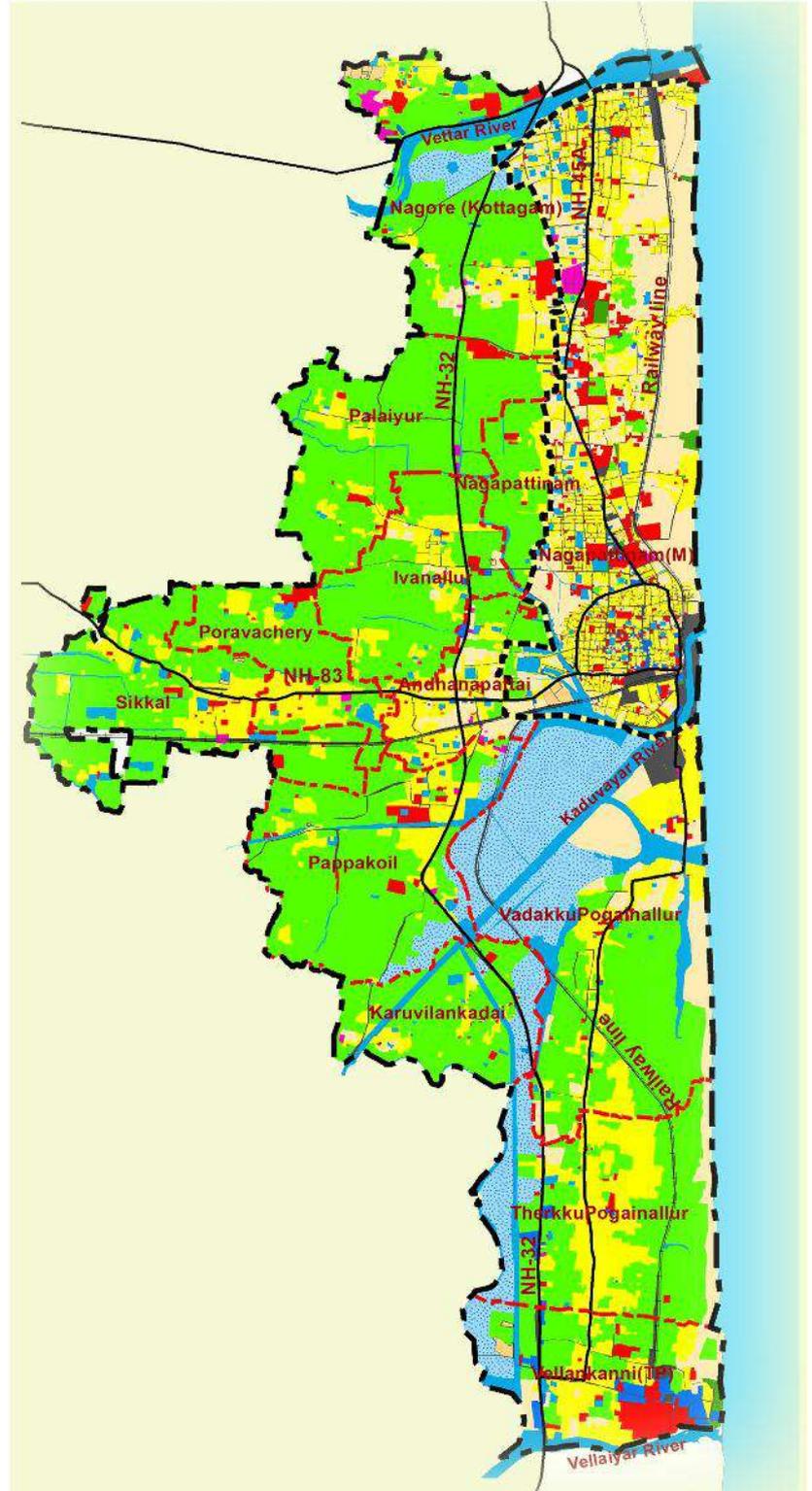
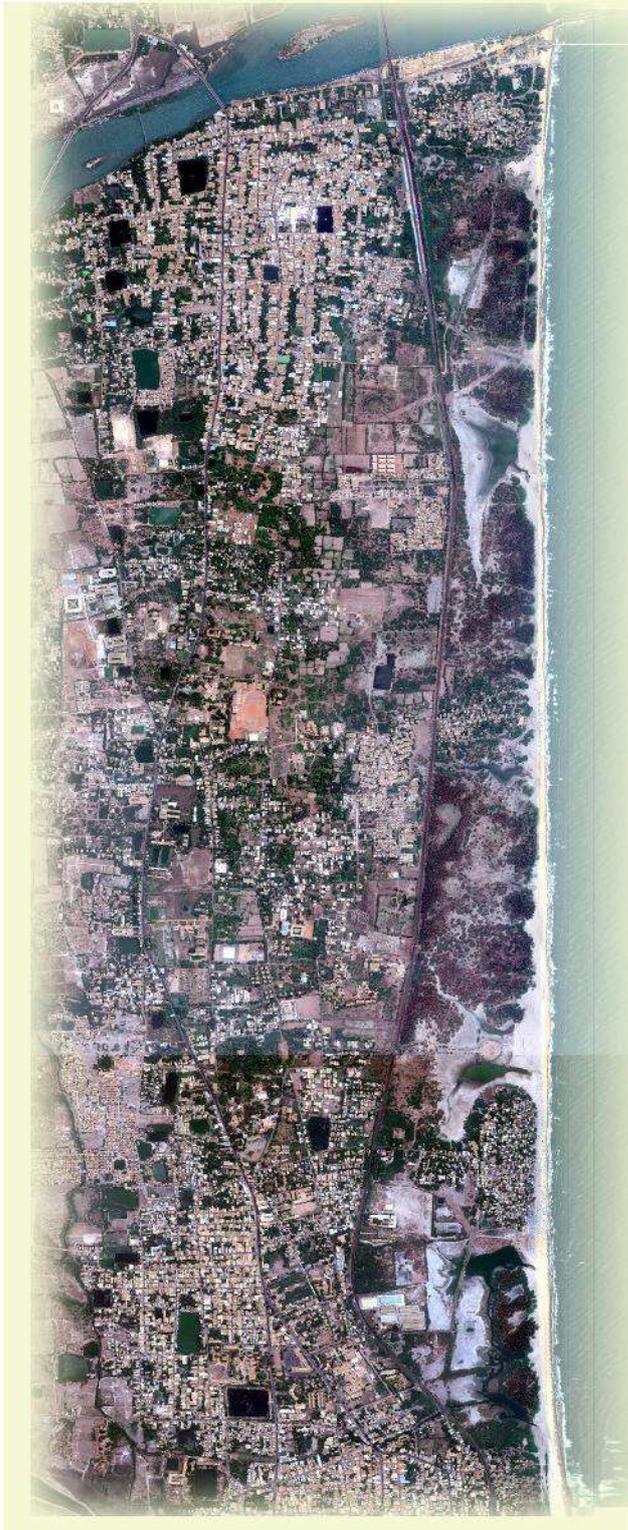


GIS BASED MASTER PLAN NAGAPATTINAM LPA-2041



Draft Master Plan



Directorate of Town and Country Planning
Government of Tamil Nadu

April 2022

GIS Based Master Plan
Nagapattinam with Velankanni – 2041

Draft Master Plan

Directorate of Town and Country Planning
APRIL - 2022

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LIST OF ABBREVIATIONS

AICTE	- All India Council for Technical Education
AMRUT	- Atal Mission for Rejuvenation and Urban Transformation
CBD	- Central Business District
CLPA	- Combined Local Planning Area
CPCD	- Central Pollution Control Board
CPCL	- Chennai Petroleum Corporation Limited
CPHEEO	- Central Public Health and Environmental Engineering Organization
CRZ	- Coastal Regulation Zone
CWSS	- Combined Water Supply Scheme
CZMP	- Coastal Zone Management Plan
DEM	- Digital Elevation Model
DEWATS	- Decentralized Waste Water Treatment Systems
DTCP	- Directorate of Town and Country Planning
ECS	- Equivalent Car Space
ESA	- Ecologically Sensitive Area
FAR	- Floor Area Ration
FSI	- Floor Space Index
FY	- Fiscal Year
GDP	- Gross Domestic Product
GIS	- Geographic Information System
HTL	- High Tide Line
ISWM	- Integrated Solid Waste Management
ITI	- Industrial Training Institute
JLG	- Joint Liability Group
JNNURM	- Jawaharlal Nehru National Urban Renewal Mission
LOS	- Level of Service
LPA	- Local Planning Area
LPCD	- Liters Per Capita per Day
LST	- Land Surface Temperature

M	- Municipality
MLD	- Million Liters per Day
MOEF	- Ministry of Environment and Forest
MP	- Master planning
MSW	- Municipal Solid Waste
NBC	- National Building Code
NDVI	- Normalized Difference Vegetation Index
NDZ	- No Development Zone
NEERI	- National Environmental Engineering Research Institute
NH	- National Highway
NSSO	- National Sample Survey Office
OHT	- Over Head Tank
PCU	- Passenger Car Unit
PMAY	- Pradhan Mantri Awas Yojana
PVC	- Polyvinyl Chloride
RADPFI	- Rural Area Development Plan Formulation and Implementation
RCC	- Reinforced Cement Concrete
RO	- Reverse Osmosis
RTE	- Right to Education
SC	- Scheduled Caste
SH	- State Highway
SIDCO	- Small Industrial Development Corporation
SIPCOT	- State Industries Promotion Corporation of Tamil Nadu Ltd.
SOI	- Survey of India
ST	- Scheduled Tribes
STP	- Sewage Treatment Plant
TANSIDCO	- Tamil Nadu Small Industries Development Corporation Limited
TNCDBR	- Tamil Nadu Combined Development Building Rules
TNJFU	- Tamil Nadu Dr.J. Jayalalitha Fisheries University
TNMB	- Tamil Nadu Maritime Board
TNUIFSL	- Tamil Nadu Urban Infrastructure Financial Services Limited
TP	- Town Panchayat

TPD	- Tonnes Per Day
TTDC	- Tamil Nadu Tourism Development Corporation Limited
TWAD	- Tamil Nadu Water Supply and Drainage Board
ULD	- Urban Local Body
URDPFI	- Urban and Regional Development Plans Formulation and Implementation
WHO	- World Health Organization

1. INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The GIS-based Master Plan is prepared under AMRUT (Atal Mission for Rejuvenation and Urban Transformation) program. AMRUT aims to transform cities into efficient living spaces. The mission targets transforming 500 cities and towns in India into efficient urban living spaces, with a special focus on water supply, sewerage, stormwater drains, green spaces and parks. The mission mandates a set of 11 reforms which have to be implemented by all the states and 500 mission cities within 4 years. One such reform under 'Urban Planning and City Development Plans' is the preparation and implementation of a master plan using GIS within 48 months. The GIS is a system that creates, manages, and analyzes all types of spatial & geographical data. Its significant feature is to integrate the spatial and attribute data. It has revolutionized the process of map-making and plan preparation. The system is capable of storing, updating, retrieving, analyzing and displaying. It's cost-effective, accurate and accomplishes the plan preparation with speed.

In the above context, the government of Tamil Nadu has awarded the preparation of a GIS-based Master Plan (MP) for Nagapattinam Local Planning Area to the Department of Planning, School of Architecture and Planning, Anna University. The Master Plan for Nagapattinam is prepared for 20 years, considering the various demand for the projected population. This report covers aspects such as the collection and review of sector-wise data on the existing situation. And also study the demand, supply and identify the gap in the service delivered, assess the environmental conditions, study the traffic situations, land use pattern and identify existing problems, potentials and proposing land parcels for various activities.

1.2 OBJECTIVE

The vision of Nagapattinam Master Plan preparation is to improve the socio-economic standard of living of the people and enhance the quality of life by the generation of employment opportunities, social facilities, basic amenities, transport infrastructure and services and others.

1.3 PROFILE OF NAGAPATTINAM LOCAL PLANNING AREA

The Nagapattinam Local Planning Area (CLPA) was originally declared under section 10 (4) of the Town and Country Planning Act,1971 in the G.O.Ms.No.2062 RD&LA dated 20-9-1973. The Governor of Tamil Nadu has included additional areas in the CLPA as per G.O. Ms. No. 10 of

Housing and Urban Development department No. II (2)/HOU/163/2018 dated 19th January 2018. The revised LPA comprises of Nagapattinam Municipality, Velankanni Town Panchayat, and 11 revenue Villages. The area of the LPA is 80.08 sq. km with a population of 1,64,824 in 2011. The Municipal area, which forms the core of the LPA accounts for 18.61% of the LPA area. However, the population of the core area accounts for 45% of the total population of LPA. The mismatch between the population and the area will be a big challenge for the balanced development of the LPA.

Nagapattinam and Nagore were incorporated as a single Municipality in 1866 and promoted to a second-grade Municipality in 1986. It was upgraded to a selection grade Municipality in the year 1998. The Nagapattinam Municipality consists of 36 wards and covers an area of about 14.35 sq./km. The profile of Nagapattinam Town & Nagapattinam LPA is described in Tables 1.1 & 1.2.

Table 1.1: Profile of Nagapattinam Town

1.	Name of the Town	Nagapattinam
2.	Civic Status	Municipality (1866)
		Second Grade Municipality (1986)
		Selection Grade Municipality (1998)
3.	Population (2011)	1,02,905
4.	Population Growth Rate (2001 -11)	10.47 %
5.	Area	14.35 sq.km
6.	Density	7,171 persons/ sq.km
7.	Name of the Tehsil	Nagapattinam
8.	Name of the District	Nagapattinam
9.	State	Tamil Nadu

(Source: Nagapattinam Municipality)

Table 1.2: Profile of Nagapattinam LPA

1.	Name of the LPA	Nagapattinam with Velankanni
2.	Constitution of the LPA	
	Date of Notification	10.04.1974
	Extent of the LPA	14.35 sq.km
	Constituents of the LPA	Nagapattinam Town
3.	Inclusion of Additional Area in the LPA	
	Date of Notification for inclusion of	19.01.2018
	Extent of the LPA including additional	80.08 sq.km
	Constituents of the LPA	Nagapattinam Municipality, Velankanni Town Panchayat, & 11 Villages

4.	Total area of the LPA	80.08 sq.km
5.	Population contained in the LPA	1,64,824

(Source: DTCP)

1.3.1 Historical Development of Nagapattinam

Nagapattinam is the district headquarters of Nagapattinam District, Tamil Nadu. The name Nagapattinam was derived from Nagar + Pattinam. In the ancient period, the people from Nagar Nadu (Sri Lanka) were settled at this site initially and the same is developed as a port town during Chola Period. Therefore, this town has been named as Nagapattinam. During the 9th to 12th Century, Nagapattinam was ruled by Cholas and was used as a flourishing Commercial base and a launching pad for eastbound naval expeditions. The neighbouring port, Kaveripoompattinam (modern-day Poompuhar), was the capital of the Chola Kingdom. At that point of time, the palace for Kings, ministers and army officer's residence, places for trade and commerce export and import establishment were located at Nagapattinam. Whereas, Nagore was the residential place for the common people. During the 4th and 5th centuries, this town gained momentum for developmental activities. The trade to this town from China was flourishing, and various sections of people in and around Nagapattinam started to settle in groups of their own societies. From the 6th to 11th century the Chola and Pallava Kingdom created many religious institutions in this town and the Buddhism had also been spread during this period. While sea trade was flourishing during the 12th century the elephant, horses and clothes had been imported from different parts of the world through this port town. At a later stage, this town has come under the control of Holland and the Dutch people. In 1781, it was conquered by the British East India Company from Dutch and served as the capital of Tanjore District from 1799 to 1845 CE under Madras Presidency. After independence in 1947, this town has become a part of India as well as the State of Tamil Nadu. In 1991, Nagapattinam District was formed by bifurcating the Thanjavur District and Nagapattinam became the District Headquarters of the newly formed Nagapattinam district.

1.3.2 Regional Context

Nagapattinam is a coastal town and it lies at sea level. A location map showing the Nagapattinam Planning Area is depicted in Map 1.1. Nagapattinam is bound by the bay of the Bengal in the east, Vellaiyar river in the South, Thiruvarur district in the west, Thanjavur in the North West and Karaikal & Puducherry in the North. Nagapattinam Municipality is located 84 km from Thanjavur, 14 km from Karaikal, 40 km from Mayiladuthurai, 40 km from Kumbakonam, 25 km from Thiruvarur, and 350 km from Chennai, the state capital of Tamil Nadu.

Table 1.3: Class I towns within a distance of 100 kms from Nagapattinam with their distance

Class I towns within a distance of 100 kms from Nagapattinam		
Tiruchirappalli (147.2 Km)	Neyveli (124.2 Km)	Cuddalore (131.2 Km)
Pudukkottai (160 Km)	Kumbakonam (69.9 Km)	Thanjavur (92.3 Km)

Table 1.3 shows the nearby Class I towns with distance from Nagapattinam town. Nagapattinam has a vast hinterland serving as a potential market and service area. Large urban settlements such as Tiruchirappalli, Neyveli, Cuddalore, Pudukkottai, Kumbakonam, and Thanjavur are more than 70 km away from Nagapattinam. Therefore, the town has a massive hinterland for a distance of 70 km around it, for which it can act as a growth centre establishing forward and backward linkages and, in the process, promoting its development besides contributing to regional development. Figure 1.1 depicts the pattern of distribution of urban settlements in the region.

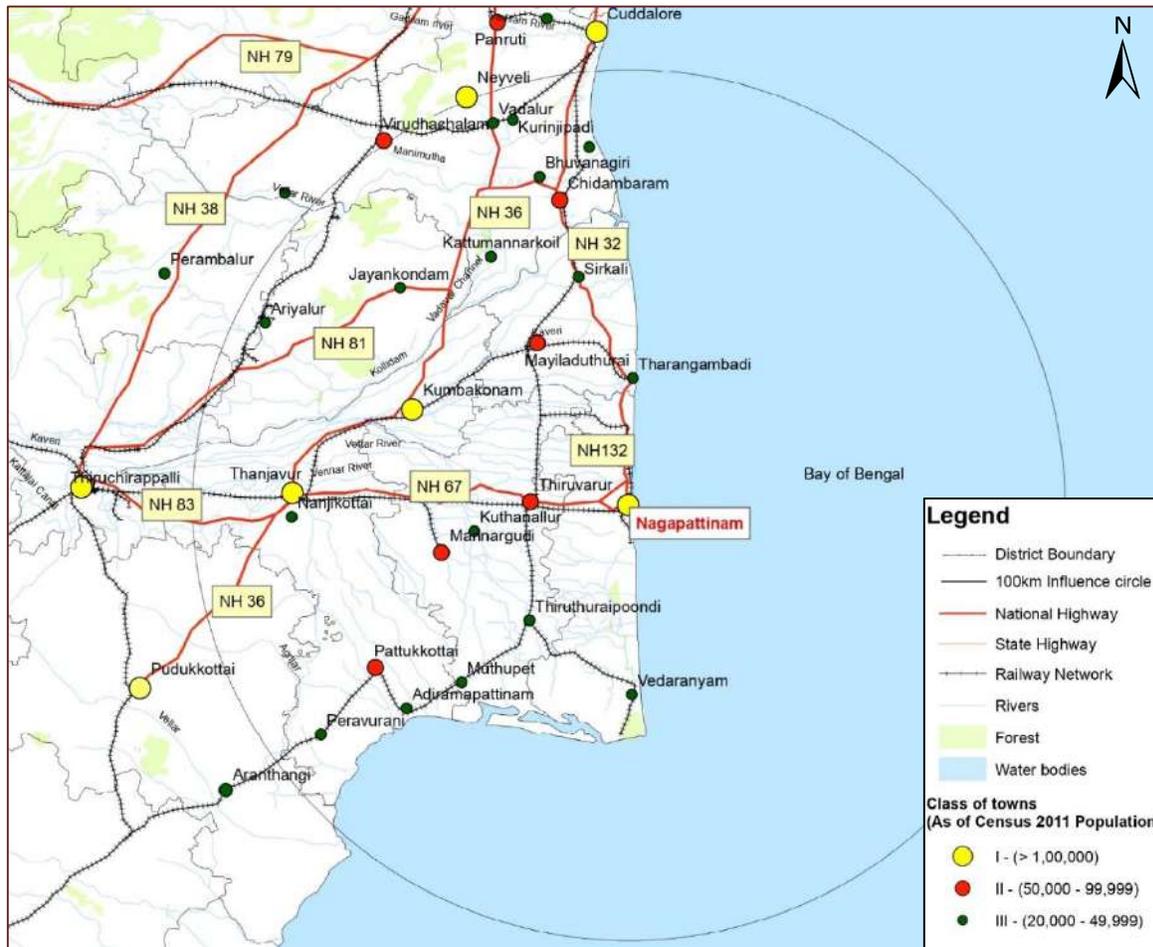


Figure 1.1: Regional Connectivity of Nagapattinam LPA

1.3.3 Evolution of the Growth of Nagapattinam

The growth pattern of Nagapattinam is linear and it is taking place mainly along the transport corridors. The driving force for growth is primarily the location of important tourist places. The major developments are seen along NH 45A and NH 83. In the year 1984, settlements were found only near the port in Nagapattinam town and surrounding the pilgrimage places like Sikkal, Nagore, and Velankanni (Figure 1.2). In 1984, the residential area was spread over 1.77 sq. km in Nagapattinam, Nagore and Velankanni. Over the years, growth happens in such a way that the area between Nagapattinam and Nagore along the national highway is developing. In addition to that, the route connecting Nagapattinam to Sikkal is also developing. The growth of the town in the north and the south is restricted by the Vettar and Kaduvaiyar rivers respectively. Currently, the old town in Nagapattinam has become the Central Business District (CBD) which has a higher density than the rest of the areas. The peripheral regions of Nagapattinam are predominantly agricultural areas without any major developments. The evolution of growth in Nagapattinam town from the year 1984 to 2017 is shown in Map 1.2.

