial character of the population has to be taken into consideration in the preparation of the development plan for Kalutara town.

Table No. : 5

Population by Religion

Religion	Population	Percentage
Buddhist	23294	62.81
Hindu	471	1.27
Islamic	9627	25.96
Roman Catholic	3504	9.44
Christian	179	0.48
Other	06	0.016
Total	37081	100

Source :- Census & Statistics Dept. - 2001

2.6. Population Projections:

In this study the time frame of the development plan covers the period from 2002 to 2020, and the population projections were made to cover this period (Table 6). The net emigration rate and the net out migration rates were considered as equal and accordingly the natural growth rate was taken into considered for forecasting the population projections.

Table : 6

Population Projections

Year	Population Growth Rate		
	0.88%	0.75%	1.00%
2001	37081	37081	37081
2011	40344	39862	40789
2020	43539	42552	44460

Source :- Population Estimate, Urban Development Authority

The total population within Kalutara U.C. limits in 2001 was 37081. On the basis of the current population growth rate of 0.88%, this amount will increase to 40,344 in 2011 and 43,539 in 2020.

Due to the anticipated impact of the new Southern Expressway, which will be located about 10km. away, there could be a shift of population and development activities in that direction on that basis a second population projection has been made on the basis of a lower population growth rate of 0.75% accordingly the population will increase from 39,862 in 2011 to 42,552 in 2020. (Map No. 3)

A third population projection has been made on the assumption that there will be a higher rate of population growth of 1%, based on the development of tourism, industry, commerce and services, which would generate a population of 40,789 in 2011 and 44,460 in 2020.

The development plan for Kalutara urban area has been prepared on the basis of a target population of 44460 by the year 2020.

2.7. Housing

2.7.1. Future Housing Needs:

Table : 7

Housing Shortage From 2001 to 2020

Year	Population	Family Unit	Existing Housing Units	Housing Needs	Gross Housing Shortage	Net Housing Shortage
2001	37081	7416	6964	7416	452	890
2005	38893	7778	-	7778	362	933
2010	41285	8257	-	8257	479	990
2015	43825	8765	-	8765	508	1052
2020	46518	9303	-	9303	538	1116

Source : Urban Development Authority – 2001

As per the above Table, the housing stock in 2001 was 6964 and the housing shortage was 452 units. The future needs by the year 2020 will be 9303 which has to be added to the present total. The future housing needs also has to take into consideration the need for the replacement of temporary, semi-permanent, and aged housing units.

2.7.2. Housing Density

The Table 8 depicts the density of population in Kalutara Urban Council by ward wise.

Table : 8

Housing Density According to the Urban Council Ward - 2001

Divisional Secretariat	Land Extent (Hecà)	No. of Houses	Density (No. of houses for 01 Hec.)
Katukurunda	125.9	450	12.88
Cinnamon Gardens	57.1	736	14.70
Heenatiyangala	45.1	663	12.34
Baskethall	48.7	601	9.59
Bazar	46.6	447	7.55
Park	46.9	354	17.23
Sri Sumangala	65.3	779	9.35
Good Shed	45.2	423	9.32
Asokaramaya	54.9	512	14.45
North Railway Station	66.3	958	6.42
Hospital	162.2	1041	6.41
Total	764	6964	

Source :-Kalutara U.C. - 2001

North Railway Station and Heenetigala wards have been identified as areas having higher housing densities. North Railway Station ward has many fishermen's housing while Heenetigala Ward has many small housing lots. The lower housing density is Katukurunda ward due to the fact that the lagoon is located within this area. (Map No. 4)

3.0 Land Use

3.1 Existing Land Use Pattern:

Out of the total land area, 75.62 can be considered as developed and developable, while 24.38% has been identified as not developable. The existing land use pattern is indicated in Table 09. (Map No. 5)

Table : 9

Existing Land use Pattern - 2002

Land Usage	Land (Hec)	Developable land %	Developed %
<i>01. Developable Lands</i>	<i>577.28</i>	<i>100.00</i>	<i>75.62</i>
<i>1.1. Developed Lands</i>	559.66	96.94	73.31
1.1.1. Residential	343.52	61.38	44.99
1.1.2. Industrial	5.75	1.02	0.75
1.1.3. Commercial	33.5	5.98	4.38
1.1.4. Public Institutes	84.0	15.00	11.00
1.1.5. Religious	16.5	2.94	2.16
1.1.6. Agriculture & Paddy	16.0	2.85	2.09
1.1.7. Recreational	0.37	0.06	0.04
1.1.8. Cemeteries	0.02	3.57	2.61
1.1.9. Roads	60.0	10.72	7.85
<i>1.2. Lands not developed</i>	17.62	-	-
1.2.1 Vacant Lands	7.37	1.31	0.96
1.2.2 Open Space	10.25	1.83	1.34
<i>02. Undevelopable lands</i>	186.12	100.00	24.38
2.1. Water Bodies	137	73.61	17.94
2.2. Mashes / Low Lands	49.12	26.39	6.43
<i>Total</i>	<i>763.4</i>	<i>-</i>	<i>100.00</i>

Source :- Field Survey Report, Kalutara District Unit (W.P.)
UDA.

3.1.1. Residential

Residential use accounts for 44.99% of the total land area. Although there is a high demand for land in Kalutara urban area, there is a shortage of land due to the existence of low-lying and marshy areas.