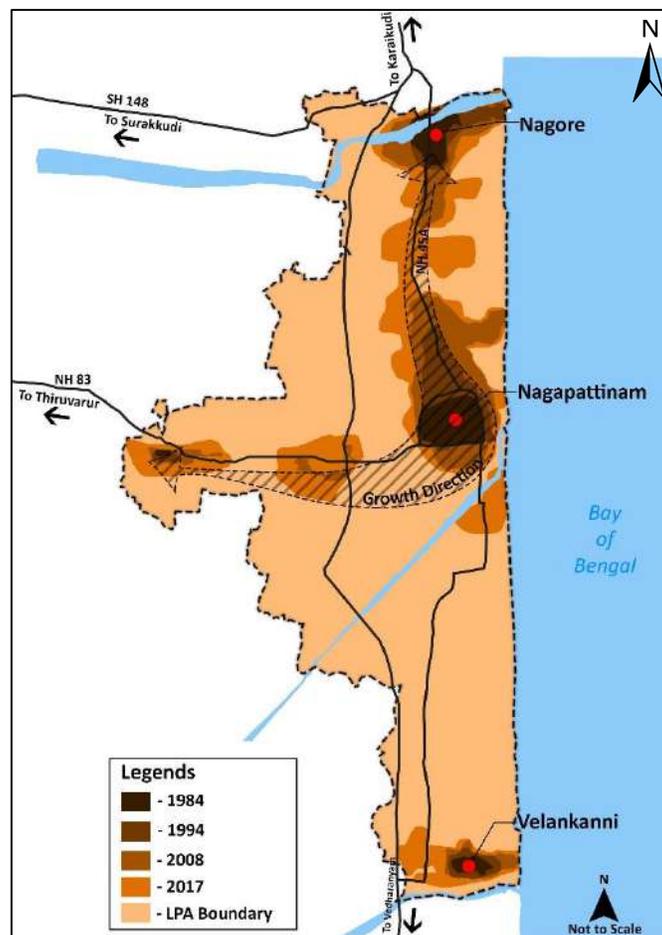


Figure 1.2: Chronological growth of Nagapattinam

1.3.4 Geographical Location

Nagapattinam is located on the shores of the Bay of Bengal between the 10.49°N latitude and 79.84°E longitude. The Local Planning Area is bounded by the Bay of Bengal on the east side, Karaikal on the north side with the Vettar river flowing along this boundary, Vellaiyar river on the South, which runs along the south of Velankanni Town Panchayat and west side covered by Villages namely Sirangudi Puliur, Ponveli, Orathur, Vadavoor, Themangalam, Kadambanoor, and Vadakudi. The total geographical area of the planning area is 80.08 Sq.km. with a coastal stretch of 16.7 km within the LPA (Map 1.1). A map showing the Nagapattinam Municipality and the surrounding Villages within the planning area is shown in Figure 1.3.

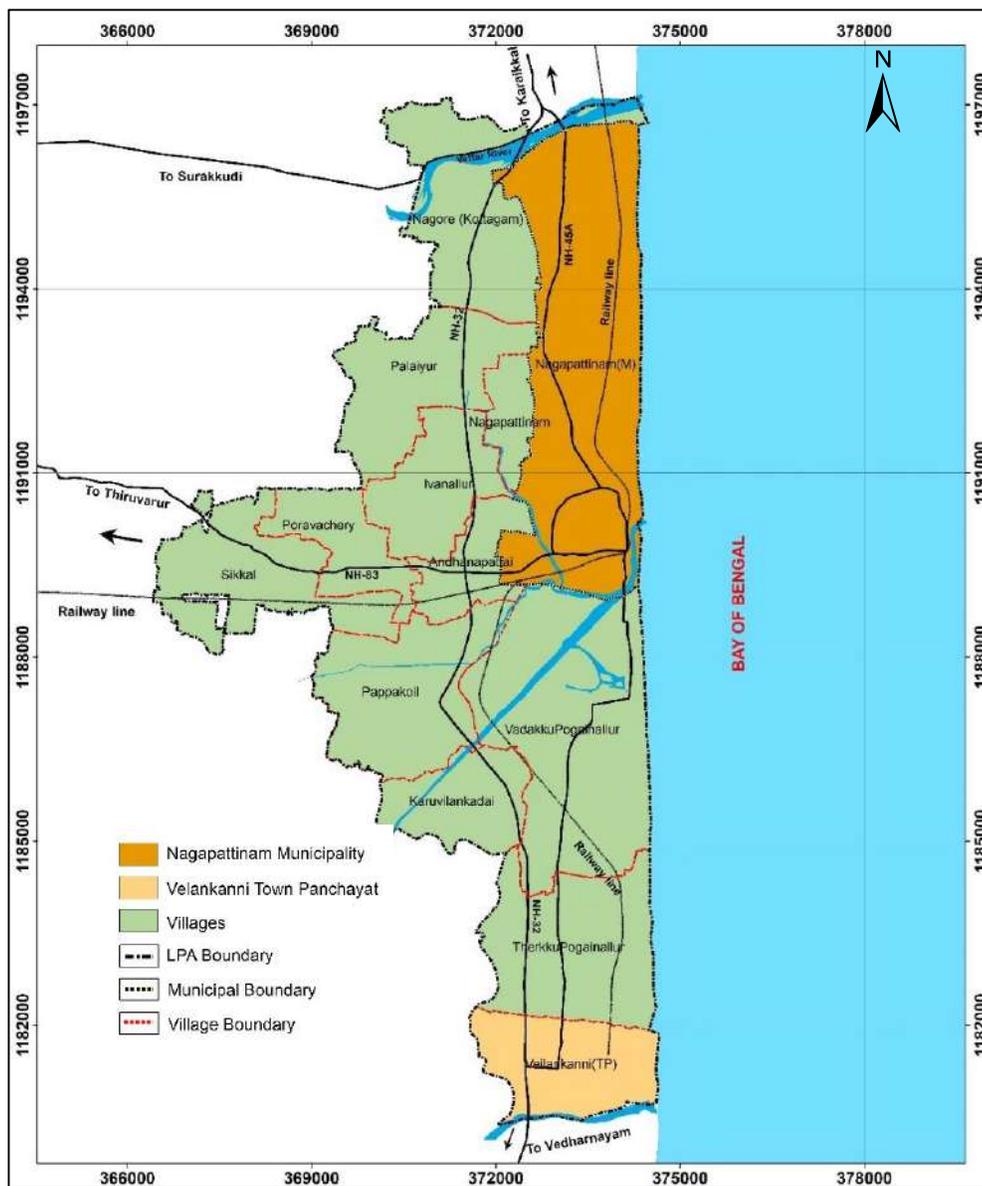


Figure 1.3: Administrative setup of the LPA

1.3.5 Physical Characteristics

Topography and Soil

The terrain of Nagapattinam is generally plain with a gradual slope of 1.2 degrees. The topographical slope is towards the east and the southeast. It has an average elevation of 6 m above mean sea level. Nagapattinam has alluvial and black soli and consists of sandy clay, silt, and sand. The soil along the sea coast is slightly saline due to the influence of the seawater and consequently, their fertility is low to medium only.

The LPA is situated in the deltaic region of the Cauvery River. The three tributaries of river Cauvery transverse through the Nagapattinam LPA. The Vettar River runs in the north, the Vellaiyar river runs in the south and the Kaduvaiyar river runs in the middle of the LPA.

Climate and Rainfall

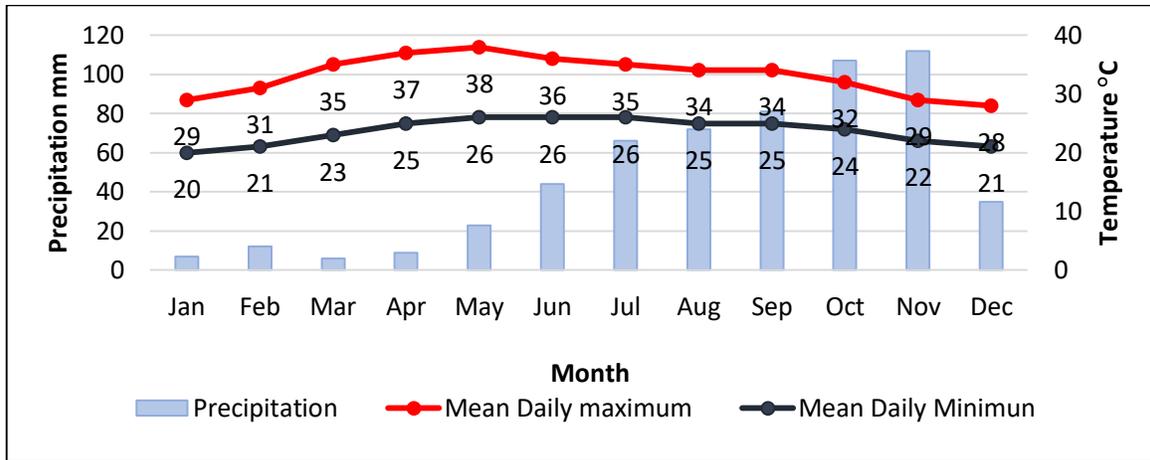
Nagapattinam has a tropical savanna climate with the summer season from April to July and December to January marking the winter season. The maximum temperature ranges from 35°C to 38°C during the summer season and during the winter season, the temperature ranges from 20°C to 25°C (Figure 1.4). The place experiences high humidity throughout the year and it reaches 70% from August to May because of its proximity to the sea.

Rain during the summer season is sparse and the southwest monsoon sets in June and continues till September. north-east monsoon sets in October and continues till January. The rainfall during the southwest monsoon period is much lower than that of the northeast monsoon. The northeast monsoon contributes 60% of the total annual rainfall. The average rainfall in Nagapattinam is 1392 mm per annum. Table 1.4 gives details about the year wise rainfall received in Nagapattinam.

Table 1.4: Average Rainfall in Nagapattinam

Actual rainfall in mm						Normal Rainfall in mm
2013	2014	2015	2016	2017	2018	
1029.6	1415.0	1747.6	661.4	1629	1079.8	1392.6

(Source: TWAD)



(Source: Meteoblue.com)

Figure 1.4: Mean Temperature & Precipitation in Nagapattinam

Transport Network

The Nagapattinam LPA is well connected to nearby places like Thanjavur, Kumbakonam, Cuddalore, Mayiladuthurai, Karaikal and also to major cities like Chennai, Trichy, Madurai, etc. Regional connectivity for spatial representation of major and minor towns within a distance of 100 kms from Nagapattinam is shown in Figure 1.1.

Road Connectivity

Nagapattinam is connected by two National highways and State highways as listed below,

NH 32 – connects to Villupuram

NH 83 – connects to Tiruchirappalli

SH 67 – connects Nagore to Nachiyar Koil

SH 148 – connects Nagore to Vettar

Rail Connectivity

Nagapattinam has one main railway station namely, Nagapattinam junction which connects Thiruvarur Junction in the west, Nagore in the north, and Velankanni in the south. There are passenger trains from Nagapattinam junction to Tiruchirappalli, Thanjavur, Mayiladuthurai, Karaikal, Mannargudi, and Thiruthuraipoondi. A daily express train for Chennai Egmore and Ernakulam Junction is also functioning. There are two tri-weekly trains from Mannargudi to Tirupati (Pamani Express) and Velankanni to Vasco da Gama (Goa) (Vasco Velankanni Express) that passes via Nagapattinam Junction. The existing transportation network in Nagapattinam LPA is shown in Map No. 1.3.

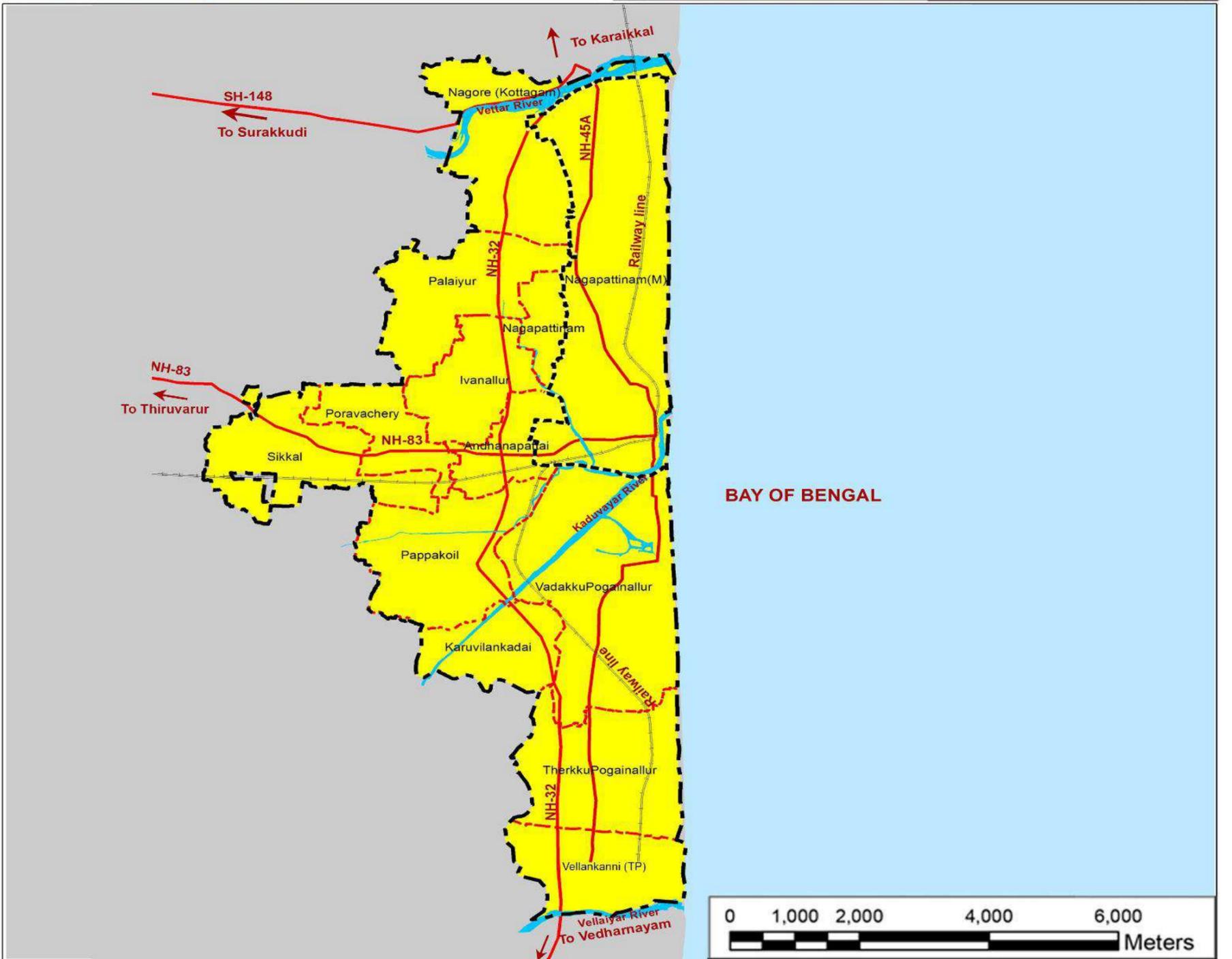
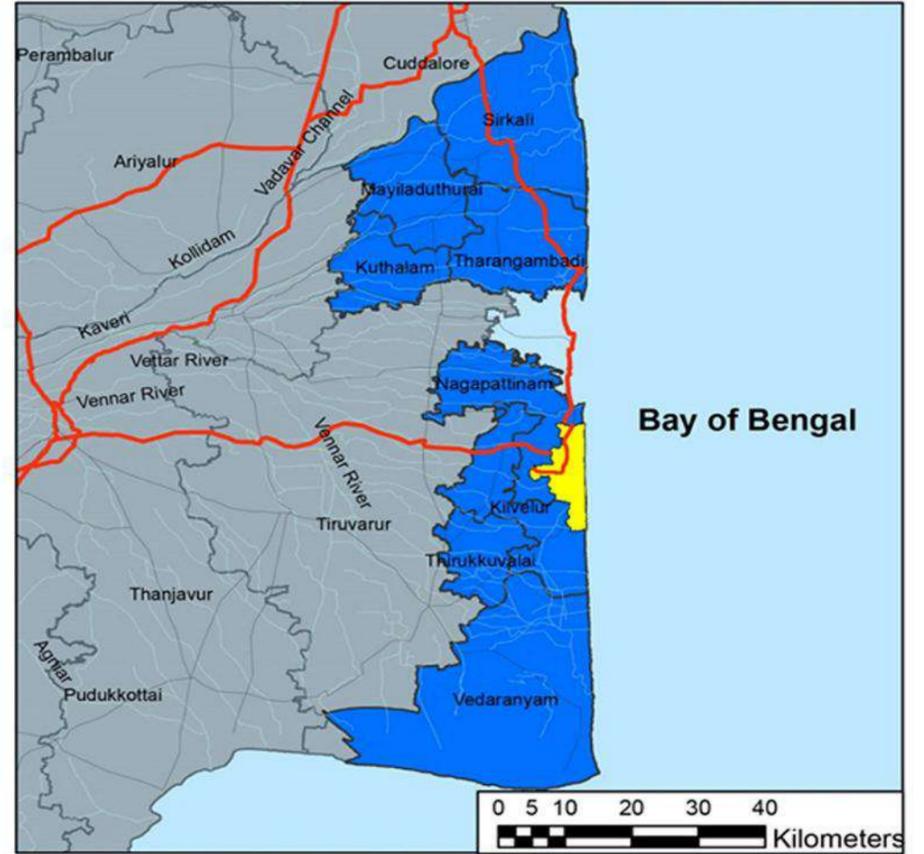
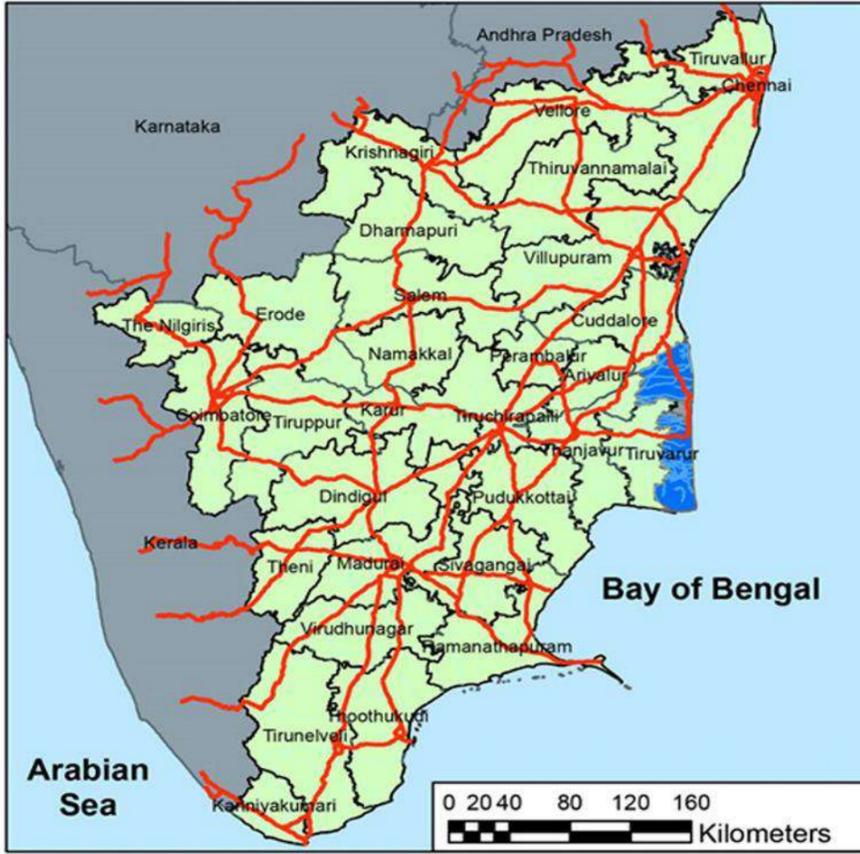
Air connectivity

There is no direct flight connectivity for Nagapattinam. The nearest airport is located at a distance of 145 km in Tiruchirappalli.

1.4 SUMMARY

Nagapattinam master plan aims at improving the socio-economic standard of living of the people and enhancing the quality of life by the generation of employment opportunities, social facilities, basic amenities, transport infrastructure and services and others. Nagapattinam LPA is extended to 80.08 Sq.km with Nagapattinam Municipality, Velankanni Town Panchayat and 11 revenue Villages. Nagapattinam District was formed by bifurcating the Thanjavur District in 1991 and Nagapattinam became the District Headquarters of the newly formed Nagapattinam district.

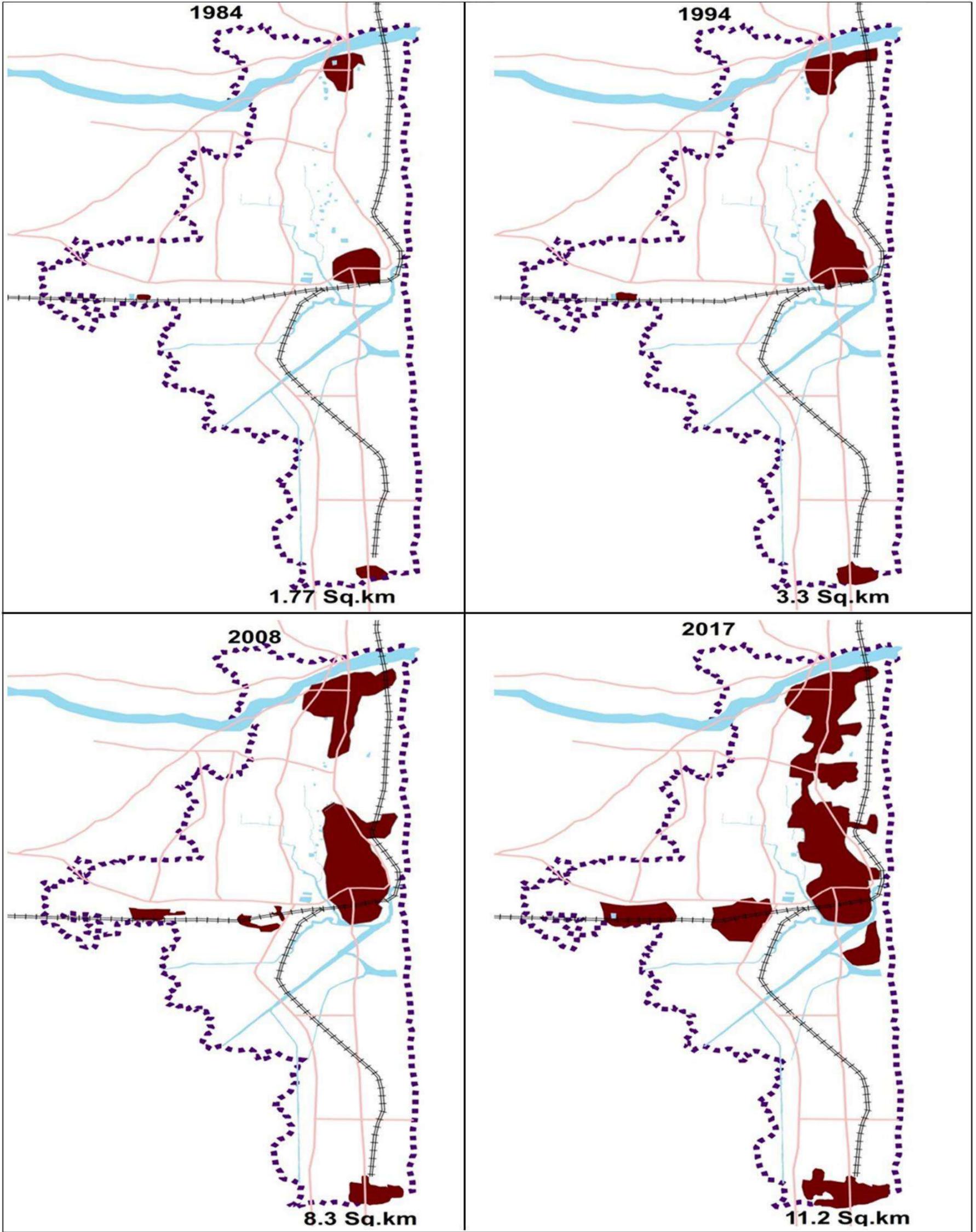
Nagapattinam is bound by the bay of the Bengal in the east, River Uppanar in the South, Thiruvarur district in the west, Thanjavur in the North West and Karaikal & Puducherry in the North. The growth pattern in Nagapattinam is linear and it is taking place mainly along the transport corridors. The driving force for the growth is primarily Tourism and fishing. Nagapattinam LPA is located in the Cauvery River basin. The LPA is well connected with National and State highways (NH-32, NH-83, SH-67, SH-148). This master plan will focus on developing Nagapattinam with a robust economy by utilizing its tourism, agriculture, and fishing potential.



LOCATION MAP OF NAGAPATTINAM LPA

GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU

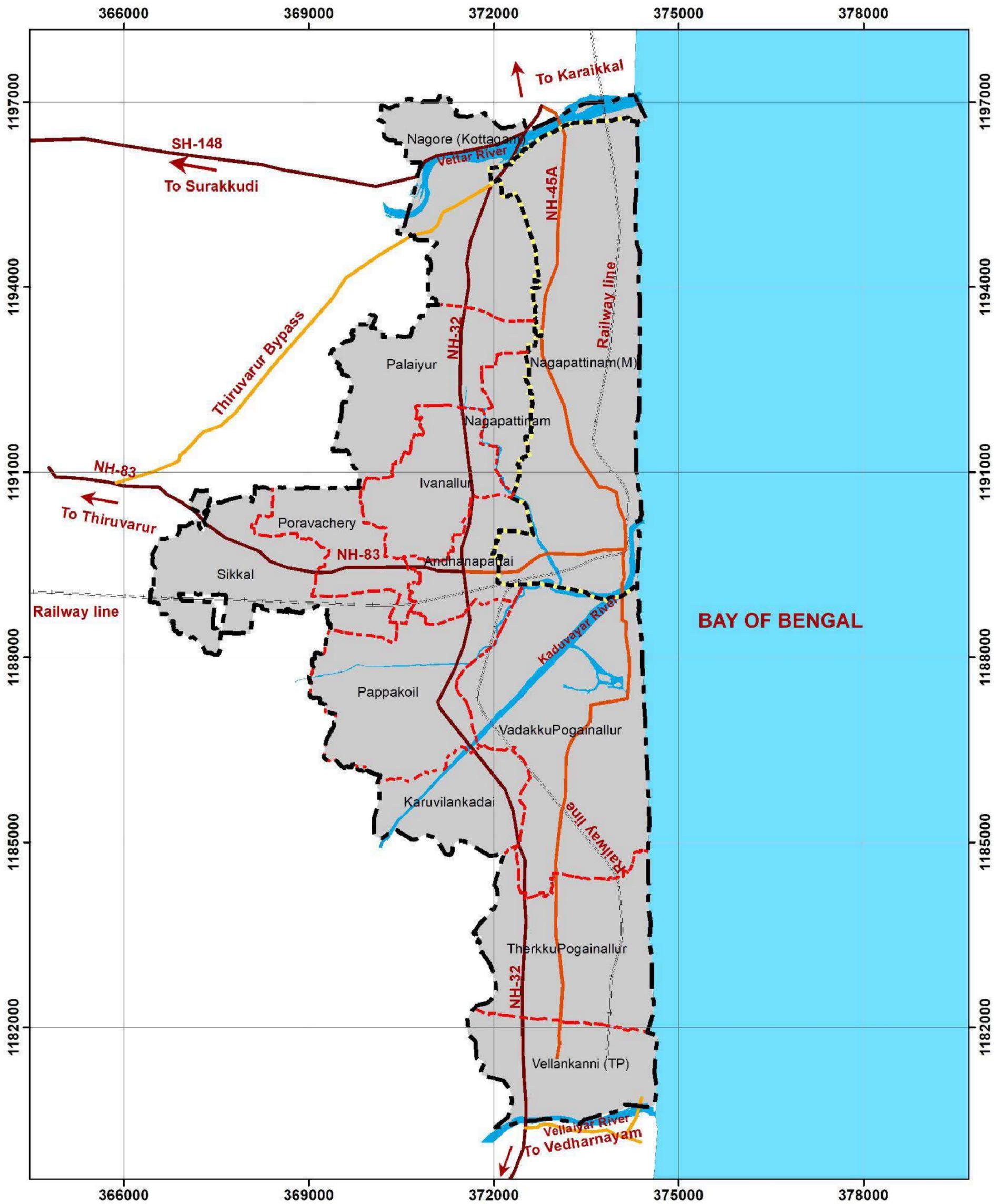
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SCALE: 1:58,000	N
MAP:NO:1.1	DATE: FEBRUARY 2022
CLIENT: Commissioner of Town and Country Planning Directorate of Town and Country Planning Government of Tamil Nadu	
CONSULTANTS: Department of Planning, SAP Campus Anna University Chennai	



EVOLUTION MAP OF NAGAPATTINAM LPA

GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU

0 0.5 1 2 3 Kilometers	
PROJECTION SYSTEM : UTM DATUM : WGS84 SPHEROID : WGS84 ZONE : 44	
SCALE: 1:58,000	N
MAP.NO: 1.2	DATE: FEBRAUARY 2022
CLIENT: Commissioner of Town and Country Planning Directorate of Town and Country Planning Government of Tamil Nadu	
CONSULTANTS: Department of Planning,SAP Campus Anna University Chennai	



LEGEND		
	Arterial Roads	
	Sub-Arterial Roads	
	Collector Road	
	LPA Boundary	
	Municipal Boundary	
	Village Boundary	
	Railway line	
	Sea	

MAJOR ROAD NETWORK IN NAGAPATTINAM LPA
 GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU

0 0.5 1 2 3 Kilometers	
PROJECTION SYSTEM : UTM DATUM : WGS84 ZONE : 44	
SCALE: 1:58,000	N
MAP.NO:1.3	DATE: FEBRAUARY 2022
CLIENT: Commissioner of Town and Country Planning Directorate of Town and Country Planning Government of Tamil Nadu	
CONSULTANTS: Department of Planning,SAP Campus Anna University Chennai	

2. DEMOGRAPHY

2.1 DEMOGRAPHIC PROFILE

2.1.1 Trend of population and growth rate over 100 years

The demographic study provides comprehensive and detailed information about the trend of population growth, composition and distribution. It also highlights the demands of the increasing population in terms of housing, economy, infrastructure, and other services. The statistics and projections resulting from this study form the basis for the planning process.

The population of Nagapattinam LPA for the year 2011 is 1,64,824 of which males and females were 81,292 (49.32%) and 83,532 (50.67%) respectively. The Nagapattinam LPA population constitutes 10.19% of the total Nagapattinam district population. Nagapattinam town had a moderate population of 57,190 in 1901 and it has experienced a natural growth since then. According to the 2011 census, the population of Nagapattinam town is 1,02,905. Table 2.1 reveals that there was a negative decadal growth rate during the year 1911 - 21 and 1921-1931. The maximum decadal growth rate was witnessed from 1971 to 1981. The population of the town has doubled from 57,190 to 1,02,905 during the 100-year period from 1901 to 2011 (Figure 2.1 & Table 2.1). Table 2.1 presents the growth rate of Nagapattinam Municipality from the year 1901 to 2011.

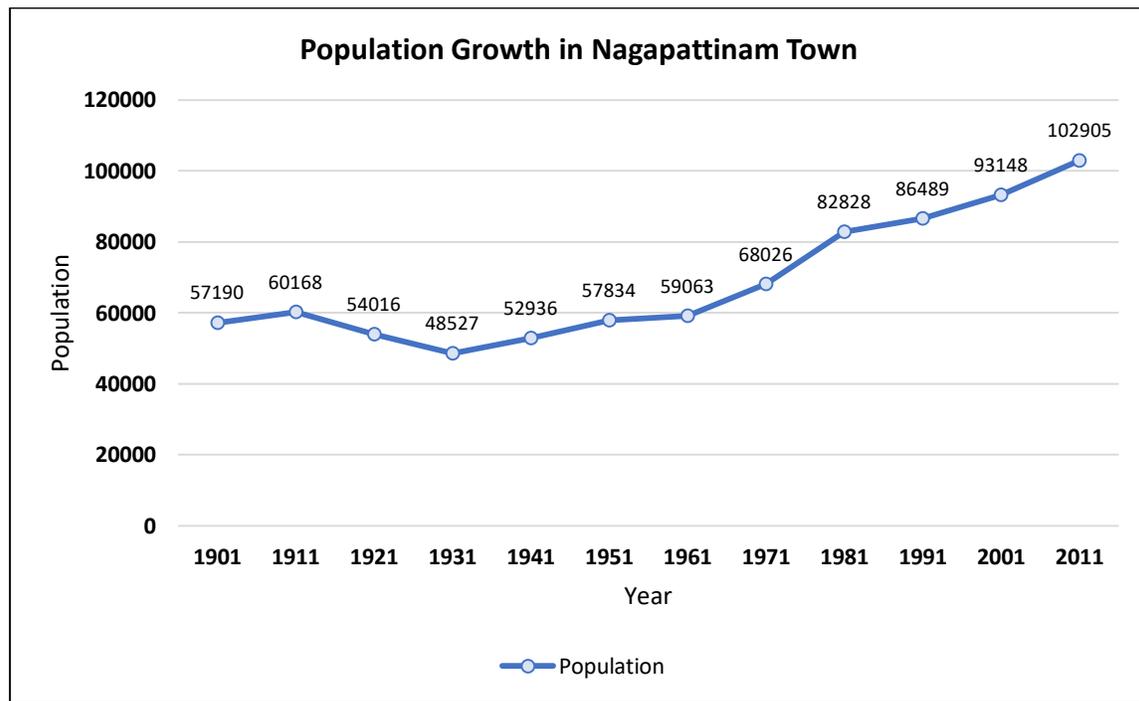


Figure 2.1: Population growth of Nagapattinam town from 1901-2011

Table 2.1: Growth Rate of Nagapattinam Municipality from 1901 - 2011

S. No.	Year	Population	Inter - Decennial Growth Rate (in%)
1	1901	57,190	-
2	1911	60,168	5.21
3	1921	54,016	-10.22
4	1931	48,527	-10.16
5	1941	52,936	9.09
6	1951	57,834	9.25
7	1961	59,063	2.13
8	1971	68,026	15.18
9	1981	82,828	21.76
10	1991	86,489	4.42
11	2001	93,148	7.70
12	2011	1,02,905	10.47

(Source – Census of India)

2.1.2 Trend of population growth in Nagapattinam LPA

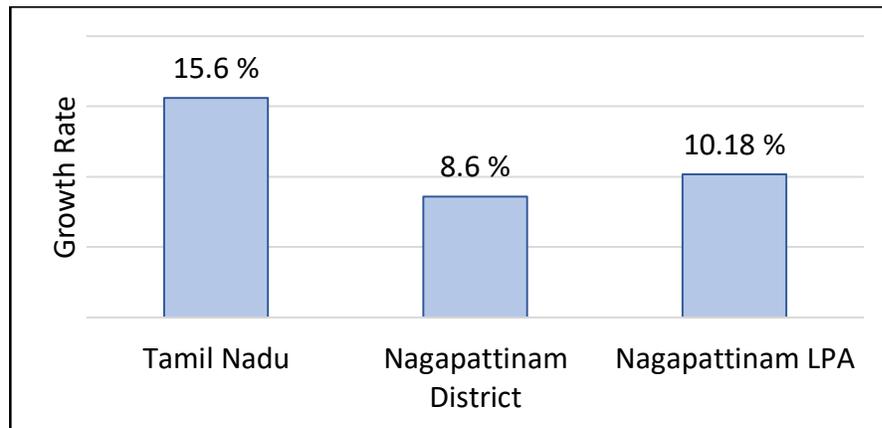


Figure 2.2: Comparative population growth rate 1981-1991

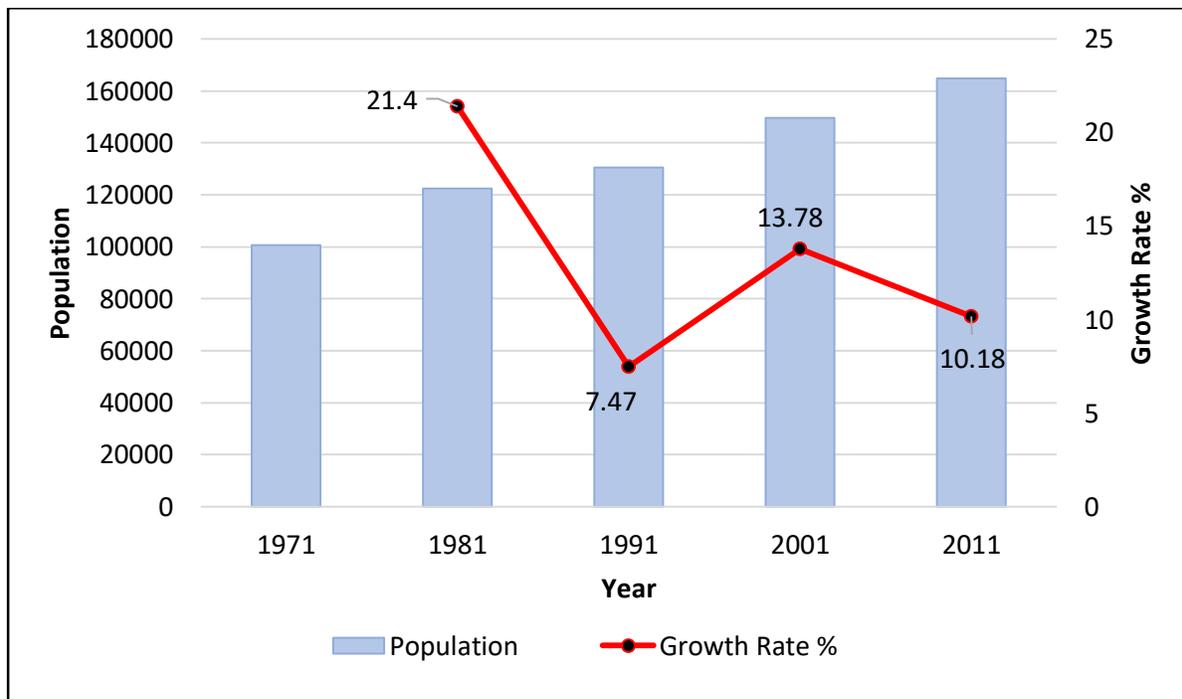
Nagapattinam LPA has a growth rate of 10.18 % during 2001-2011 (Figure 2.2), which is higher than that of the district (8.6 %) and lower than that of the state (15.6 %). It is evident from Table 2.1, that the decadal growth rate was high during the year 1981 which is mainly due to the expansion of the town limits. There is an abrupt fall in the growth rate of the total population after 1981. The major cause for the decline in growth rate between 1981 and 1991 is due to general migration in search of better employment to other districts. However, there is an increase in the growth rate in Nagapattinam LPA from the year 2001 to 2011. The table below shows the trend of population growth in the Nagapattinam LPA from the year 1971-2011.