The occupation of a substantial extent of land by public uses has reduced the land availability for residential purposes.(eg. Special Command Unit, Air port, National Health Institute etc.)

3.1.2 Industry & Commerce

Presently, 33.5 ha. and 5.75 ha. respectively, for commerce and industries are utilized within Kalutara U.C. area. This development which is concentrated on either side of Colombo - Galle Road and Goodshed Road in a disorganized manner is a constraint on the orderly expansion of commercial activities.

The limited supply of land for commerce & services is due to the fact that part of the town area is low-lying and substantial extent of land within the urban area is occupied by public buildings. Another factor which has contributed to the reduction of land area for commerce is the existence of other service centres such as Panadura within reasonable proximity.

The geographical location of the town as a narrow and elongated strip along the coastline at a lower elevation with many environmentally sensitive areas has restricted the development potential of the town.

3.1.3 State Institutions

The land use survey reveals that 84 ha. which constitute 11% of land area is utilized for public purposes. The high percentage of land area used for State institutions could be attributed to the fact that Kalutara is a district administrative capital where many Govt. agencies have their district offices.

3.1.4 Agriculture

The agricultural use constitutes 2.09 % of land area of Kalutara U.C., which consists of home gardens and paddy fields.

3.1.5 Recreation and Amusement Activities :

There are 10 parks and play grounds other than school play grounds within the U.C. area which are as follows:-

1. U.C. Children's Play ground
2. Kalido Beach area
3. Play ground near railway station
4. Pakistan Play Ground, Katukurunda
5. Kaleel Place Play Ground
6. Wickramasinghe Place Play Ground
7. Rangers' Place Play Ground
8. Kaluganwila Play Ground
9. Temple Road Play Ground
10. Kalido Beach Play Ground

Although in terms of numbers these play grounds seem to be adequate, in terms of the extent of land as a percentage of the total area it is relatively small.

The beach area including the Kalido beach strip, is utilized in a disorganized manner for recreational activities. Lagoon area also has potential for the development of recreational activities.

3.1.6. Undevelopable Land:

There are 24.38% amounting to 186.12 ha. undevelopable land within the U.C. limits. It consists of 17.94 % marshy areas and 6.43 low-lying areas.

The water bodies comprising 137 ha. include the water areas of Kalu Ganga, Lagoon area and Heenatiyangala Ela located within the urban area.

There are 49.12 hectares of marshy and low-lying lands. The development of those lands require large amount of money. When compare with cost of development of this land, economic advantages relatively low. As such it is advisable to retain this land as a water retention area. This will enable to maintain environmental equilibrium also.

3.1.7 Land Values

The availability of infrastructure services is an important determinant of land values. Accordingly the marked differences in the land values could be explained in relation to factors such as physical location and accessibility .

Table 10 indicates land value information obtained from the relevant officials of the U.C. and several Real Estate firms in respect of several sites in 2002. (Map No. 6)

Table : 10

Land Value - 2003

Area	Value - Block of Land 25 m2 (Perches 1 Rupees)
Lower lying lands and marshy lands adjoining Heenatigala canal.	Less than 50,000
Nagas Junction, Tissa Vidyala Road, Coastal Belt, Kelido Road, Peiris Mawatha, STF Road, 3 rd Lane, Adjoining Plant Nursery, Nagoda Road.	50,000 - 100,000
Kalutara North, Both side of Galle Road, Towards Heenatigala Canal from Old Road, Heel Veediya, Wickramasena Place, Katukurunda, Adjoining Sing bad, Sebastian Road.	100,000 - 150,000
Old Road towards Galle Road, Adjoining Heel Veediya, Kalutara South towards Galle Road.	150,000 - 200,000
Rear of the Bus Halt, Adjoining Weelapura Vidyalaya, Adjoining Kalutara Bodhi, Adjoining U.C. Kachcheri	More than 200,000

Source : U.C., Kalutara, Land Sale Institute, Discussions and Observations of Urban Development Authority Survey.

4.0. Urban Economy

Following factors have to be considered when analyzing the economic base of Kalutara town.:

1. Economic Capacity of the Urban Council
2. Contribution to the economy of the town by industrial and services sectors
3. Employment Generation Capacity of the urban area.

Kalutara town does not have a strong and stable economic base. The contribution to the urban economy from small and medium industries as reflected in the extent of land utilization for such purposes or from the revenue contribution to the Urban Council. As indicated in Annexure 1, there are 71 industrial units coming under 19 industrial categories but, they do not make a significant contribution to the employment generation or production compared to many other urban areas in the district. Panadura is a good example. .

When considering the position regarding the unemployment, there is a significant amount (about 10%) of concealed unemployment. This is relatively high when compared with rest of the towns in the district. In towns such as Horana, Matugama and Panadura industrial sector has developed together with the services sector with a relatively higher job generation capacity. About 12% of the

population of Kalutara are employed in activities which are directly and indirectly related to fisheries.

When the revenue potential of the U.C. is considered, its annual revenue amounts to Rs.60 million out of which 57% constitutes capital expenditure while the balance is earmarked for recurrent expenditure.

While the capital expenditure this year is entirely utilized for the construction of stage I of the bus stand project, proper financial management has to be introduced in order to provide for such capital expenditure in the future.