Table 2.2: Trend of Population and its Growth rate in Urban & Rural Area of Nagapattinam LPA (1971-2011)

S. No	Year	Urban		Rural		Total Population	Growth Rate % of LPA
		Population	Growth Rate %	Population	Growth Rate %		
1	1971	71751	-	29001	-	100752	-
2	1981	88335	23.11	33991	17.20	122326	21.40
3	1991	92644	4.87	37778	11.14	130422	7.47
4	2001	103299	11.50	46292	22.53	149591	13.78
5	2011	114013	10.37	50811	9.76	164824	10.18

(Source:Census of India)

Out of the total population of Nagapattinam LPA, 69.17% reside in urban areas and 30.82% in rural areas. Figure 2.3 reveals that the population growth rate of Nagapattinam LPA is generally declining, which is mainly due to lack of employment opportunities within the town. Population distribution in Nagapattinam LPA is shown in the Map No 2.1.

**Figure 2.3: Population growth trend (1971-2011) in Nagapattinam LPA**

2.1.3 SC & ST Population

The Table below shows the distribution of SC and ST population in the core and periphery of the LPA.

Table 2.3: Village/Town wise SC/ST population for 1991,2001 & 2011

S. No.	Description	Name of Villages/Town	SC Population			ST Population		
			1991	2001	2011	1991	2001	2011
1	Urban	Nagapattinam (M)	6492	7475	8917	586	700	641
2		Velankanni (TP)	636	1212	1913	41	0	23
3	Rural	Nagore	703	889	998	0	0	0
4		Palaiyur	610	630	607	0	0	0
5		Ivanalur	1197	1442	2709	0	4	226
6		Anthanapettai	291	1333	951	11	10	3
7		Vadaku Poigainallur	131	1149	1014	0	0	0
8		Therkku Poigainallur	48	34	85	0	0	0
9		Poravacheri	900	1047	1161	0	0	4
10		Sikkal	1490	1647	1965	36	16	3
11		Pappakoil	1502	1919	2314	0	33	12
12		Karuvelankadai	594	748	832	0	0	0
13		Nagapattinam Village	0	0	26	0	0	0
Total			14594	19525	23492	674	763	912

(Source – Census of India)

From Table 2.3, it can be inferred that the total population of SC & ST in Nagapattinam LPA has shown a gradual increase for the past few decades. The SC & ST population constituted 14.25% and 0.55% of the total Nagapattinam LPA population in the year 2011. The Nagapattinam Municipality has the highest SC & ST population followed by Ivanalur village during the year 2011. There is a significant increase in the population of ST in Ivanalur village during the last decade. And it is observed that there is a decline in SC population in Villages like Palaiyur, Anthanapettai, and Vadaku Poigainallur from the year 2001 to 2011. The table 2.3 shows the village/town wise population of Nagapattinam LPA from the year 1991 to 2011.

Table 2.4 reveals the village/town wise proportion of SC & ST population in Nagapattinam LPA. Karuvelankadai village has 69.28 % of its population under the SC category and has the maximum SC population in the LPA. Similarly, Villages like Palaiyur, Ivanalur, and Pappakoil have a larger proportion of the SC population in Nagapattinam LPA. Figure 2.4 shows the concentration of SC population in Nagapattinam LPA. The Villages of the LPA where the proportion of the

disadvantaged population are higher, special socio-economic initiatives to improve the standard of living and the quality of life can be suggested.

Table 2.4: Village/Town Wise Proportion of SC & ST in Nagapattinam LPA

S. No.	Name of Villages/Towns	Population	% of SC	% of ST
1	Nagapattinam (M)	102905	8.67	0.6
2	Velankanni (TP)	11108	17.22	0.2
3	Nagore (Kottagam) (Muttam & Thethi)	3564	28.00	0.0
4	Palaiyur	1291	47.02	0.0
5	Ivanalur (Sellur)	4921	55.05	4.6
6	Anthanapettai (Manjakollai)	7349	12.94	0.0
7	Vadaku Poigainallur (Akkarapettai)	10826	9.37	0.0
8	Therkku Poigainallur	4731	1.80	0.0
9	Poravacheri	4422	26.26	0.1
10	Sikkal	5652	34.77	0.1
11	Pappakoil	4915	47.08	0.2
12	Karuvelankadai	1201	69.28	0.0
13	Nagapattinam Village	1939	1.34	0.0
Total		164824	14.25	0.55

(Source – Census of India)

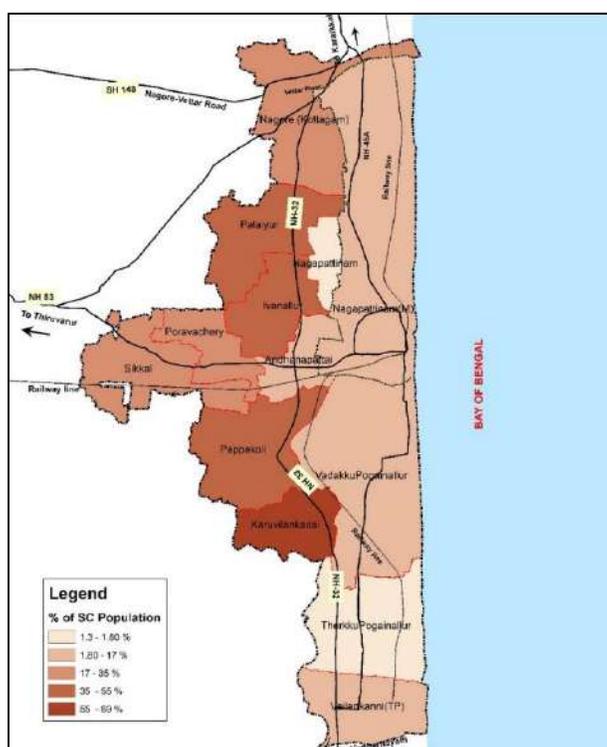


Figure 2.4: Share of SC population in Nagapattinam LPA

2.1.4 Fishermen Population

According to the marine fisheries census 2010, the total fishermen population in Nagapattinam district was 84,369. It is noticed from Table 2.5 that the fishermen population of Nagapattinam LPA during the year 2010 was 20,953 and it accounts for 12.71% of the total LPA population, 24.83% of the district's fishermen population and 2.60% of state fishermen population. Nagore village witnessed the highest fishermen population in Nagapattinam LPA. The sex ratio of the fishermen population is 932 which is less when compared with the overall sex ratio of Nagapattinam LPA. The table below presents the details of the village wise fishermen population of Nagapattinam LPA for the year 2010. Fishing is one of the important sectors in the LPA. Therefore, the master plan will explore the avenues to enhance the opportunities to modernize and diversify the industry.

Table 2.5: Fishermen Population in Nagapattinam LPA for the Year 2010

S. No.	Name of the Villages	Fishermen families	Total Fishermen population	Male	Female	Sex Ratio
1	Akkarapettai	1,101	4,695	2,360	2,335	992
2	Ariyanattu Street	987	4,149	2,212	1,937	876
3	Kallar	251	954	487	467	959
4	Keechankuppam	720	2,735	1,449	1,286	888
5	Nagore Pattinacherry	1,133	4,734	2,406	2,328	968
6	Nambiyar Nagar	450	1,814	947	867	916
7	Samandhanpettai	426	1,872	983	889	904
Total		5,068	20,953	10,844	10,109	932

(Source – Marine Fisheries Census 2010)

2.1.5 Population density

Population density is defined as the number of persons per Sq.km. Nagapattinam LPA spreads over an area of about 80.08 Sq.km. The total population density of the LPA has increased from 1868 persons per Sq. km in 2001 to 2058 persons per Sq.km in 2011. Figure 2.5 shows the comparison of the population density of Nagapattinam Municipality with other similar municipalities in Tamil Nadu. In Nagapattinam LPA, Nagapattinam Municipality has the highest population density of about 7171 persons per Sq. Km, followed by Velankanni Town Panchayat. This is mainly associated with the availability of better employment opportunities in urban areas.

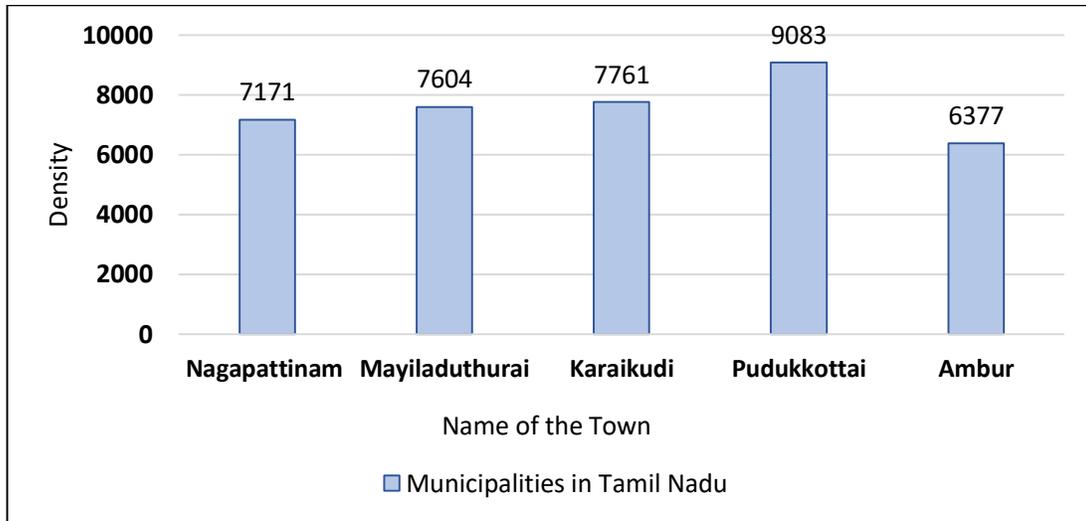


Figure 2.5: Comparative population density-2011

Table 2.6 shows that there is a significant rise in the population density of Villages like Ivanalur, Nagore and Anthanapettai. This is mainly due to the resettlement of people affected by the Tsunami to these Villages. A decline in population density is noticed in Vadakku Poigainallur which is associated with a decrease in the population due to the impact of the Tsunami. A larger concentration of agricultural land & general migration may be other reasons for the decrease in population density. The table below gives the Village/Town wise population density of Nagapattinam LPA. The distribution of population density in Nagapattinam LPA is shown in Map 2.2.

Table 2.6: Village/Town wise Population Density for Nagapattinam LPA from 2001-2011

S. No	Description	Name of Villages/Town	Area Sq. Km	Population		Population Density (Persons per Sq.km)		Changes in density (in %)
				2001	2011	2001	2011	
1	Urban	Nagapattinam (M)	14.35	93148	102905	6491	7171	10.47
2		Velankanni (TP)	5.50	10151	11108	1846	2020	9.43
3	Rural	Nagore	6.00	2269	3564	378	594	57.07
4		Palaiyur	5.00	1296	1291	259	258	-0.39
5		Ivanalur (Sellur)	5.19	2225	4921	429	948	121.17
6		Anthanapettai (Manjakollai)	8.14	6454	7349	793	903	13.87
7		Vadakku Poigainallur (Akkarapettai)	11.50	15566	10826	1354	941	-30.45

S. No	Description	Name of the Villages/Town	Area Sq.km	Population		Population density (Persons per Sq.km)		Changes in density (in %)
				2001	2011	2001	2011	
8	Rural	Therkku Poigainallur	5.00	4368	4731	874	946	8.31
9		Poravacheri	5.00	4115	4422	823	884	7.46
10		Sikkal	6.00	5164	5652	861	942	9.45
11		Pappakoil	3.00	3623	4915	1208	1638	35.66
12		Karuvelankadai	4.00	1212	1201	303	300	-0.91
13		Nagapattinam Village	1.39	0	1939	0	1395	
Total			80.07	149591	164824	1868	2058	10.18

(Source: Census of India)

2.1.6 Sex Ratio

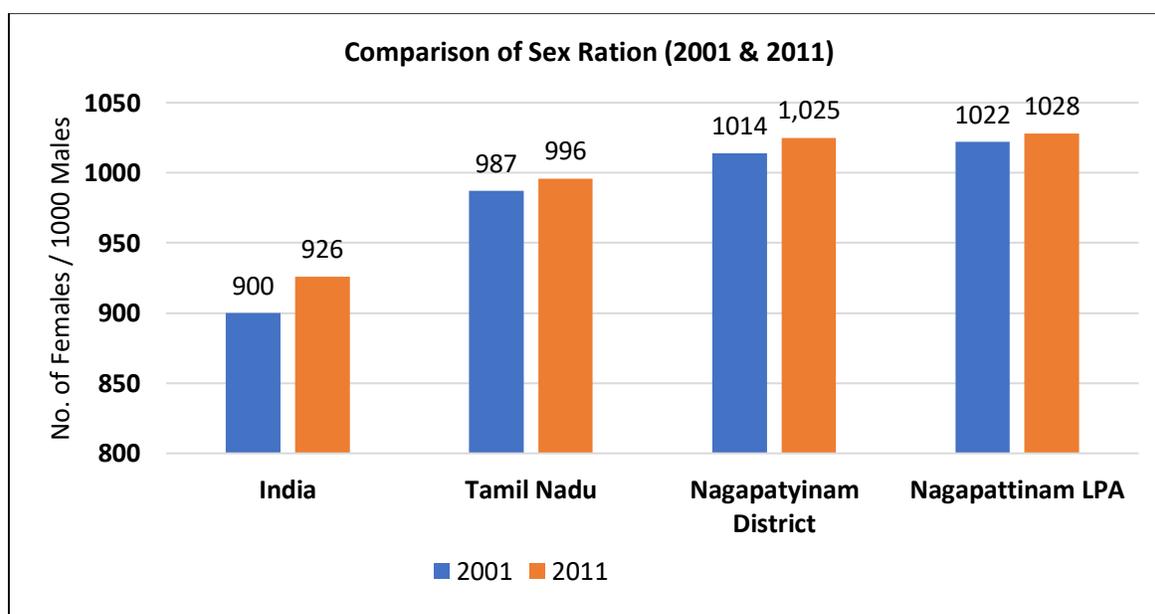


Figure 2.6: Comparison of Sex ratio (2001 & 2011)

The sex ratio is denoted by the number of females per 1000 males. As per the census 2011, the sex ratio of Nagapattinam LPA is 1028 females per 1000 males which is almost similar to that of the district (1025) and higher than the state (996) (Figure 2.6). It is also noticed from Table 2.7, that the Velankanni Town Panchayat witnessed the highest sex ratio of 1085 in 2011 followed by Therkku Poigainallur village. Overall, the sex ratio in Nagapattinam LPA shows an increasing trend. This may be attributed to two reasons; first, the women in Nagapattinam LPA receive proper education and health care, so their survival chances are good as those of men.

Secondly, the town has a matriarchal society in which the women hold the power to pull strings and doesn't allow discrimination between a daughter and son. It may also be associated due to out-migration of men in search of employment opportunities. Table 2.7 presents the Village/Town wise sex ratio of Nagapattinam LPA for the year 2011.

Table 2.7: Village/Town wise Sex Ratio of Nagapattinam LPA (2011)

S. No	Name of Villages/Town	2011		
		Male	Female	Sex Ratio
1	Nagapattinam (M)	50793	52112	1026
2	Velankanni (TP)	5327	5781	1085
3	Nagore	1792	1772	989
4	Palaiyur	637	654	1027
5	Ivanalur	2461	2460	1000
6	Anthanapettai	3592	3757	1046
7	Vadaku Poigainallur	5418	5408	998
8	Therkku Poigainallur	2298	2433	1059
9	Poravacheri	2258	2164	958
10	Sikkal	2770	2882	1040
11	Pappakoil	2406	2509	1043
12	Karuvelankadai	589	612	1039
13	Nagapattinam Village	951	988	1039
	Total	81,292	83,532	1028

(Source:Census of India)

2.1.7 Literacy

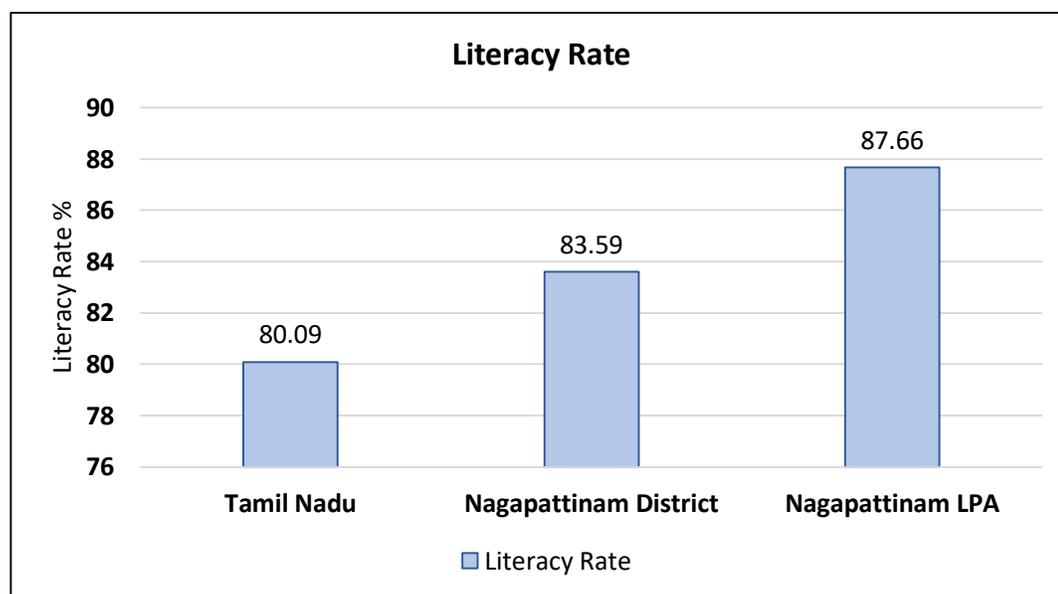


Figure 2.7: Comparative literacy rate-2011

The literacy rate for Nagapattinam District is 83.59% and Tamil Nadu State is 80.09%. As per the census 2011, the literacy rate in Nagapattinam LPA is 87.66% which is higher than that of the State and District literacy rate (Figure 2.7). Table 2.8 shows that the literacy rate in most of the Villages in the LPA has increased during the year 2001 to 2011. The higher literacy rate in Nagapattinam LPA is attributed to the nearness of Villages to Nagapattinam Municipality and Velankanni Town Panchayat which have better educational facilities. Table 2.8 shows the literacy rate of Nagapattinam LPA.

Table 2.8: Literacy Rate of Nagapattinam LPA from 2001 to 2011

S. No.	Name of Villages/Town	Literate		Literacy Rate %		Changes in literacy rate %
		2001	2011	2001	2011	
1	Nagapattinam (M)	68310	81031	83.78	89.02	5.25
2	Velankanni (TP)	6916	8401	78.02	84.99	6.96
3	Nagore (Kottagam, Muttam)	1519	2604	75.50	83.92	8.42
4	Palaiyur	942	1022	83.00	88.64	5.64
5	Ivanalur (Sellur)	1396	3468	72.59	80.39	7.79
6	Anthanapettai (Manjakollai)	4904	5879	86.05	90.20	4.15
7	Vadaku Poigainallur	10040	8056	75.48	85.00	9.52
8	Therkku Poigainallur	3195	3633	82.18	85.22	3.05
9	Poravacheri	3012	3520	83.16	89.11	5.96
10	Sikkal	3778	4504	83.60	89.38	5.78
11	Pappakoil	2267	3469	75.42	80.79	5.37
12	Karuvelankadai	793	847	74.25	79.38	5.13
13	Nagapattinam Village	0	1323	0.00	80.13	80.13
Total		107072	127757	82.00	87.66	5.66

(Source: Census of India)

2.1.8 Household Size

As per Census 2011, the average household size of Nagapattinam LPA was 4.1. There is not much difference between urban and rural household sizes. It implies that the core city doesn't have much potential to attract migrants from the surrounding rural areas. Table 2.9 reveals that more than 30 % of the Villages in the planning area have less than 4 persons per household. Anthanapettai Villages has a maximum household size of 4.52 in Nagapattinam LPA. The details of the total household & household size of Nagapattinam LPA are given in the below table.

Table 2.9: Household & Household Size in Nagapattinam LPA 2011

S. No.	Name of Villages/Town	Population 2011	No. of households	Household Size
1	Nagapattinam (M)	102905	24518	4.19
2	Velankanni (TP)	11108	2753	4.03
3	Nagore	3564	852	4.18
4	Palaiyur	1291	346	3.73
5	Ivanalur	4921	1295	3.80
6	Anthanapettai	7349	1625	4.52
7	Vadaku Poigainallur	10826	2503	4.32
8	Therkku Poigainallur	4731	1171	4.04
9	Poravacheri	4422	1029	4.29
10	Sikkal	5652	1451	3.89
11	Pappakoil	4915	1177	4.17
12	Karuvelankadai	1201	345	3.48
13	Nagapattinam Village	1939	507	3.82
Total		164824	39572	4.16

(Source: Census of India)

2.1.9 Workforce Participation Rate

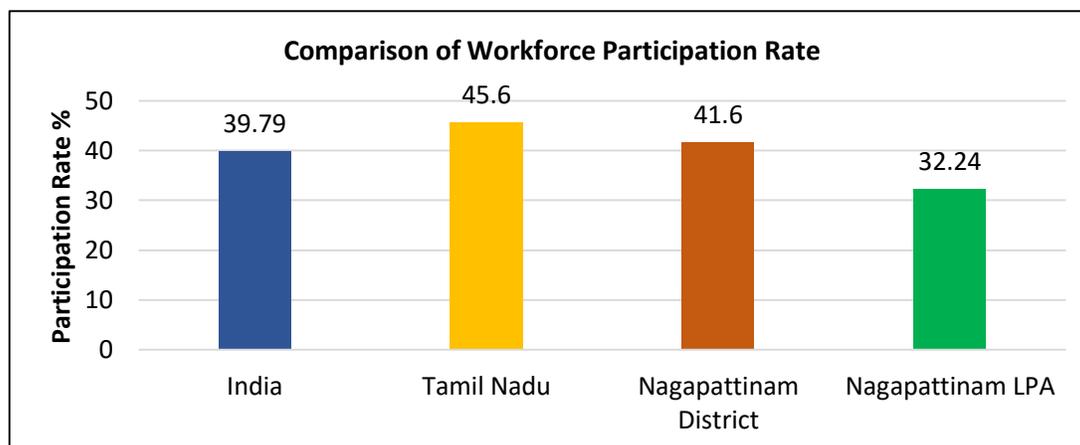


Figure 2.8: Workforce Participation Rate -2011

The workforce participation rate of India was 39.79% and Tamil Nadu was 45.6% in 2011. The participation rate of Nagapattinam LPA is low when compared with the State and Nation's workforce rate (Figure 2.8). It is evident from Table 2.10 that the proportion of total workers to the population of Nagapattinam LPA was 32.24% in 2001 and 34.29% in 2011. The figure had increased by 2.05% which is a reflection of the growing economic opportunities in the area. The urban participation rate (32.8 %) is lower than that of the rural participation rate (37.6 %) in the

planning area. The higher participation rates of workers in Villages may be attributed to the Rural Employment Guarantee program and also the seasonal employment in the agricultural sector. However, the rate had decreased in Villages like Nagore, Palaiyur, Ivanalur, and Anthanapettai. The table below gives the Village/Town wise workers' participation rate of Nagapattinam LPA for the years 2001 & 2011 (Refer Map 3.1).

Table 2.10: Village/Town wise Participation Rate of Nagapattinam LPA

S.No.	Name of Villages/Town	Population		Total Workers		% Of workers	
		2001	2011	2001	2011	2001	2011
1	Nagapattinam (M)	93148	102905	27952	33532	30.01	32.59
2	Velankanni (TP)	10151	11108	3431	3885	33.80	34.97
3	Nagore (Kottagam) (Muttam & Thethi)	2269	3564	995	1253	43.85	35.16
4	Palaiyur	1296	1291	731	596	56.40	46.17
5	Ivanalur (Sellur)	2225	4921	961	1986	43.19	40.36
6	Anthanapettai (Manjakollai)	6454	7349	2119	2287	32.83	31.12
7	Vadakku Poigainallur (Akkarapettai)	15566	10826	4944	3801	31.76	35.11
8	Therkku Poigainallur	4368	4731	1632	1758	37.36	37.16
9	Poravacheri	4115	4422	1430	1604	34.75	36.27
10	Sikkal	5164	5652	1971	2316	38.17	40.98
11	Pappakoil	3623	4915	1534	2167	42.34	44.09
12	Karuvelankadai	1212	1201	539	540	44.47	44.96
13	Nagapattinam	0	1939	0	806	0	41.57
Total		149591	164824	48239	56531	32.24	34.29

(Source: Census of India)

2.2 POPULATION PROJECTION

Population Projection is an extrapolation of historical data into the future. It is used to understand the future growth of a city using the past available data and provides a basic standard for the estimation of land and infrastructure requirements. Population projection helps to determine the demand for services among different segments of the population.

2.2.1 Population Projection methods

Population projection has various methods such as the Arithmetical Progression method, Exponential method, Incremental Increase method, Decreasing Growth Rate method, Geometrical Increase method, and Graphical method. Different methods are used depending on the need and nature of the area for which the projection is made. In the context of Nagapattinam LPA, for projecting the population up to 2041, the following methods have been adopted,

- Arithmetical Progression method
- Incremental Increase method
- Geometrical Increase method
- Exponential Growth method
- Graphical method

For projecting future population, Nagapattinam LPA has been classified into three types based on the nature of Urban and Rural local bodies. They are as follows,

- Nagapattinam (Municipality)
- Velankanni (Town Panchayat)
- Vicinity Area (Villages)

Classification of Municipality, Town Panchayat and Vicinity area comprise of the following towns and Villages as shown in Table below.

Table 2.11: Classification of Nagapattinam LPA based on local bodies

Type of local body	Name of the town/village
Municipality	Nagapattinam
Town Panchayat	Velankanni
Vicinity area	Nagore (Kottagam) (Muttam&Thethi)
	Palaiyur
	Ivanalur (Sellur)
	Anthanapettai (Manjakollai)
	Vadakku Poigainallur (Akkarapettai)
	Therkku Poigainallur
	Poravacheri
	Sikkal
	Pappakoil
	Karuvelankadai
Nagapattinam Village	

2.2.2 Population projection using various methods

The population projection made for the Nagapattinam Municipality, Velankanni Vicinity area and Nagapattinam LPA using various methods are given in the tables below.

Arithmetic Progression Method

This method is based on the assumption that the population increases at a constant rate. In this method, the average increase in population per decade is calculated from the past census reports. This increase is added to the present population to find out the population of the next decade.

$dP/dt = C$ i.e., rate of change of population with respect to time is constant.

Population after nth decade will be $P_n = P + n.C$

Where, P_n is the population after n decade and P is present population.

Table 2.12: Population projection using Arithmetic Progression Method

Description	2011 Census Population	Projected Population			
		2011	2021	2031	2041
Nagapattinam (M)	102905	101522	109896	118270	126644
Velankanni (TP)	11108	12293	14435	16577	18719
Vicinity area	50811	52056	57820	63584	69348
Nagapattinam LPA	164824	165871	182151	198431	214711

Incremental Increase method

This method is a modification of the arithmetical increase method and it is suitable for an average size town under the normal condition where the growth rate is found to be in increasing order. While adopting this method the increase in increment is considered for calculating future population.

Population after n^{th} decade is $P_n = P + n.X + \{n(n+1)/2\}. Y$

Where, P_n = Population after nth decade

X = Average increase and Y = Incremental increase

Table 2.13. Population projection using Incremental Increase Method

Description	2011 Census Population	Projected Population			
		2011	2021	2031	2041
Nagapattinam (M)	102905	98449	103750	109051	114352
Velankanni (TP)	11108	17634	25117	32600	40083
Vicinity area	50811	53818	61344	68870	76396
Nagapattinam LPA	164824	169901	190211	210521	230831

Geometrical Increase method

In this method, the increase in population from decade to decade is assumed to remain constant. The geometric mean increase is used to find out the future increment in population. Since this method gives higher values and hence should be applied for a new industrial town at the beginning of development for only a few decades.

$$P_n = P (1 + IG/100)^n$$

Where, P_n = Population at the end of nth decade

IG = geometric mean (%)

P = Present population

n = No. of decades

Table 2.14. Population projection using Geometrical Increase Method

Description	2011 Census Population	Projected Population			
		2011	2021	2031	2041
Nagapattinam (M)	102905	102893	121870	154775	210765
Velankanni (TP)	11108	14045	26886	71209	188601
Vicinity area	50811	56429	148413	208000	312572
Nagapattinam LPA	164824	173367	297169	433984	711938

Exponential Growth method

Instead of assuming that the population is growing by a constant amount, the exponential model assumes that the population is growing at a constant rate. This may be appropriate for expanding communities unaffected by any constraints.

$$P(t+n) = P(t) \times e^{rn}$$

where r is the constant annual growth rate

$$r = \log_e(P(t+n) / P(t)) / n$$

Table 2.15. Population projection using Exponential Growth method

Description	2011 Census Population	Projected Population			
		2011	2021	2031	2041
Nagapattinam (M)	102905	103436	110891	119218	128351
Velankanni (TP)	11108	14179	19805	27663	38639
Vicinity area	50811	54100	63226	73891	86355
Nagapattinam LPA	164824	171795	193922	220772	253345

Graphical Method

In this method, the populations of last few decades are correctly plotted to a suitable scale on graph. The population curve is smoothly extended for getting future population.

Table 2.16: Population projection using Graphical method

Description	2011 Census Population	Projected Population			
		2011	2021	2031	2041
Nagapattinam (M)	102905	101490	108580	116220	123980
Velankanni (TP)	11108	11210	13186	15195	17095
Vicinity area	50811	50580	56268	61190	67820
Nagapattinam LPA	164824	163350	178820	191765	208052

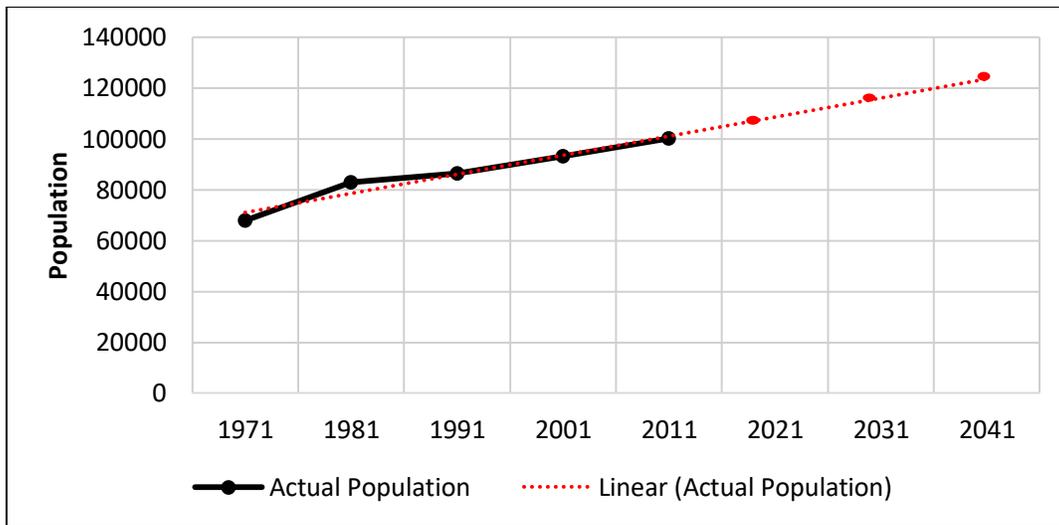


Figure 2.9: Graphical method for Nagapattinam Municipality-2041

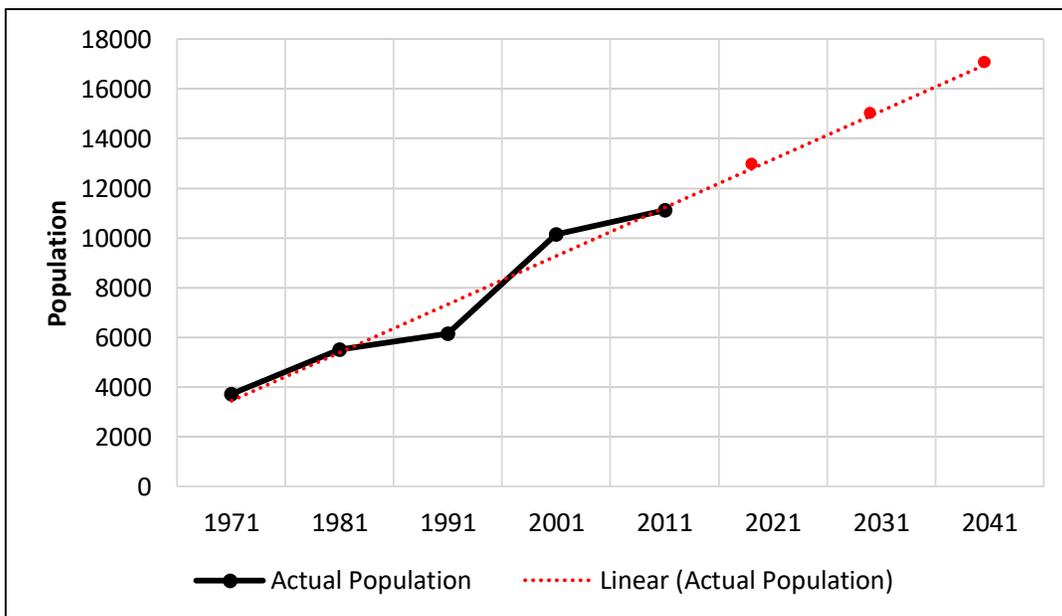


Figure 2.10 Graphical method for Velankanni Town Panchayat-2041

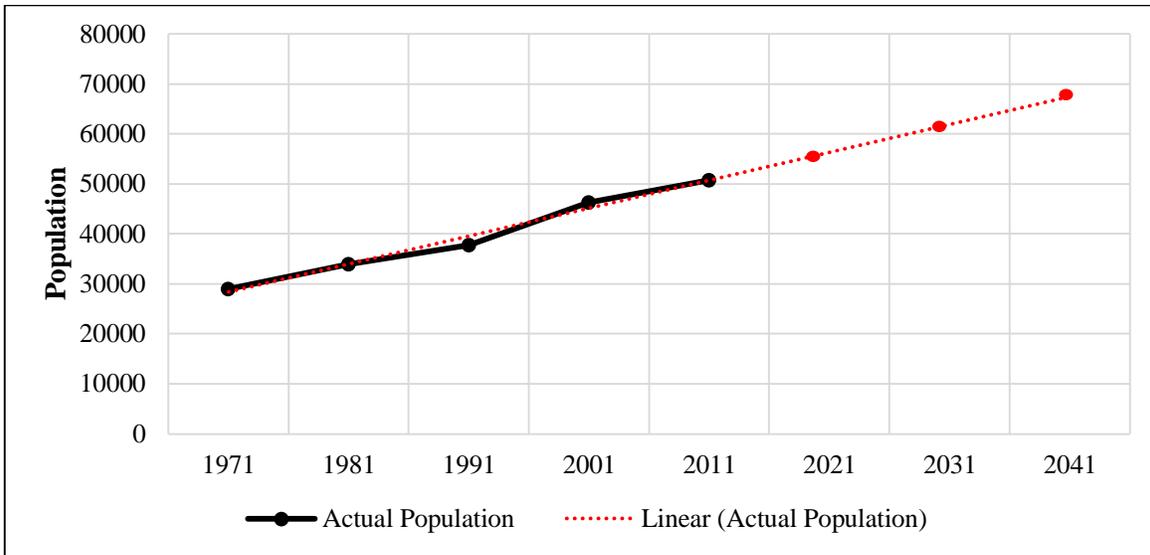


Figure 2.11 Graphical method for Vicinity area-2041

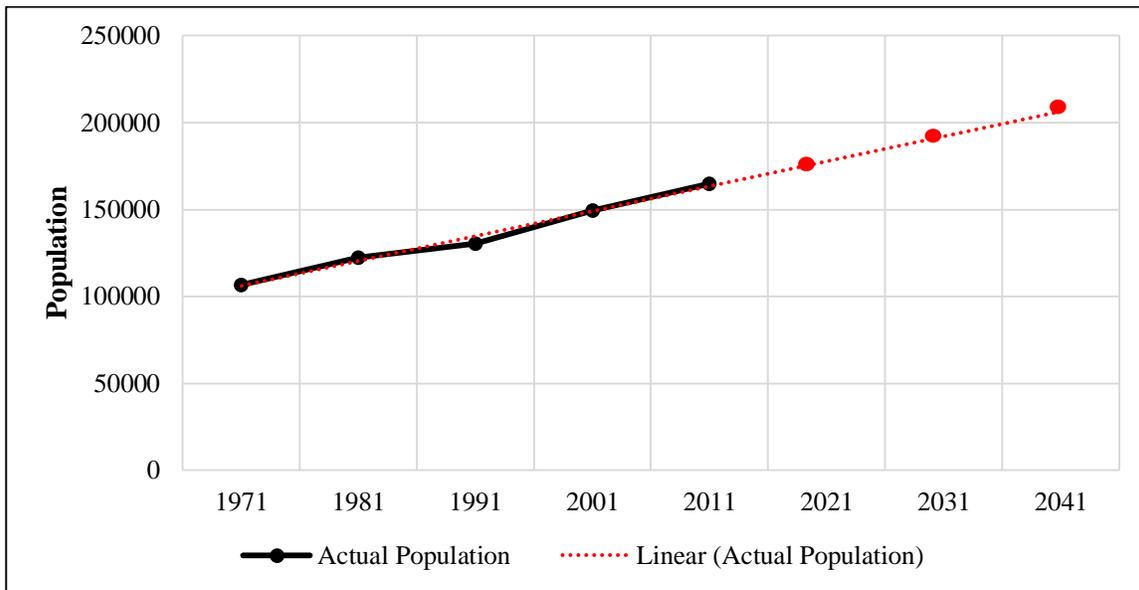


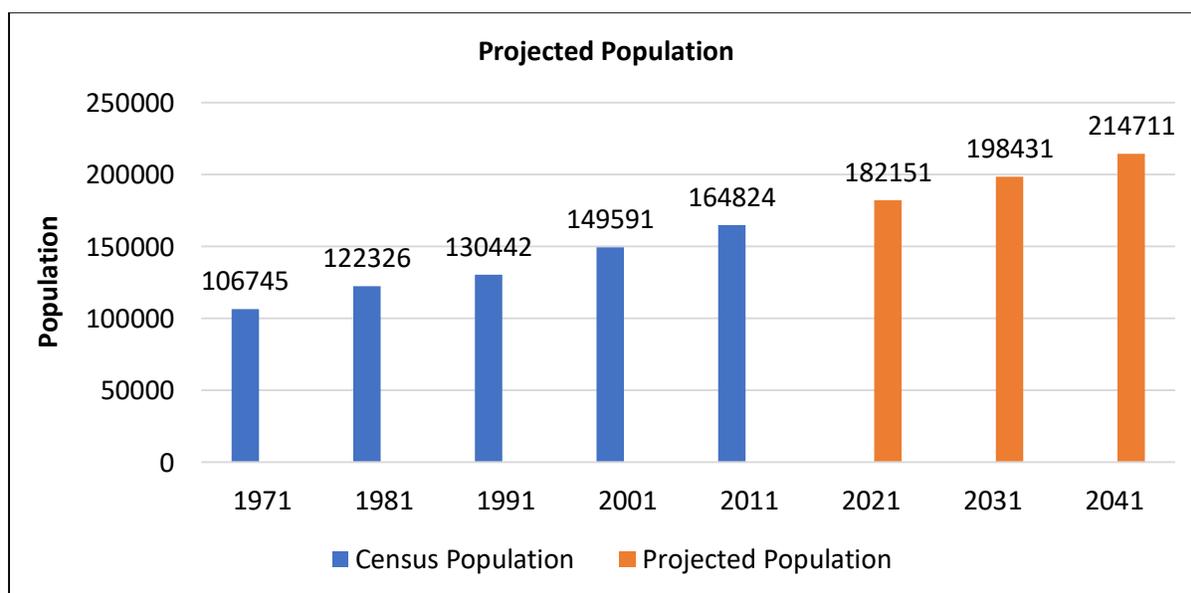
Figure 2.12 Graphical method for Nagapattinam LPA-2041

In the context of Nagapattinam, population increases at a constant rate so the Arithmetic progression method seems to be very appropriate to arrive at population projections. As per the Census 2011, the population of Nagapattinam LPA is 1, 64,284 and as per the Projection by arithmetic increase method 2011 population is 1, 65,871. It is evident Census data coincides with the Population projected by the arithmetic progression method. Therefore, the population arrived by arithmetic progression method will be taken as Projected population.