4.1. Labour Force, Employment & Unemployment

Table 11 indicates the position relating to the labour force, employment & unemployment in Kalutara town.

Table : 11

Labour Force

Labour Force	No.	%
Labour Force	16501	44.5
Employment	14801	89.7
Unemployment	1700	10.3

Source :- Census and Statistics Dept., Kalutara – 2003

Out of the total population of Kalutara town, the labour force amounts to 44.5% out of which 89.7% are employed and the balance 10.3% is unemployed.

Accordingly, 14801 are employed and 1700 are unemployed. According to the Annual Report of the Central Bank of Sri Lanka for 2002, the unemployment of Sri Lanka at the National level was 9.2%, while in Kalutara town, the unemployment was 10.3%, which is 1.1% more than the National level. Accordingly employment generation through industrial development is a critical factor.

Table : 12

Classification of Employment in Kalutara town

Type	No. of Employees	%
Agriculture & Forestry	2487	16.8
Fisheries	163	1.10
Mines & Minerals	148	1.06
Manufacturing Industries	3079	20.80
Gas & Electricity	15	0.10
Construction	725	4.89
Wholesale & Retail Trade	1909	12.89
Hotels & Holiday resorts	340	2.29
Transport	918	6.20
Finance	193	1.30
Property Trades	371	2.50
Public Admn., Defence & Social Affairs	1288	8.70
Education	607	4.10
Health & Social Welfare	281	1.89
Other Community Services	236	1.59
Other household services	147	0.99
Industries, Unclassified	1125	7.60
	770	5.20
Total	14801	100.00

Source :- Census and Statistics Dept., Kalutara - 2003

UDA

The above table indicates that highest employment is manufacturing, agriculture and Forestry, wholesale & retail trade, public administration, defence and social services whereas lower level of employment is in electricity, gas and other household services.

5.0. Physical Infrastructure Services

5.1. Road Network

Kalutara is a junction town located on Colombo - Galle highway, endowed with a internal road network, which provides good accessibility to the hinterland areas. The coastal railway line has further improved its accessibility. It has supported economic and social development of the town. (Map No. 7)

Out of the road network of Kalutara town, Galle Road, Kalutara-Matugama road and Kalutara - Horana Roads are maintained by the RDA while Kalutara-Palatota Road, Sumangala Road, North, Leslie Perera Road, Station Road and Hill Street are maintained by the Provincial RDA. Other local roads are maintained by the U.C. The lack of proper maintenance of the local roads and non-adherence to accepted road standards have

created accessibility and transportation problems to the residents of the town as well as to the commuter passenger.

The survey data available with the RDA reveals that the volume of traffic on Colombo - Galle road per day is about 16750 vehicles. According to RDA, Galle road carries a high volume of traffic. However, compared to other towns in the Kalutara district, Kalutara town does not experience much traffic congestion. This situation could be attributed to the fact that the Galle road has been widened to 50 ft. from the center of the road on either side and there is a grade separation for through traffic and local traffic. This has facilitated the public to obtain their goods and services from shops on either side of the road without being affected by through traffic. However, due to lack of parking facilities for vehicles, the congestion on the two service roads have increased. Similarly congestion exists in Old Riverside Road, Station Road and Good Shed Road too.

5.1.1. Passenger Transport:

As per Table 12, there are 86 SLTB buses and 203 private buses originating from Kalutara. According to a survey carried out by the UDA, there are 236 buses plying on Colombo - Galle Road every 2 hours.

Railway too plays an important role in passenger transport in Kalutara town. About 2500 tickets are sold daily in addition to the monthly season tickets which amounts to 2908. Accordingly railway commuters in Kalutara town in 5408. The number of commuters who terminate their journey at Kalutara amounts to between 5500 and 6000.

The institutions that are providing services to the public within Kalutara town are, Railway Station, Bus Station, Divisional Secretary's Office, Kalutara U.C., Kalutara Kachcheri, Nagoda Hospital, Post Office, District Medical Officer's Office, Divisional Education Office, Banks, Schools, District Courts, Telecommunications Commission, Office of the Water Supply & Drainage Board. The number of public who frequent the above institutions to obtain various public services exceeds 100,000 a day. There are about 1500 to 1700 pedestrians within the town during any given time during the day which has shown an increase during the morning hours of 7.30 to 9.30 a.m. and 4.30 to 6.30 p.m. in the evening.

In the operation of the transport system, problems are being experienced due to the following factors:-

I. Parking of Vehicles on either side of the Road

Parking of vehicles on either side of the Galle Road by the members of the public. In addition to the service lanes of Galle Road, vehicle congestion are being experienced in the Station Road, Goodshed Road, Old Galle Road and

Katukurunda junction. A recent parking survey carried out by the UDA reveals that, within the town centre, approximately 600 vehicles are being parked at any given time. This traffic congestion has affected the proper functioning of different activities of the town. (However it has to be mentioned that the situation in Kalutara is not so acute as many other towns in Kalutara District. The lack of common vehicle parks as well as the absence of individual car parking bays are the main contributory factor for this vehicular congestion. (Map No. 8)

II. Utilization of Side space of roads by Vendors:

The occupation of service roads on either side of the Galle Road within the town centre as well as the road sides of Station Road, Goodshed Road by pavement hawkers has caused inconvenience to the pedestrians as well as to the traffic. A survey has revealed that there are 255 such hawkers.