Table 2.17: Projected Population of Nagapattinam LPA-2041

Year	Nagapattinam (M)	Velankanni (TP)	Vicinity area	Nagapattinam LPA
Census Population				
1971	68026	3725	29001	100752
1981	82828	5507	33991	122326
1991	86489	6155	37778	130422
2001	93148	10151	46292	149591
2011	102905	11108	50811	164824
Projected Population				
2021	109896	14435	57820	182151
2031	118270	16577	63584	198431
2041	126644	18719	69348	214711

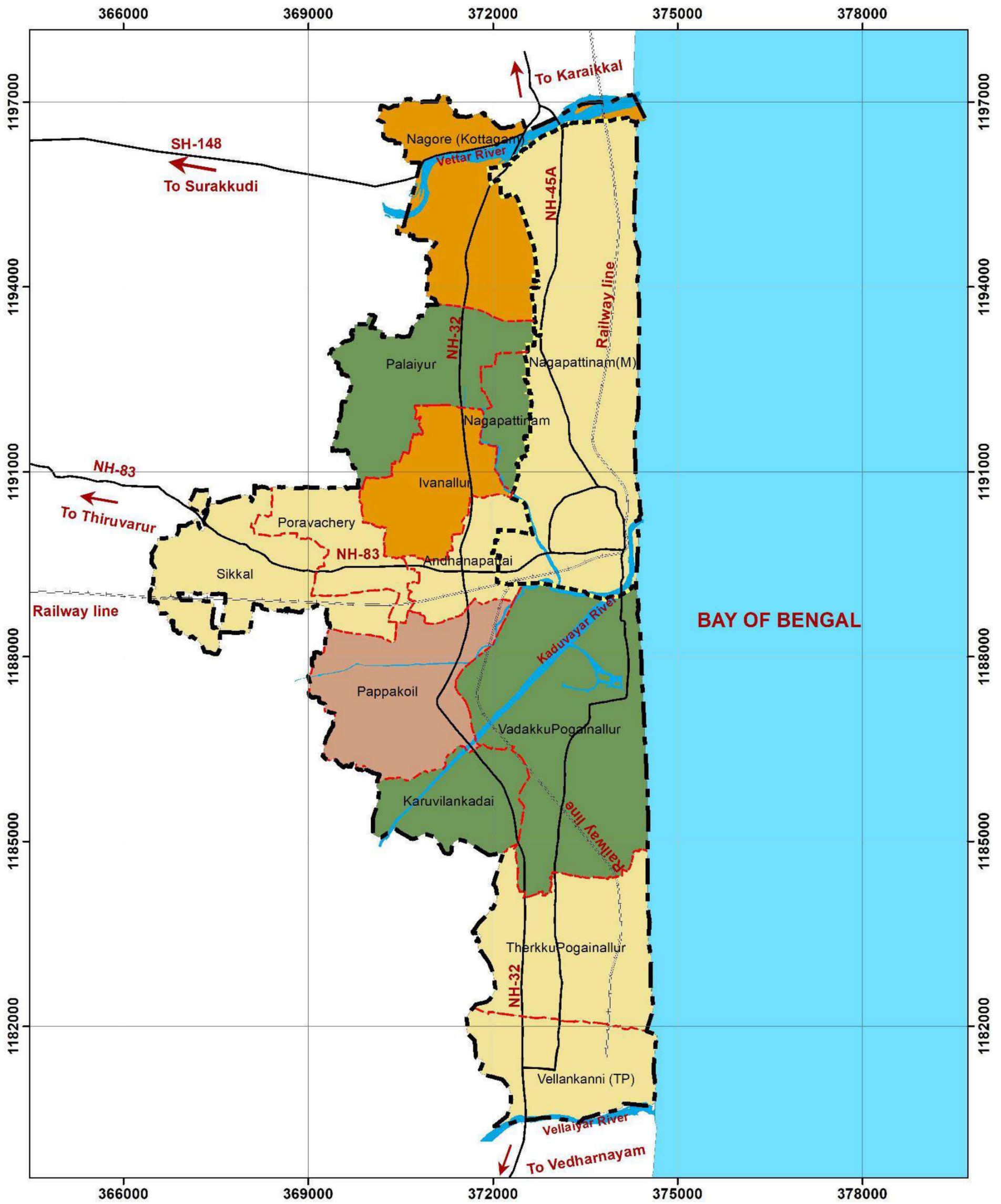
The Projected population of Nagapattinam LPA in 2021, 2031 and 2041 will be 182151,198431 and 214711 respectively. This Projected Population will require additional infrastructure, services and facilities to cater to the needs of the future population and to facilitate a high quality of life within the city. So, based on this projected population, the projected requirement for facilities such as Housing, Infrastructure and employment are analyzed. (Table 2.17 & Figure 2.13).

**Figure 2.13: Projected Population,2041-Nagapattinam LPA**

2.3 SUMMARY

Nagapattinam LPA contains a Population of 1,64,824 as per Census 2011 which constitutes 10.19% of the total Nagapattinam District's population. The population of the town has doubled from 57,190 to 1,02,905 during the 100 years from 1901 to 2011. There is an abrupt fall in the growth rate of the total population after 1981. The major cause for the decline in growth rate during this period was due to general migration in search of better employment to other districts. The urban population (69.17 %) constitutes a major part of the Planning area. The Villages of the LPA, where the proportion of the disadvantaged population is higher, calls for special socio-economic initiatives to improve the standard of living and the quality of life. Fishermen Population accounts for 12.71% of the total LPA population. Nagapattinam Municipality has the highest population density in the LPA with a density of about 7171 persons per Sq.km. The Workforce participation rate of Nagapattinam LPA is lower than the country, state and district.

In the context of Nagapattinam, Population increases at a constant rate so the Arithmetic progression method seems to be very appropriate to arrive at population projections. The projected population of Nagapattinam LPA in 2041 was found to be 214711. Whereas for Municipality, Velankanni and Villages outside the municipal area the population in 2041 will be 126644, 18719 and 69348 respectively. So based on the population projected, the projected requirement for facilities such as housing, infrastructure and employment are analyzed. Effective planning strategies to promote stability, employment opportunities, and provision of other facilities will enhance the quality of life in Nagapattinam LPA for the future population.



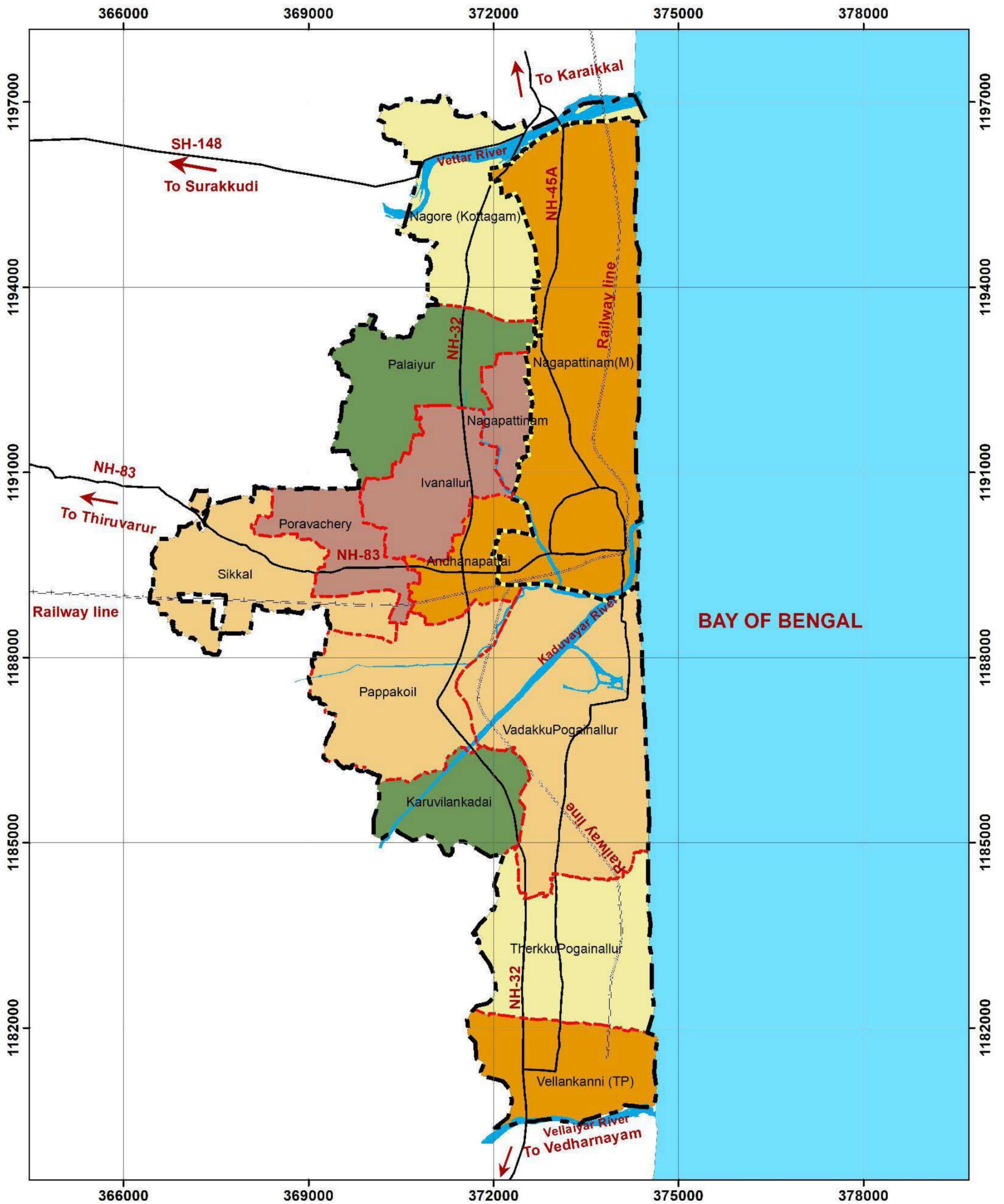
LEGEND

- Less tha 0%
- 50-125%
- 20-50%
- 1-20%
- Sea
- LPA Boundary
- Municipal Boundary
- Village Boundary
- Roads
- Railway line

POPULATION GROWTH RATE IN NAGAPATTINAM LPA

GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU

<small>PROJECTION SYSTEM : UTM DATUM : WGS84 SPHEROID : WGS84 ZONE : 44</small>	
SCALE: 1:58,000	
MAP.NO:2.1	DATE:FEBRUARY 2022
<small>CLIENT: Commissioner of Town and Country Planning Directorate of Town and Country Planning Government of Tamil Nadu</small>	
<small>CONSULTANTS: Department of Planning,SAP Campus Anna University Chennai</small>	



LEGEND

- 262-400
- 401-800
- 801-1200
- 1201-1800
- More than 1800
- Sea
- LPA Boundary
- Municipal Boundary
- Village Boundary
- Roads
- Railway line

POPULATION DENSITY IN NAGAPATTINAM LPA

GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU

PROJECTION SYSTEM : UTM DATUM : WGS84 SPHEROID : WGS84 ZONE : 44	
SCALE: 1:58,000	
MAP.NO: 2.2	DATE: FEBRUARY 2022
CLIENT: Commissioner of Town and Country Planning Directorate of Town and Country Planning Government of Tamil Nadu	
CONSULTANTS: Department of Planning, SAP Campus Anna University Chennai	

3. ECONOMY

3.1 ECONOMIC PROFILE

Being a coastal town with a coastal stretch of about 17 km, fishing is considered an important economic activity. Many Villages in Nagapattinam practice marine fishing and a large number of ice factories are located here for the preservation of fish. The fishing industry encountered a major breakdown after the tsunami that destructed the coastal areas on 26 December 2004. So, there is a need to develop this industry to boost local economic growth. Tourism is also an important economic driver with the presence of various historic and religious places in and around Nagapattinam LPA. The most important pilgrimage centres are Nagore Dargah, Singaravelar temple, and Velankanni Church. Though the town is deprived of any major industries, it is flourishing with many household industries like candle making, handicrafts, etc. Chennai Petroleum Corporation Limited is a major refinery located outside the planning area on the northern side and it is considered a major contributor to the economy of the town.

With the larger concentration of cultivable lands, agriculture remains an important source of occupation for Villages. Besides, a large number of farmers are also engaged in aquaculture which contributes to the economy of the town. Being the headquarters of the Nagapattinam district, the town serves as a main administrative place that provides various tertiary services. Given these facts, the town is considered to have great potential for seaborne trading, fishing, tourism, and agricultural activities.

3.1.1 Workforce Participation rate

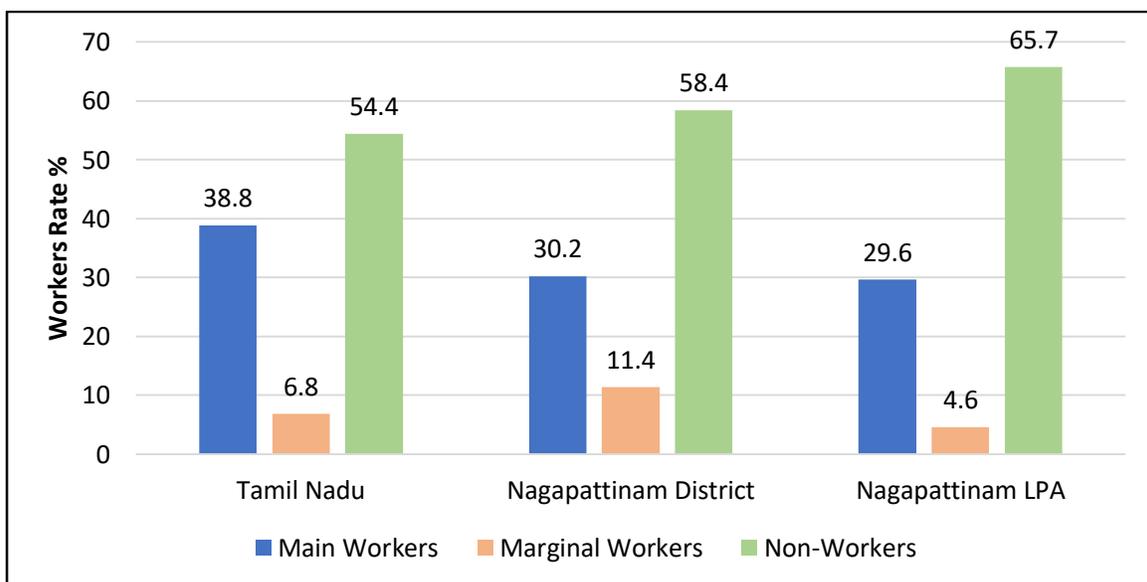


Figure 3.1: Comparison of Occupational Structure-2011

The comprehensive profile of employment in Nagapattinam LPA has been made based on the data available in the census. The participation rate i.e., the proportion of total workers to the population of Nagapattinam LPA was 32.24 % in 2001 and 34.29 % in 2011. The corresponding figure for the Municipality and Town Panchayat was 32.59% and 34.97 % in 2011 (Map 3.1). The Villages in Nagapattinam LPA had an average of 37.62 % of the workforce in 2011 as given in Table 3.1. It is inferred from figure 3.1, that the share of main workers in Nagapattinam LPA (29.6%) is lower than that of the state (30.2 %) and district (38.8 %).

Table 3.1: Workforce Participation Rate of Nagapattinam LPA 2001 & 2011

Participation Rate (%) 2001 and 2011				
Year	Municipality	Town Panchayat	Villages	Nagapattinam LPA
2001	30.01	33.80	43.82	32.24
2011	32.59	34.97	37.62	34.29

(Source: Census of India)

Table 3.2: Sectoral Composition of Workers in Nagapattinam LPA during 2001 & 2011

S. No.	Name of Villages/Town	% Of Workers							
		Cultivators		Agricultural Labours		Household Industrial Workers		Other Workers	
		2001	2011	2001	2011	2001	2011	2001	2011
1	Nagapattinam (M)	0.95	0.73	2.27	1.34	2.31	2.00	94.47	95.94
2	Velankanni (TP)	3.00	3.11	8.71	14.47	2.68	2.16	85.60	80.26
3	Nagore	3.92	2.55	65.43	39.11	0.50	3.19	30.15	55.15
4	Palaiyur	0.41	4.53	97.54	78.33	0.00	2.18	2.05	29.70
5	Ivanalur	4.16	4.13	70.45	45.87	0.62	3.12	24.77	46.88
6	Anthanapettai	4.96	2.67	16.00	10.06	3.35	3.59	75.70	83.69
7	Vadaku Poigainallur	6.57	6.68	12.74	15.00	0.83	1.10	79.85	77.22
8	Therkku Poigainallur	23.84	18.03	27.39	41.07	3.19	7.34	45.59	33.56
9	Poravacheri	6.64	2.74	36.99	22.19	2.38	2.49	53.99	72.57
10	Sikkal	5.53	4.71	53.02	53.41	1.27	2.42	40.18	39.46
11	Pappakoil	2.67	2.68	55.67	40.79	2.35	0.60	39.31	55.93
12	Karuvelankadai	14.10	6.48	58.44	78.33	1.11	0.00	26.35	15.19
13	Nagapattinam Village	-	1.24	-	0.12	-	2.85	-	95.78
Total		3.29	2.46	14.78	12.76	2.10	2.21	79.81	82.55

(Source: Census of India)

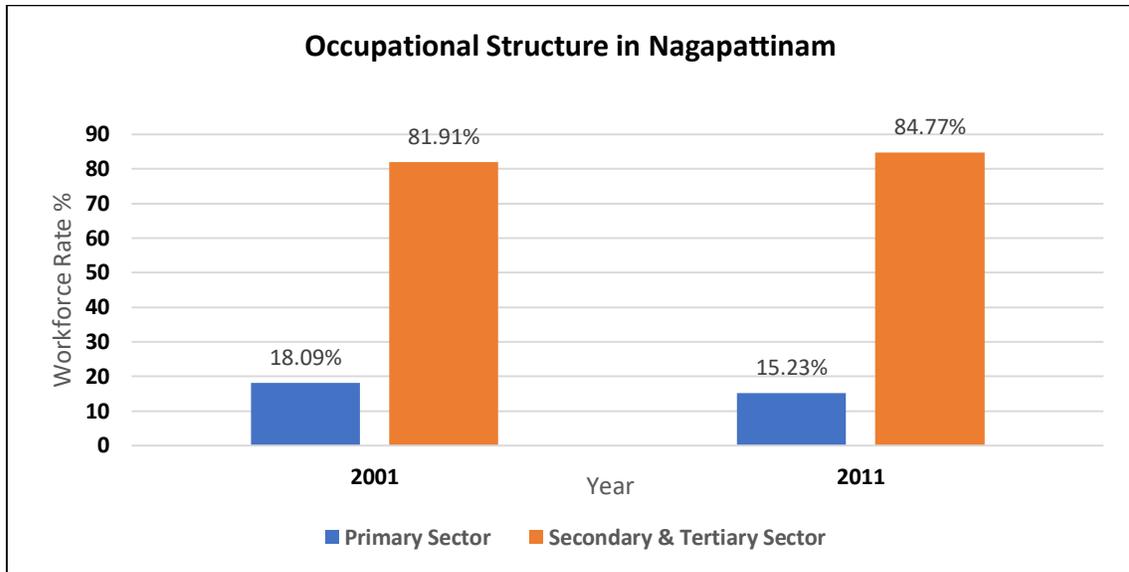


Figure 3.2: Trend of Occupational Structure in Nagapattinam LPA (2001 & 2011)

The share of cultivators and agricultural labourers in the total working population is decreasing over the past few decades. Though Nagapattinam LPA comprises 39.80 % of agricultural land use, the working population in the primary sector will become negligible if the existing growth trend continues (Figure 3.3). The development of the agricultural sector is important to promote sustainable urbanization and enhance the food security of the place.

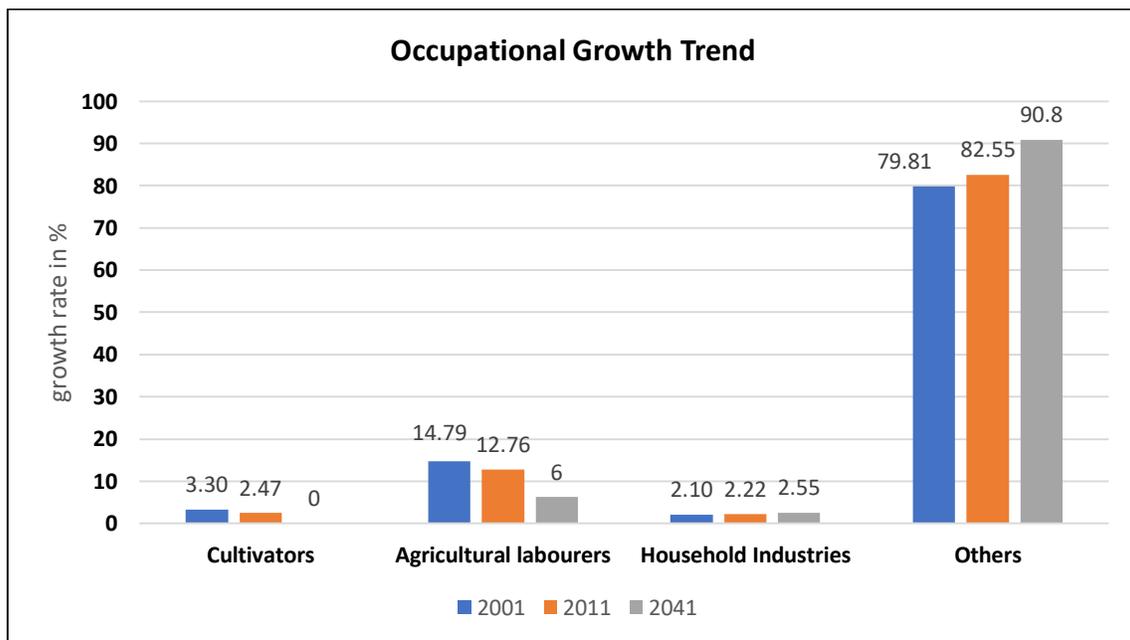


Figure 3.3: Occupational growth trend (in %) in 2041 of Nagapattinam LPA

3.1.2 Fishing

Having a long coastal stretch, Nagapattinam plays a major role in marine commodities. From 1990 to 1996, a fluctuation in fish productivity was experienced in both quantity and value. The marine fish catch largely comprises leognathics, sharks, flying fish, chank, catfish, prawns, silver bellies, crabs, rays, and other miscellaneous varieties. The special fish varieties of Nagapattinam are Kanavai (squid), Red Prawn, and Kola fish (flying fish). Mechanized boats, catamarans, and country canoes are commonly used for fishing activities. The fishermen are advised to carry an auto-identification system enabled GIS device for tracking purposes in case of technical issues or other problems encountered in the mid-sea. A large number of ice factories are located here for preserving the fish.

There are around 57 fishing Villages in Nagapattinam district and Nagapattinam LPA consists of 7 fishing Villages with a total fishermen population of about 20,953. Table 3.3 reveals the total population involved in fishing & fishing allied activities is about 8,459. This constitutes 14.96 % of the total workers' population in Nagapattinam LPA. Nagore Pattinacherry has a greater number of people involved in fishing activities in Nagapattinam LPA. As many as 708 mechanizing fishing craft and 125 non-mechanized are there in Nagapattinam LPA for fishing activity. The table below gives details about the population involved in various fishing activities during 2010.

Table 3.3: Population Involved in Various Fishing Activities (2010)

Fishermen Settlements	Active Fishermen	Marketing of fish	No. of members involved in fishing allied activities						Total Occupied
			Making / Repairing Nets	Curing/ processing	Peeling	Labourer	Other	Other than fishing	
Akkarai Pettai	1,195	351	4	11	1	74	1	95	1,732
Ariyanattu Street	1,110	163	0	0	0	0	2	0	1,275
Kallar	281	31	1	0	0	63	9	3	388
Keechankuppam	969	439	1	1	0	230	0	5	1,645
Nagore Pattinacherry	1,364	475	26	25	1	11	28	5	1,935
Nambiyar Nagar	604	5	0	0	0	31	0	0	640
Samandhanpettai	487	213	82	29	0	18	0	15	844
Total	6,010	1677	114	66	2	427	40	123	8,459

(Source: Marine Fisheries Census 2010)

In Nagapattinam LPA, several fishery infrastructures such as ice factories, fishnet marine shops, boat manufacturing, fish markets, enterprises, etc., are situated. In Akkaraipettai village around 10 members were involved in Hygienic dry fish packing and sales activity for more than 9 years in the name of “Best Dry Fish”. There are a total number of 38 Joint Liability Groups (JLGs) in Akkaraipettai and Keechankuppam Villages in Nagapattinam LPA to provide credits to the fishermen. January, February, March, and June 15th to September are considered peak periods for fish catching, and November and December are considered the lean period for fish catching. The 61 days annual ban period for fish catching starts from April 15th to June 15th.

In an attempt to reduce congestion at Nagapattinam fishing harbour and provide better amenities for fishermen, a mini fishing harbour of an area of 4.36 hectares is proposed at Nambiyar Nagar at 34.30 crores. As many as 5,000 families from seven fishing hamlets would get support, in which 252 country boats and 66 motorboats will be benefitted through this project. The proposed harbour will have fish handling halls, an auction hall, cold storage, an ice factory, a fueling station, power-back up centres, and quarters for workers. This will stimulate the fishing industry in this region and improve the local economy.

Aquaculture

In India, Tamil Nadu state has the second-longest coastal line with rich natural coastal resources for aqua farming. Coastal aquaculture is also considered an important tool for the economic growth in Nagapattinam LPA. In Nagapattinam LPA, aquaculture is practiced over an area of about 5.38 Sq.km. Nearly 6.72 % of the total area of the LPA is utilized for aquaculture production. Aquaculture is largely practiced along the Kaduvaiyar River in Vadakku Poigainallur village.

To develop a standardized pond-based technique for commercially important marine species, Kings Infra Ventures Ltd has signed a pact with TNJFU, Nagapattinam for a collaborative aqua project. The main focus of this project is to help small and marginal farmers to adopt sustainable aquaculture practices based on the model developed by the collaborative project. There is immense scope for the development of sustainable aquaculture practice, as 49 % of the global demand for fish consumption is contributed by aquaculture. In FY 2021, aquaculture shrimps have contributed 74 % value of the Indian seafood exports worth Rs. 43717 crores. So, there is tremendous scope to improve the local economy through sustainable aquaculture practice in Nagapattinam.

Tourism

Tourism is another important source of income for the locals in Nagapattinam. The important tourist sites in Nagapattinam LPA are located in Nagore, Velankanni, and Sikkal. District diagnostic study reveals that the total tourist population in Nagapattinam LPA during the year 2017 was 1.12 crore. The tourist inflow in Nagapattinam LPA constitutes 3.22 % of the total tourist arrivals in Tamil Nadu. The number of domestic and foreign arrivals in the LPA accounts for 3.25 % and 1.37 % of the total domestic & foreign tourists in Tamil Nadu respectively. The tourist arrivals here are seasonal and largely depend on the festivities of the religious centres. With a large number of religious sites, tourism in the LPA could be developed through proper infrastructure & amenities.

3.1.3 Industries

Most of the industries in Nagapattinam LPA are located along National Highway 32. In the north, the Cauvery basin refinery, a subsidiary of Chennai Petroleum Corporation Limited (CPCL) located near Nagore village is a major contributor to the economy of the Nagapattinam LPA. Small Industrial Development Corporation (SIDCO) has established an industrial estate in Nagapattinam Municipality over an area of about 20.97 acres and it stimulates the growth of small-scale industries. Amenities such as water supply, roads, street lights, and stormwater drains are provided here.

Many small-scale industries are situated in Villages like Therkku Poigainallur, Poravacheri, Anthanapettai, and Sikkal. There are 40 nos. of wax candle manufacturing units in Velankanni Town Panchayat in which as many as 1000 people are employed. A rural textile centre is located at Manjakollai and a Khadi craft sales centre is functioning at Nagapattinam Municipality. Industries such as chemical industries, Agro-based & food processing industries, brick Kilns, cottage & household industries, and other manufacturing industries are located in the Nagapattinam LPA.

An ancient port is located at the mouth of the river Kaduvaiyar in the Nagapattinam Municipality. It became more prominent during the period of Medieval Cholas (9th –12th century CE) and it was widely used by the Dutch, Portuguese and British for trading purposes. The present-day port has a commercial port complex & dockyard which handles major imports like copra cake, crude oil, edible oil, general cargo, liquid ammonia, machinery, and naphtha. The major exports are cement, crude oil, and general cargo. Approximately 160000 tonnes of imports and 53000 tonnes of exports are handled by the port annually. M/s. Foods Fats and Fertilizers Ltd. have constructed an Edible oil storage terminal at the port. An RCC jetty with an approach trestle is constructed by the M/s. Chennai Petroleum Corporation Ltd to handle crude oil required

for their refinery at Panangudi. Copra cakes are imported through this port by M/s. South India Edibles. The port, if upgraded will facilitate the shipping trade and industry in a great way.

Boat manufacturing is also an important industrial activity taking place near Nagapattinam Port. They undertake many structural fabrications and marine engineering works such as ship manufacturing, fishing boat & ferry construction, barges, and other marine structures.

Being a coastal city, the establishment of large-scale industrial activities is constrained due to the applicability of CRZ Regulations. However, the place has a good potential for oil & gas and marine-based industries such as fish processing, PVC net floats, repairing, servicing of motorboat engines, etc. which offers employment opportunities for the residents in Nagapattinam LPA. Some of the industries that have better prospects are steel rerolling mills, steel furniture, cattle feed, fish meal, power loom, mixed fertilizer insecticides, urea, ammonia, and polythene.

3.1.4 Trade and Commerce

The town served as an important place for trade and commerce during the period of Medieval Cholas. During the British period, commodities such as rice, piece goods, livestock, cigars, tobacco, and hides were traded. Today, the Town functions as a centre of retail provisions trading for the surrounding Towns and Villages in Nagapattinam. The major commercial activities are concentrated near Nagore Dargah, the old Town in Nagapattinam, and Velankanni. The Central Business District (CBD) comprise Neela East St., Neela South St., Big Bazaar St., and VOC St. The main commercial activities observed in the central business district are banking, retail trading, health services, textile shops, hardware shops, hotels, and restaurants, etc.

- Hospital Road – Pharmacy, Hotels, Marriage halls, Theater, General Business.
- VOC Street – Markets, Theaters, Informal shops, Petrol pump.
- Neela West Street – Retail, General business, Service units.
- Neela East Street – Textile shops, Jewelry shops, Grocery and Power tools.
- Neela South Street – Banks, Restaurants, General Business.
- Big Bazaar Street – Mandi, Godown, Grocery, Stationery, Vessel shops.
- Manara North Street – Hotels, Retails, Vegetable markets.
- Velankanni Main Road – Lodges, Retail, Marriage halls.
- Velankanni Beach Road – Restaurants & Lodges.

3.1.5 Agriculture

Agriculture is considered an important means of livelihood in many Villages in Nagapattinam LPA. Since the area is located in the deltaic region of river Cauvery and is crisscrossed by several networks of irrigation canals, the place is known for paddy cultivation and also several other crops. Out of the total workforce, 15.22 % of workers are involved in primary activity. Though the LPA has a larger concentration of agricultural lands, the agriculture sector remains woefully underdeveloped. Some of the major issues confronted by practicing agriculture are inundation of water and poor drainage during monsoons which leads to major floods that damage the standing crops every year. Therefore, crop cultivation has become uneconomic in Nagapattinam LPA and people have started to move to other activities. Various schemes are implemented through the Department of Horticulture and Plantation crops to increase the productivity and income of farmers.

3.2 EMPLOYMENT PROJECTION

The main economic development goal for any town is the generation of adequate employment opportunities. Employment growth leads to the improvement of livelihood, in addition, enhances the quality of life for the locals. In Nagapattinam LPA, the % of workers as per the 2011 Census was 34.30 % which has increased from 32.24 % in 2001. However, the workforce rate of Nagapattinam LPA is still less than that of the state and district rate. The male workforce is 54.70 % and female workers are 14.30 % of the total male and female population respectively. The female work participation rate has increased by 2.19 % from 2001 to 2011, which is still lower than the national (25%) and state average (31%). Table 3.4 presents the male & female workers' participation rate in Nagapattinam LPA from 1981 to 2011.

Table 3.4: Male & Female Workforce in Nagapattinam LPA (1991 – 2011)

Year	Male Workers	% to male population	Female Workers	% to female population	Total Workers	% to total Population
1981	28,536	48.67	6064	9.83	34600	28.29
1991	31,302	50.23	6356	10.08	37658	28.87
2001	38,156	52.48	10083	12.11	48239	32.24
2011	44,516	54.70	12015	14.30	56531	34.30

(Source: Census of India)

The employment projection for the year 2041 has been made based on the male & female workforce participation rate. The total workforce participation rate for Nagapattinam LPA has been estimated as 36.5 % in 2041. Around 43.3 % male and 12.8 % female are projected to be workers among the total eligible workers' population in 2041. The additional jobs to be created have been determined as 7310 for 2031 and 14621 for 2041. Expanding the job market for the projected workforce in Nagapattinam LPA will enhance the prospect for future growth. Developing the secondary and tertiary sectors will create more employment opportunities, in addition, the planning area has good scope for the generation of employment through the promotion of tourism, marine-based industries, and Agro-based industries. The projection of workforce participation rate for Nagapattinam LPA up to 2041 is given in Table 3.5.

Table 3.5: Employment Projection for Nagapattinam LPA

S. No.	Description	2011	2021	2031	2041
1	Total Population	1,64,824	1,82,151	1,98,431	2,14,711
2	Eligible Workers (65%)	1,07,136	1,18,398	1,28,980	1,39,562
3	Male Population (49.3%)	81,292	89,800	97,826	1,05,852
4	Female Population (50.7 %)	83,532	92,351	1,00,605	1,08,859
5	Male Willing to Work (% of Male Workers to total Eligible workers)	41.55	42.10	42.77	43.35
6	Male Willing to Work	44,516	49,843	55,169	60,496
7	Female Willing to Work (% of Female Workers to total Eligible workers)	11.21	11.82	12.39	12.87
8	Female Willing to Work	12015	13,999	15,982	17,966
9	Total Workers	56,531	63,841	71,152	78,462
10	% to total eligible workers	52.77	53.92	55.16	56.22
11	Workforce Participation Rate	34.30	35.05	35.86	36.54
12	Additional Jobs to be Created	-	-	7,310	14,621

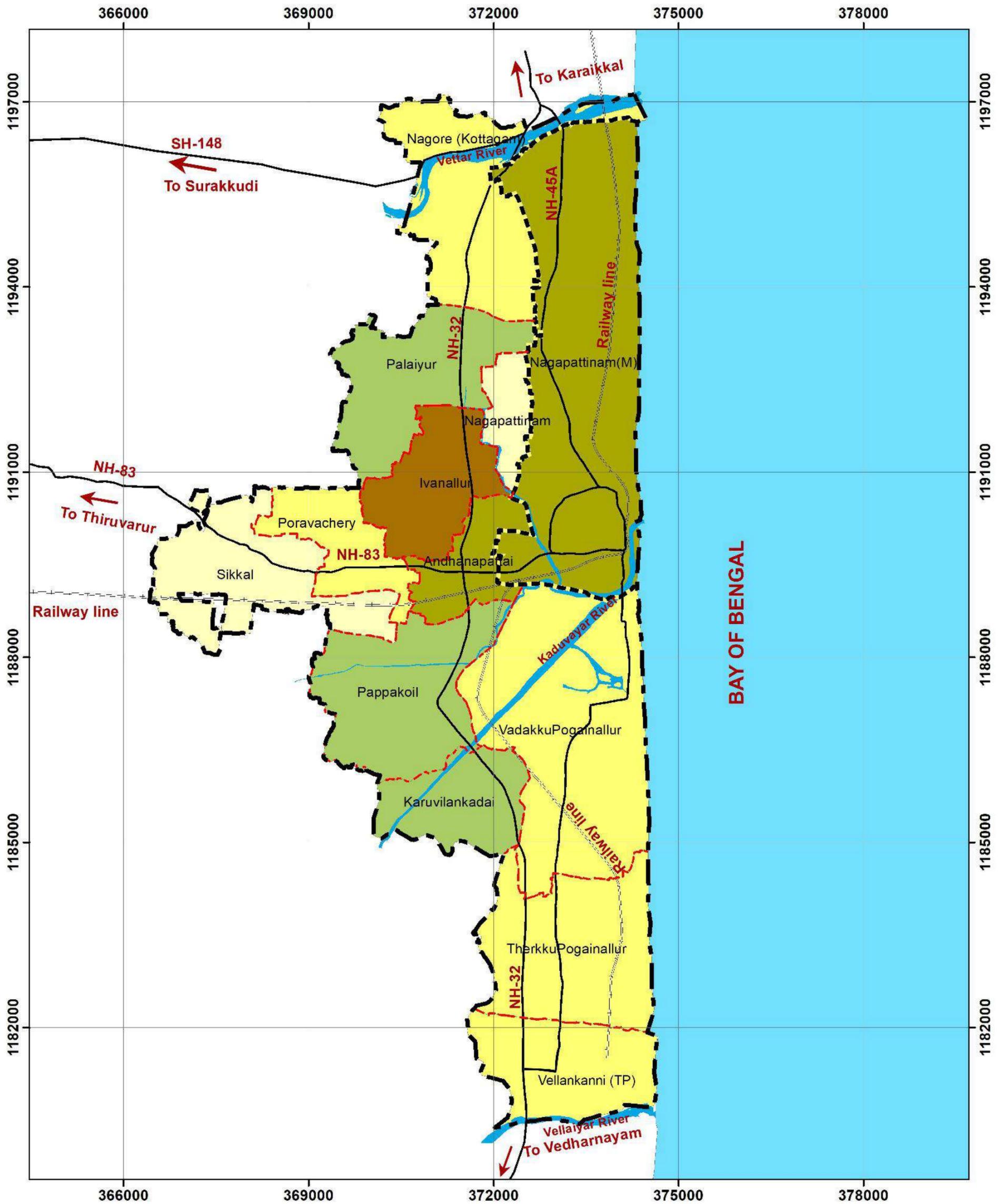
3.3 SUMMARY

Nagapattinam is a coastal town, fishing acts as a major economic activity of the town. Tourism is also an important economic driver with the presence of various historic and religious places in and around Nagapattinam LPA. Nagapattinam and Velankanni are flourishing with many household industries like candle making, handicrafts, etc. Since the area is located in the deltaic region of river Cauvery and is crisscrossed by several networks of irrigation canals, the place is known for paddy cultivation and also several other crops.