III. Inadequate width of roads and Dilapidated Condition of Drains :

Except the Galle Road, which has adequate width within the town area, other roads such as Palathota and Horana Roads has very narrow widths to carry the traffic volumes.

The side drains of these roads are dilapidated due to lack of maintenance which has resulted in the malfunctioning of the drainage system. The situation is most acute in Nagoda area due to its low elevation. Due to the fact that Kalutara is a coastal town and is relatively flat the drainage has become a serious problem.

Having given serious consideration to this problem, the functional efficiency of the town could be improved and the road network need to be developed in keeping with the appropriate standards. The proposed Building Lines are given in Annexure II.

Several problems relating to passenger transportation by railway authorities are also have been identified.

5.2. Water Supply

Kalutara town is provided with water supply by the NWS&DB utilising the Kalu Ganga water source. The water tapped at Thebuwana is purified at the water treatment plant at Kethhena and is stored in an underground tank. The total capacity of this tank is 13636 cubic meters. Water is distributed to the town from this point. The total daily water consumption of the public of Kalutara town is approximately 3050 c.m. Water is available during the entire 24 hours of the day. However, provision of new water connections to Kalutara town has now been suspended due to the reduction of water pressure of connections to areas outside Kalutara U.C. limits. After completion of work of Kethhena treatment plant a new water supply source is to be utilized for the water supply of Kalutara town. This

new water supply augmentation project is to be implemented in two stages. The stage I is scheduled for completion in 2005 and stage II in 2010 and the completion of both these stages would ensure provision of water supply to meet the demand until 2020. (Map No. 9)

The following problems could be identified in relation to the provision of water supply :

1. Interruption of water supply due to frequent breakdowns and water leakages caused by over 20 year old distribution lines.
2. Sludge deposited in the network at the source and problems relating to the cleaning facility.
3. The problem of salinity that will arise due to lowering of the water table at the source as a result of over exploitation.
4. Inadequacy of the capacity of the Treatment Plant
5. Inadequacy of the capacity of the pipe network when carrying treated water through underground reservoirs.

While the total population of Kalutara town is 37081, the total number of housing units amounts to 6964. Out of these housing units the NWS&DB provides pipe-borne water only to 5821 units while the balance 1143 housing units use water from wells.

Out of the total water consumer units, there are 316 commercial units and 92% of the water consumption is utilized for domestic purposes. Balance 3% is utilized by other sectors, and 5% for commercial sector.

Table : 13

Daily water supply - Kalutara U.C. for the year 2000

Division	No. of Units	Percentage %
Housing	5821	92
Commercial	316	05
Industrial	-	-
Other	174	03
Total	6311	100

Source :- National Water Supply & Drainage Board - Kalutara- 2000

During the year 1992, National Water Supply & Drainage Board has identified the following drainage improvement projects in Kalutara U.C. area after carrying out some investigations:-

1. Construction of a protection wall along the river bank to prevent U.C. premises being inundated by flow of water through the drainage system as the UC premises is a low-lying area.
2. Measures to deal with inundation of storm water and over flow of septic tanks during the rainy season.
3. The water flow of Welegoda Ela is obstructed by Salvenia and Water hyacinth.

5.3. Electricity Supply

The electricity supply to Kalutara U.C. area is provided by the Lanka Electricity Co. (Pvt. Ltd. The electricity demand of Kalutara U..C. is given in the following table. (Map No. 10)

Table : 14

Annual Electricity Demand - 2000 - 2001

Division	No. of Units 2000	Percentage %	No. of Units 2001	Percentage %
Residential	9917	83.82	10788	83.82
Commercial	1672	14.13	1819	14.13
Industrial	29	0.24	32	0.24
Other	213	1.81	232	1.81
Total	11831	100	12871	100

Source :- Ceylon Electricity Board - Kalutara (exceeding city limits)

The total electricity demand has been met.

5.4. Telecommunication Facilities:

The information with regard to the current status of telecommunication facilities is given in the following table:-

Table : 15

Telecommunication Facilities Presently Available for Kalutara

Division	No. of Units	Percentage %
Commercial	1412	16.47
Official	280	3.46
Residential	6183	76.51
Religious places	127	1.56
Working places	162	2.00
Total no. of Units	8069	100

Source :- Sri Lanka Telecom - Kalutara

Table 16 provides the details of telecom facilities demanded by the public. There are 4370 applicants in the waiting list. The highest demand is for domestic connections.

Table : 16

Demand for New Connections - 2002

Division	No. of Units	Percentage
Commercial	214	4.89
Official	76	1.74
Housing	3983	91.15
Religious Places	39	0.89
Working Places	58	1.33
Total	4370	100

Source :- Sri Lanka Telecom - Kalutara

5.5 Disposal of Solid Waste

Approximately 20 tons of solid waste is being generated daily within Kalutara town. There are 12 collection centres and the collection is carried out once in two days, engaging 15 hand carts. The solid waste is disposed at Porawatta in a disorganised manner by utilizing 5 tractors. Although a project was initiated by spending Rs.44m. it had been a failure. The following problems are being identified with regard to the disposal of solid waste.

- i. Many environmental and health problems have risen due to the non-adherence of a proper disposal method.
- ii Shortage of tractors and hand carts.
- iii Shortage of labourers.
- iv Problems encountered by the farmers in the cultivation of paddy fields due to the disposal of untreated sewage and solid waste.
- v. Problems of drainage due to disposal of solid waste into the surface drains.
- vi. Pollution of the beach due to the disposal of solid wastes.
- vii. Lack of civic consciousness of the public in regard to waste disposal.

5.6 Drainage System

Kalutara town experiences severe problem of drainage. Several places in the Kalutara South and Katukurunda area are the glaring examples of such problems. Although there is a natural drainage system, it does not function satisfactorily due to unauthorized constructions, obstruction of drains and culverts and unauthorized reclamation of marshy land. There is a danger of inundation of many places of the town even during a minor rainfall. Furthermore, the flooding of Kaluganga also

results in water stagnation and inundation. Another contributory factor is the low elevation of the town in relation to the mean sea level.

Out of the entire surface drains within the town only a length of 19,625 linear feet. are being cement rendered, the balance 6195 linear feet. are earth drains. The lack of proper maintenance of the drainage system and disposal of effluent into the drains by few of the households create major problems. Stagnant water in the drains helps to breed mosquitoes and produce a risk for an outbreak of Dengu and Fileria.

Areas subject to water logging:

1. Road section of 4th Lane of Temple Road, Kalutara North near Wijemanna Mawatha (the present problem is a result of closing down the side drains)
 - ii. A section of the Gregory road passing through the U.C. park.
 - iii. Area around Duwa Temple road
 - iv. Modara
 - v. Area around Hill Street
 - vi. Area adjacent to Muslim Central College - Mosque Road
 - vii Katukurunda 2nd Lane area.

(Map No. 11)

6.0. Social Infrastructure:

6.1. Education:

There are 12 schools located within Kalutara U.C. as shown in Table 17. (Map No. 12)

Table 17.

Schools Located in Kalutara U.C.

Item No.	Name of the School	Grade	Medium	No. of Teachers	No. of Students
01	Kalutara Balika M.V.	1 AB	Sinhala	100	2827
02	Kalutara M.V.	1 AB	Sinhala Sinhala	83	2336
03	Katukurunda Roman Cathelic M.V.	1 C	Sinhala	41	870
04	Gchanodaya M.V.	1 C	Sin./Tamil	77	1880
05	St. Jones M.V.	2	Sinhala	28	562
06	Janarajadina Boys J.V.	2	Sinhala	11	76
07	Deshasthra Girls J.V.	2	Sinhala	15	281
08	Botuwawatta Sri Devananda J.V.	2	Sin/English	17	224
09	Weelapura M.V.	1 C	Sinhala	41	1101
10	Sugatha J.V.	2	Sin./Tamil	29	543
11	Kalutara Muslim C.M.V.	1 AB	Tamil	62	1508
12	Kalutara Muslim Boys M.V.	1 C		34	793
	Total	-	-	538	13001

Source :- Information Report - Divisional Educational Office - Kalutara 2002

1AB - Schools with A/L Science

1 C - Schools with A/L Commerce and Arts

2 - Schools up to G.C.E. (O/L)

There are 2 national schools under grades A & B including a Central school within Kalutara U.C. limits. There are also 4 of Grade 1C schools and 5 of Grade 2 schools as shown in Table 17. In addition there are 2 affiliated Govt. schools.

There is a greater demand for admission to the two national schools. Therefore the stand and of education of other schools in Kalutara town to be up graded in order to prevent students being attracted to schools located outside the town centre.

The total student population of the town is 13,000. There are only 538 teachers provides a teacher - student ratio of 1:24. According to the accepted standards, this is a satisfactory ratio. However, in the case of the subjects like Tamil and primary level education, there are shortage of teachers.

Out of the schools located within the town, only two schools have play grounds. Laboratory facilities are available only in the two national schools for the use of advanced level students. Excepting two schools, other schools have small scale laboratory facilities for O/L students. Although there are library facilities in all the schools, 4 schools have only temporary facilities (Annexure III). Eventhough Kalutara is

a district capital, it is found that school facilities are inadequate and unevenly distributed that cannot meet the demand for future increase of the students' population.

6.2. Health Facilities:

Kalutara town is the main centre providing health services to the district. As shown in Annexure IV, in addition to the district hospital at Nagoda, there is one private hospital and several Western and Ayurvedic dispensaries within the town.

Nagoda district hospital has 24 wards, which include special wards for children, maternity, surgery, ENT and cancer. Annexure IV (i).

The total staff attached to Nagoda hospital is 874. It has a medical team of 159, consisting of 16 medical specialists and 143 doctors. The strength of the staff is 229.

Although the hospital provide a satisfactory service, the staff strength and facilities appear to be inadequate compared to the number of patients who attend the hospital daily.

While there are 175 - 200 patients who seek admission to hospital for treatment, the number attending OPD for treatment is in between 1000 - 1200. In addition, 500 - 600 patients attend various clinics daily - vide Annexure V. Due to the non-availability of specialist doctors for cancer, kidney, heart ailments and T.B. in house, the services of such specialists have to be obtained from other hospitals.

The problems that are being encountered by the hospital:

- Inadequate accommodation.
- Insufficient number of beds compared to the number of expectant mothers getting admitted daily for delivery.
- Insufficient number of beds available in the surgical wards results in discharging the patients prematurely.
- Shortage of hospital staff including chemists.
- Shortage of ambulances in working condition.

6.3 Postal Services

The main post office is located at Station Road closer to the railway station. There are 19 sub-post offices, and 3 Agency post offices. The present services are satisfactory.

7.0 Natural Environment

There are several sensitive environmental areas in Kalutara town.

1. Embankments and river mouth of Kaluganga.

2. Kalido beach strip
3. Lagoon area
4. Heenatiyangala Ela
5. Marshy lands
6. Paddy fields
7. Mangroves

The maintenance of these environmentally sensitive areas is essential for the sustainable development of the area in several ways namely, The Kalido beach strip and the river mouth are tourist attractions; Marshy areas, paddy fields etc. serve as retention areas during floods and Heenatiyana Ela serves as a drainage facility during the rainy season.

The total wetland area within Kalutara U.C. area amounts to 17.94% or 137 hectares of the total area. The marshy and low lying areas constitute 6.43% of the total area. i.e. 49.12 hectares. Accordingly there is a substantial extent of environmentally sensitive areas. When utilising such land for any development activity, the environmental balance has to be ensured. The scenic beach area, Kaluganga river mouth that could be used for boating, and the sacred Bo Tree are some of the important development potentials.

7.1 Negative Environmental Impacts

Presently natural environment has been adversely affected by the following:-

1. Uncontrolled and unregulated disposal of waste resulting in the pollution of water bodies and drains.
2. Reclamation of marshes and disposal of solid waste into low-lying areas resulting in flooding.
3. Damage to bio-diversity due to removal of sand from Kalu Ganga.
4. Environmental problems caused by unauthorized construction settlements on riverbanks.
5. Disposal of human waste from fishing settlements along the beach.
6. Mosquito breeding due to water stagnation in low-lying areas.

Kalu Ganga river mouth area is rich in bio-diversity. Its river valley and water support and sustain rich marine life and is significant from the point of view of education.

7.2 Recreational and Entertainment Activities:

There are about 10 playgrounds for within Kalutara that can be used for recreation and entertainment activities. Furthermore Kalido beach is available for relaxation and recreational purposes to the population of Kalutara town. The open areas and wetland areas which constitute 18% of the total land use of Kalutara town

provides a clean and healthy environment to the town. Kalu ganga also could be utilized for water sports.

8.0 Analysis of Strength, Weaknesses, Opportunities and Threats

This chapter forward the analysis of threats and weaknesses on growth the town as well as strength of Kalutara town divined from situational report.

Strengths, Weaknesses, Opportunities & Threats

Strengths	Weaknesses	Opportunities	Threats
<p>Physical * <u>75.62% developable land out of the total land area of the town which constitute 7.63 km.</u></p>	<ul style="list-style-type: none"> • 24.38% of the total land area of the town is not developable as they are low lying and marshy areas. • The division of the town into two parts by Kalu ganga has affected the balanced development of the town. 	<p>* The tourism zone defined by the Ceylon Tourist Board also include the coastal belt.</p>	<p>* The greater attraction of tourism development towards adjoining areas such as Beruwala which have more potential.</p>
<p>Only 40 km. distance to the main port and the commercial capital of the country.</p>	<p>Limited land available for development to motivate investors.</p>	<p>Existence of a favourable climate to encourage foreign investment.</p>	<p>The difficulties encountered in identifying land for large scale projects due to disorderly utilization of land.</p>
<p>Availability of good infrastructure facilities.</p>	<p>Outdated.</p>	<p>Attraction of investors</p>	<p>Non-availability of developed land to meet the future demand.</p>
<p>Economy Potential for tourism, commerce, fisheries and informal sector activities</p>	<p>❖ No evaluation has been made on the existing potentials</p>	<p>❖ Interest shown by local and foreign developers to different investment opportunities available and the Govt.'s incentive package.</p>	<p>The outdated infrastructure networks and the development potentials of neighbouring areas.(e.g. Bentota beach)</p>
<p>Social Facilities</p> <ul style="list-style-type: none"> • Existence of several popular schools in the area. • Location of the only National Hospital of Kalutara District at Nagoda • High literacy level of the population while the majority of the labour force are skilled workers. 	<p>Disparity in the distribution of resources among the schools.</p> <ul style="list-style-type: none"> • No provisions for full facilities. • Security of specialist doctors. • Existing facilities are limited. 	<ul style="list-style-type: none"> • Removal of iniquitous allocation of resources by introducing equity. • The willingness expressed by people's representatives in the provision of facilities. • The availability of skilled labour. 	<ul style="list-style-type: none"> • Attraction of children to popular schools located outside the town. • Attraction of patients to popular hospitals located outside the town.
<p>Environment</p> <ul style="list-style-type: none"> • Existence of an attractive wide beach and a lagoon. • Existence of large water bodies 	<ul style="list-style-type: none"> • A substantial part of the tourist area comes within the environmentally sensitive area. • 18% of the area consists of water bodies. 	<ul style="list-style-type: none"> • Existence of open areas within the town which are suitable for tourism and recreational activities. • Healthy environment • Appropriate for tourism activities and water sports. 	<ul style="list-style-type: none"> • Environmental sensitive area pollute by human activities. • Water bodies pollute by human activities. • Problems of flooding.

9.0 Kalutara Urban Development Plan

This plan is prepared in order to provide an orderly development of the town that will help to resolve the existing problems while utilizing the development potential. The land use plan that is formulated up to year 2025 is given in table 18. (Map No. 13)

Table 18

Proposed Zoning Plan for the year 2020

No.	Land use	Extent (Hectares)	% of total land use
01	Primary Residential	143.6	18.79
02	Mixed Residential	123.4	16.16
03	Commercial	85.24	11.0
04	Sacred area	3.2	0.5
05	Tourism zone	75.9	10.0
06	Public & semi-public	118.0	15.0
07	Environmentally sensitive zone	56.5	7.5
08	Recreational Zone	23.0	3.0
09	Reservations	136.0	18.0
Total		764.8	100.0

Source: UDA 2003.

9.1 Planning Concept:

While maintaining the identity of the town as a sacred area, focus on the development of the town as a district administrative centre

9.2 Aims & Objectives:

The development plan for Kalutara town has been prepared with the objective to develop Kalutara town as a well planned and well organized administrative and service centre. .

No.	Objectives	Strategies	Recommendations
01	Raise the level of Kalutara town as an administrative centre to a higher level than other towns in the district.	Expand the limits of Kalutara U.C. by extending into the present area of authority of the Pradeshiya Sabha.	Delimit the boundaries of Kalutara U.C. to incorporate the Pradeshiya Sabha area as well.
02	Transport network to be rearranged according to accepted standards.	All internal roads as well as through roads to be re planned and re developed with drains and pavements in keeping to the accepted standards	Standardization of all roads as per the specifications of the development plan.
03	Prevent problems caused by lack of proper parking areas .	Provision of parking areas within the town centre.	Provide of the following car parks: 1. Land owned by Kalutara Bodhi Trust 2. Proposed commercial complex
04	Prevent flooding of low lying areas during the rainy season.	Existing natural drainage system of the town be reorganized.	Proper rearrangement of the existing drainage system.
05	Raise the slow rate of development of the Northern area to a higher level.	Identify developable land within the area and prepare development plans for same.	Sub centers to be established at the 1st cross street and Galle road junction.
06	Integration of the administrative complex located along Nagoda road with the town centre.	Introduction of an efficient bus service linking Nagoda junction with Kalutara town centre.	Provision of a bus station at Nagoda
07	Provide remedies to the current housing shortage in the town.	Provide land available for middle and low-income housing.	Following sites have been identified for middle and low-income housing:- 1. Thilaka Walauwa Watta within the proposed city limits. 2. Govt. owned land near Agricultural centre at Nagoda.

08	Standardize the commercial development along Galle road which is in a disorderly manner	Land use of junction centres be re planned and re organized.	Commercial sub centres be established at Nagoda & Katukurunda junctions.
09	Re arrange Kalido beach area for public use.	Develop Kalido beach while maintaining environmental sensitivity.	Develop Kalido beach as a beach park for recreation and amenity.
10	Standardize the transportation system.	Implement stage 2 of the bus stand development	Expand the bus stand in the westerly and north westerly direction up to the boundary of the play ground site.
11	Reorganize the solid waste disposal system to ensure cleanliness and public health..	Implement appropriate programs for the disposal of solid waste.	Introduction of recycling of waste, composting and generation of bio-gas.
12	Provision of accommodation for different economic activities within the town.	Shifting of administrative functions located in the town centre to the southern part of the city thus providing room for the commercial expansion of the city centre.	<ul style="list-style-type: none"> • Shifting of the Courts complex and the police station to Katukurunda area • Utilize the above vacant sites for appropriate development.
13	Promote investment in manufacturing and service sectors to create employment opportunities in the town.	Zoning of appropriate areas for public and private sector investment	<ul style="list-style-type: none"> • Establishment of industrial areas and promotion of tourism development • Industrial zone based on AMW Factory • Promotion of tourism development in the South Westerly and North Westerly direction.

10.0 Land use Zoning

10.1 Scope:

The scope of land use zoning is to formulate zoning, building and other regulations for the purpose of achieving the objectives set out in the Kalutara urban development plan during the period 2003 to 2020.

10.2 General Zoning Provisions:

- 10.2.1 When a site or a property is zoned for a particular use or activity it shall be used only for such purpose.
- 10.2.2 The maximum Floor Area Ratio (FAR), applicable to a building to be constructed within each zoning category shall be in terms of annexure VI.
- 10.2.3 A site or a building shall not be used for any activity other than those which are prescribed in the development permit.
- 10.2.4 Every building which is located abutting a foot path access shall maintain a building line reservation of not less than 2.0 meters from the centre-line of the access road.
- 10.2.5 All sites abutting a canal shall maintain a reservation as prescribed in annexure VII.
- 10.2.6 When making applications for the construction of religious statues, Crosses or other religious emblems, or converting use of a building to a religious activity, there shall be no objection from more than 2/3rd of the population, residing within a radius of one kilo meter from such a location.
- 10.2.7 All permanent hoardings erected on a street shall be in line with the building line without covering the appearance of the building.

10.3 Land Use Categories

- 10.3.1 Available block of land has been identified for some use as defined in the land use zoning plan and following are such land use categories (Annexure VIII).
1. Primary Residential Zone
 2. Mixed Residential Zone
 3. Commercial Zone
 4. Public and Semi-public Zone
 5. Tourism Development Zone
 6. Reservations
 7. Play Grounds & Open Spaces
 8. Sacred Areas
 9. Environmentally Sensitive Zone

10.4 Specified Land Uses Zones

10.4.1 Primary Residential Zone

10.4.1.1 Following uses may be permitted within a Primary Residential Zone without affecting the neighbouring premises in terms of noise, vehicular congestion etc.)

- i. Residential Buildings
- ii. Day care centres and pre-school education
- iii. Small industrial units with a floor area of not exceeding 50 sq. meters, using machinery not exceeding 3 horse power, and employing less than 10 persons
- iv. Fuel Filling Stations
- v. Community centres
- vi. Clinics not exceeding 100 sq. meters floor area in extent
- vii. Places of Religious worship
- viii. Professional Offices not exceeding 100 sq. meters floor area in extent
- ix. Plant nurseries
- x. Reading rooms
- xi. Small retail shops and communication centres (not exceeding 50 sq. meters)
- xii. Hostels
- xiii. Parks and play grounds
- xiv. Indoor stadiums
- xv. Tuition classes not exceeding 250 sq. meters floor area and not exceeding 50 students

10.4.1.2 All activities prescribed above should provide the required car parking facilities within their premises.

10.4.2 Mixed Residential Zone

10.4.2.1 Following uses may be permitted in a mixed residential zone:-

- i. All uses permitted in a primary residential zone. Following uses may be permitted provided the site extent is not less than 20 perches:
- ii. small scale industries (subject to noise levels prescribed by the CEA in respect of mixed residential areas.
- iii. Wholesale and retail trade.
- iv. Hotels, restaurants and lodging houses.
- v. Public buildings
- vi. Medical institutions
- vii. Fuel Filling stations
- viii. Schools
- ix. Tuition classes, with a floor area not exceeding 500 sq. meters.

10.4.2.2 The Authority may enforce restrictions and conditions to prevent or minimize environmental pollution caused by industries and measures to prevent fire hazards etc.

10.4.2.3 All uses prescribed above from iii to ix shall provide the required vehicle parking facilities within their own premises.

10.4.3 Commercial Zone

10.4.3.1 In addition to all uses permitted in a mixed residential zone, following uses shall be permitted:-

- i. Commercial establishments, shops, show rooms, markets and super markets
- ii. Hotels, Guest houses and restaurants,
- iii. Banks and financial institutions
- iv. Tuition classes
- v. Cinema halls, entertainment centres, holiday resorts and clubs,
- vi. Medical centres
- vii. Professional and commercial offices
- viii. Fuel Filling and service stations
- ix. Public and semi-public buildings,
- x. Festival halls
- xi. Vehicle parks and parking complexes
- xii. Bus stations

10.4.4 Public & Semi-public Activity Zone:

10.4.4.1 In addition to uses iii, iv, vii, ix and xi which are permitted in the Commercial Zone, following uses shall be permitted in the Public and Semi public Activity Zone:-

- i. Administrative complexes
- ii. Education and Higher Education centres
- iii. Places of public assembly and cultural centres
- iv. Parks, play grounds, Holiday and entertainments centres.
- v. Libraries and museums
- vi. Restaurants and retail shops not exceeding a floor area of 100 sq. meters
- vii. Following activities shall not be permitted in the area adjacent to the Katukurunda Air Port:-
 - i. Smoke Chimneys
 - ii. Fruits & meat processing industries

- iii. High tension overhead electric cables
- iv. Medium and large scale industries
- v. Warehouses using light reflecting material

10.4.5 Tourism Activity Zone:

10.4.5.1 Following uses may be permitted within Tourism Activity Zone.

- i. Tourist Hotels
- ii. Restaurants
- iii. Lodges
- iv. Entertainment based commercial uses
- v. Stadiums
- vi. Exhibition stalls
- vii. Swimming Pools
- viii. Shops and trade stalls
- ix. Other uses permissible in a Primary Residential Zone

10.4.6 Reservations:

- i. Kaluganga reservation - The area between the high flood level and lower flood level should not be less than 20 meters.
- ii. 6 meters in respect of Heenatiyangala and Vilegoda canal.
- iii. Half of the natural width in respect of all other water ways.

10.4.7 Recreation & Entertainment Activity Zone:

10.4.7.1 Following uses shall be permitted within this zone:-

- i. Tourism based activities
- ii. Play grounds and indoor stadiums
- iii. Sports clubs & stadiums
- iv. Exhibition stalls and open air theatres

10.4.8 Sacred Area Zone:

Activities that will not be in harmony with the existing uses shall not be permitted.

10.4.9 Environmentally Sensitive Zone:

10.4.9.1 Development that will not be in conformity with the existing wetland character shall be permitted and the vegetation which maintains the ecological balance shall not be destroyed.

- i. In the determination of boundaries of this zone, the same boundaries as indicated in the Town Survey maps of 1968 for floodable areas shall apply.

- ii. No development activity shall be permitted within an environmentally sensitive zone. However in view of the fact that the removal of existing settlements from the areas could cause social tension, this restriction shall apply only to new constructions and filling of low-lying lands.

All development activities of religious places wanted in every zone of zoning plan should obtain the prior approval of Urban Development Authority.