Though Nagapattinam LPA comprises a higher concentration of agricultural land, the working population in the primary sector will become negligible if the existing growth trend continues. The development of the agricultural sector is also important to promote sustainable urbanization and enhance the food security of the place.

Workers involved in fishing-related activities constitute 14.96 % of the total workers' population in Nagapattinam LPA. Aquaculture is also to be considered an important driver for the economic growth in Nagapattinam LPA. Tourism also plays a major role in the economy of the planning area. The tourist inflow in Nagapattinam LPA constitutes 3.22 % of the total tourist arrivals in Tamil Nadu. Boat-building is also an economic activity taking place near Nagapattinam Port. Based on the prospects and resources, it is inferred that the planning area has a good scope for the generation of employment through the promotion of tourism, marine-based industries, and Agro-based industries.

Employment projection for Nagapattinam LPA by 2041 is estimated by considering the following factors namely eligible working population, population willing to work and workforce participation rate. Based on the employment projection, the workforce participation rate of Nagapattinam LPA in 2041 is estimated as 36.54% and to achieve this workforce participation rate 14631 additional jobs need to be created. These additional jobs can be created by proposing new projects based on the potential of the planning area.

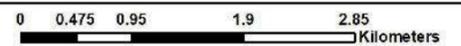


LEGEND

- 31-33%
- 41-42%
- LPA Boundary
- Roads
- 43-46%
- Municipal Boundary
- Railway line
- 38-40%
- Sea
- Village Boundary

WORKFORCE PARTICIPATION RATE IN LPA

GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU



PROJECTION SYSTEM : UTM
 DATUM : WGS84
 SPHEROID : WGS84
 ZONE : 44

SCALE: 1:58,000

MAP.NO: 3.1

DATE: FEBRUARY 2022

CLIENT:
 Commissioner of Town and Country Planning
 Directorate of Town and Country Planning
 Government of Tamil Nadu

CONSULTANTS:
 Department of Planning, SAP Campus
 Anna University Chennai



4. HOUSING

4.1 EXISTING SITUATION ANALYSIS

Housing is a key input for economic, social, and civic development. Provision of appropriate residential areas concerning workplace, industrial area, and access to various facilities is also a key to a successful city development strategy for any urban area. The main purpose of the housing sector is to assist all people especially the houseless, economically weaker sections of the society, and to expand the supply of developed land for housing possibly through land-use planning. In the housing sector, various aspects such as housing type, housing condition, period of residence and Ownership, housing stock, housing shortage, and future requirements are discussed.

4.1.1 Growth in Households

As per Census 2011, Nagapattinam LPA accommodates 39572 households spread in the shape of various housing typologies, such as individual housing, plotted development, slums, and squatter resettlements in the city and village settlements.

The household growth rate of Nagapattinam LPA from 2001 to 2011 was about 26.3%. After 2001, Muttam and Thethi villages had been merged with Nagore (Kottagam) village. After the 2004 Tsunami, the settlements near the seashore and Vadakku Poigainallur resettled in Ivanalur and Pappakoil village in Nagapattinam LPA. This results in a negative household growth rate (-16.65%) in Vadakku Poigainallur and an increased household growth rate of 131% and 37.2% in Ivanalur and Pappakoil (Table 4.1).

Table 4.1: No. of Households in Nagapattinam LPA-2001 and 2011

S. No.	Town/ Villages	2001	2011	Growth rate (%)
1	Nagapattinam (M)	19,062	24518	28.6
2	Velankanni (TP)	2,269	2753	21.3
3	Nagore (Kottagam) (Muttam & Thethi)	485	852	75.7
4	Palaiyur	302	346	14.6
5	Ivanalur (Sellur)	560	1295	131.3
6	Anthanapettai (Manjakollai)	1380	1625	17.8
7	Vadakku Poigainallur (Akkarapettai)	3002	2503	-16.6
8	Therkku Poigainallur	1044	1171	12.2

S. No.	Town/ Villages	2001	2011	Growth rate (%)
9	Poravacheri	897	1029	14.7
10	Sikkal	1165	1451	24.5
11	Pappakoil	858	1177	37.2
12	Karuvelankadai	313	345	10.2
13	Nagapattinam Village	0	507	0
14	Nagapattinam LPA	31,337	39572	26.3

(Source:Census of India)

Table 4.2 shows that the household growth rate of the urban area in LPA (27.8%) is higher than the growth rate in the urban area of the district (26.1%).

Table 4.2: Household growth rate in urban area of the LPA and Nagapattinam district

Description	Households in 2001	Households in 2011	Household growth rate (in %)
Nagapattinam District (Urban)	71786	90487	26.1
Nagapattinam LPA (Urban)	21331	27271	27.8

(Source:Census of India)

4.1.2 Housing Typology

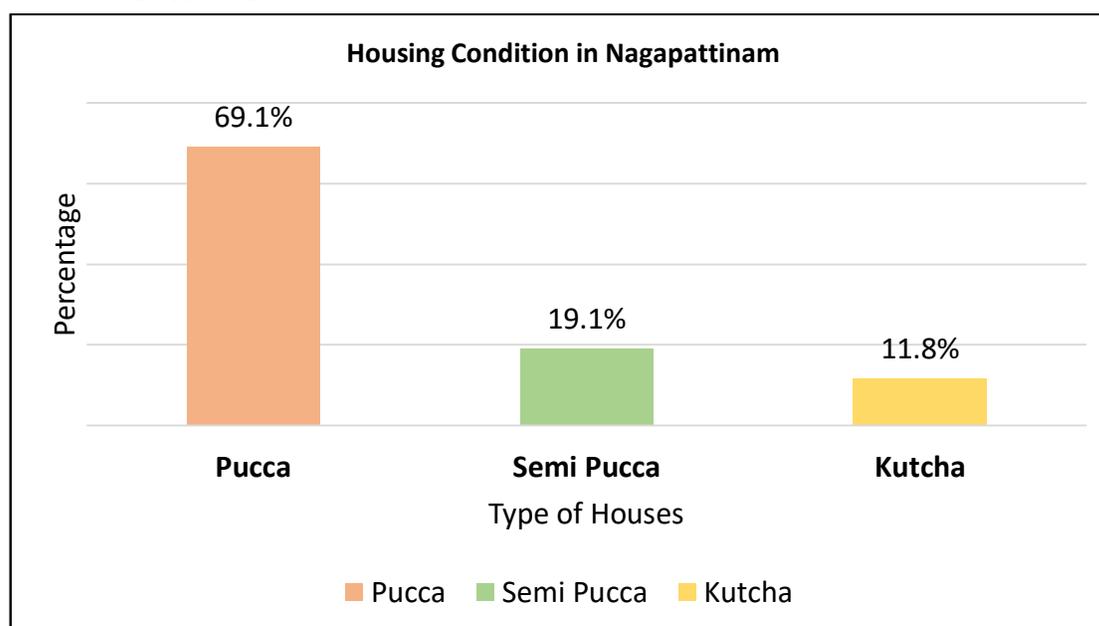


Figure 4.1: Housing condition in Nagapattinam LPA-2011

Housing Condition has been analyzed under 3 categories as Pucca, Semi Pucca, and Kutcha based on the material used for construction. The condition of houses in Nagapattinam LPA is predominantly Pucca which is about 69.1%, 19.1% of Semi Pucca houses and 11.8% of Kutcha houses (Figure 4.1). Though it has a lesser amount of Kutcha houses they are vulnerable to natural disasters and cyclones. Palaiyur, Therkku Poigainallur, and Karuvelankadai Villages have a higher concentration of Kutcha houses because these Villages have a higher concentration of agriculture workers (Table 4.3). More number of Kutcha houses are available in Therkku Poigainallur and Karuvelankadai village. Because of this the Villages Therku Poigainallur and Karuvelankadai were highly affected during Tsunami 2004 and Gaja cyclone. As per the field survey, there were about 120 (0.3%) dilapidated houses in Nagapattinam LPA.

Table 4.3: Housing Condition-Nagapattinam LPA-2011

S.No.	Town/ Villages	No of households	Pucca	% Share	Semi Pucca	% Share	Kutcha	% Share
1	Nagapattinam (M)	24518	18021	73.5	4781	19.5	1716	7.0
2	Velankanni (TP)	2753	1776	64.5	592	21.5	385	14.0
3	Nagore (Kottagam) (Muttam & Thethi)	852	630	73.9	125	14.7	98	11.4
4	Palaiyur	346	152	43.9	82	23.7	111	32.2
5	Ivanalur (Sellur)	1295	878	67.8	89	6.9	327	25.3
6	Anthanapettai (Manjakollai)	1625	1310	80.6	171	10.5	145	8.9
7	Vadaku Poigainallur (Akkarapettai)	2503	1464	58.5	663	26.5	375	15.0
8	Therkku Poigainallur	1171	334	28.5	433	36.9	404	34.5
9	Poravacheri	1029	602	58.5	225	21.9	202	19.6
10	Sikkal	1451	897	61.8	163	11.2	392	27.0
11	Pappakoil	1177	646	54.9	164	13.9	367	31.2
12	Karuvelankadai	345	150	43.5	61	17.7	134	38.7
13	Nagapattinam Village	507	501	98.8	4	0.8	2	0.4
14	Nagapattinam LPA	39572	27361	69.1	7552	19.1	4658	11.8

(Source:Census of India)

4.1.3 Housing Ownership

Housing tenure in Nagapattinam LPA is predominantly owned (72.4%) rather than rental (25.5%), other categories include leased houses (2.1%). The share of rental Ownership is high in urban areas which shows that for education and employment opportunities people migrated to the urban area and lived in rental housing (Table 4.4).

Table 4.4: Housing Tenure-Nagapattinam LPA-2011

S. No.	Name of Villages/Town	No of households	Own	% Share	Rental	% Share	Others	% Share
1	Nagapattinam (M)	24518	15618	63.7	8263	33.7	637	2.6
2	Velankanni (TP)	2753	2034	73.9	661	24.0	58	2.1
3	Nagore (Kottagam) (Muttam & Thethi)	852	793	93.1	53	6.2	6	0.6
4	Palaiyur	346	345	99.7	1	0.3	0	0.0
5	Ivanalur (Sellur)	1295	1249	96.4	43	3.3	3	0.2
6	Anthanapettai (Manjakollai)	1625	1243	76.5	346	2.1	37	2.3
7	Vadaku Poigainallur (Akkarapettai)	2503	2415	96.5	75	3.0	13	0.5
8	Therkku Poigainallur	1171	1124	96.0	20	1.7	27	2.3
9	Poravacheri	1029	821	79.8	197	19.1	10	1.0
10	Sikkal	1451	1145	78.9	296	20.4	9	0.6
11	Pappakoil	1177	1058	89.9	109	9.3	9	0.8
12	Karuvelankadai	345	339	98.2	0	0	6	1.8
13	Nagapattinam Village	507	461	90.9	45	8.9	1	0.2
14	Nagapattinam LPA	39572	28646	72.4	10109	25.5	816	2.1

(Source:Census of India)

4.1.4 Housing Occupancy

The Occupancy rate of housing in Nagapattinam LPA is high (97.8%) and the vacancy rate is negligible (2.2 %) (Table 4.5).

Table 4.5: Housing Occupancy-Nagapattinam LPA-2011

S. No.	Name of Villages/Town	Population 2011	No of households	Occupied residential houses	% Share
1	Nagapattinam (M)	102905	24518	24076	98.2
2	Velankanni (TP)	11108	2753	2666	96.8
3	Nagore (Kottagam) (Muttam & Thethi)	3564	852	828	97.2
4	Palaiyur	1291	346	330	95.4
5	Ivanalur (Sellur)	4921	1295	1281	98.9
6	Anthanapettai (Manjakollai)	7349	1625	1563	96.2
7	Vadaku Poigainallur (Akkarapettai)	10826	2503	2440	97.5
8	Therkku Poigainallur	4731	1171	1120	95.6
9	Poravacheri	4422	1029	1010	98.2
10	Sikkal	5652	1451	1422	98.0
11	Pappakoil	4915	1177	1147	97.5
12	Karuvelankadai	1201	345	321	93.1
13	Nagapattinam Village	1939	507	507	100.0
14	Nagapattinam LPA	164824	39572	38711	97.8

(Source:Census of India)

4.1.5 Urban Slums

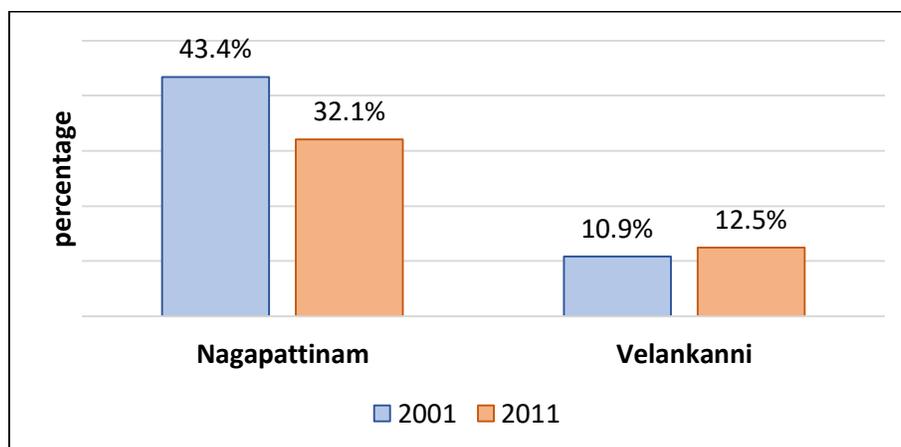


Figure 4.2: Share of Slum Population in Nagapattinam LPA-2011

Slums are defined based on the condition of the area and the buildings. The slum is an area, which is described as a source of danger to the health and safety of the people living in the area and its neighbourhood and buildings, which are considered unfit for human habitation. Slums have been either improved or redeveloped under the program PMAY.

The term squatter describes a wide range of low-income settlements or poor living conditions. A slum at its simplest definition is a heavily populated area characterized by substandard housing and squatter. In the last decade, slum upgradations are executed under schemes and policies like JNNURM, and PMAY.

The urban slum population of Nagapattinam LPA decreased from 2001 to 2011. As per the Census 2011, Nagapattinam LPA had 8210 urban slums. The share of the slum population in Nagapattinam Municipality was about 43.9% in 2001 whereas in 2011, it was reduced to 31.8% and in Velankanni it was about 14.8% in 2001 whereas in 2011, it was 12.9% (Figure 4.2 & Table 4.7). The marginal reduction in the slum population during the inter-decennial period may be due to the improvement or redevelopment of notified slums.

**Table 4.6: Urban Slum population and share of Slum households-
Nagapattinam LPA 2001 & 2011**

S. No.	Description	Nagapattinam		Velankanni	
		2001	2011	2001	2011
1	Total population	93,148	102905	10,151	11108
2	Total households	19062	24518	2753	2753
3	Total slum population	40,857	32707	1,500	1439
5	% Share of slum population	43.9	31.8	14.8	12.9
4	Total slum household	8276	7867	300	343
6	% Share of slum households	43.4	32.1	10.9	12.5

(Source:Census of India)

Pradhan Mantri Awas Yojana Scheme addresses urban housing shortage among the EWS/LIG and MIG categories including the slum dwellers by ensuring a Pucca house to all eligible urban households by the year 2022. Through PMAY (Urban) Nagapattinam Municipality and Velankanni had beneficiaries of 569 and 35 houses. In 2021, additional 320 dwelling units were constructed under PMAY scheme in Nagapattinam Municipality (Table 4.7). The table below shows the number of houses developed under the PMAY (Urban) Scheme in Nagapattinam LPA.

Table 4.7: Houses proposed under PMAY (Urban) in Nagapattinam LPA

Name of the Urban area	Houses Sanctioned	Houses Grounded	Houses Completed
Nagapattinam (M)	705	700	569
Velankanni (TP)	108	106	35

(Source:Ministry of Housing and Urban Affairs,GOI)

4.1.6 Houseless population

The share of houseless population in Urban area, Nagapattinam is very negligible (1.8%). So, while providing housing for the future population only the projected additional population and slum population should be given more priority (Table 4.8).

Table 4.8: Share of Houseless Population in Nagapattinam Urban area-2011

Name of the Town	Total Population	Houseless Population	% Share
Nagapattinam (M)	102905	125	1.2
Velankanni (TP)	11108	69	0.6

(Source:Census of India)

4.1.7 Existing housing shortage

The housing shortage is analyzed both in qualitative and quantitative aspects. In qualitative aspects condition of houses and in quantitative aspects houseless population is taken into consideration. The existing housing shortage (2021) in Nagapattinam LPA is about 4828. Table 4.9 shows the existing housing shortage in Nagapattinam LPA.

Table 4.9: Existing Housing Shortage 2021

Description	Total Houses
Kuccha Houses	4658
Dilapidated Houses	120
House less Population	50
Total Shortage	4828

4.2 HOUSING PROJECTION

Projected requirement for housing sector is worked under two categories namely

- Requirement based on Quantity
- Requirement based on density

Housing requirement for the projected population is arrived at taking into account the additional population in 2041, slum households, dilapidated houses, and houseless population. By 2041 Nagapattinam LPA will require 18,328 dwelling units as per the quantity arrived, to accommodate the future population and urban poor (Table 4.10).

Table 4.10: Quantity of Houses required in 2041

Description	Population
Total Population 2011	1,64824
Projected Population 2041	2,14,711
Additional Population	49,887
Additional Households in 2041	13,500
Kuccha Houses	4658
Dilapidated Houses	120
Houseless Population	50
Total Houses required in 2041	18,328

The residential area requirement for the projected population is calculated based on the projected density. Population density for 2041 has been projected using the LPA area and by taking note of the future population. The existing area under residential use was about 10.5 sq. km for a population of 164824. The projected population for 2041 is 2, 14,711 and the population density will be about 8826 persons/sq.km for the municipal area, 3403 persons/ sq.km for Velankanni Town Panchayat, and 1152 persons/sq.km for Villages. Based on the density the additional land required for the projected population density by 2041 will be about 1 sq.km for Nagapattinam Municipality, 0.6 sq.km for Velankanni, and 2.9 sq.km for the Vicinity area (Table 4.11).

Table 4.11: Projected Residential area requirement in Nagapattinam LPA

Town/Villages	Existing Density (Person/Sq.km)	Existing residential area (in Sq.km)	Projected density 2041 (Person/ Sq.km)	Projected Residential area 2041 (in Sq.km)	Residential area required 2041 (in Sq.km)
Nagapattinam (M)	7171	4.1	8826	5.1	1
Velankanni (TP)	2020	0.9	3403	1.5	0.6
Vicinity area	886	9.6	1152	12.5	2.9
Total area required for residential use					4.5

4.3 SUMMARY

Land use planning is to supply additional lands required for housing requirements. Villages having proximity to urban areas and major transport corridors have higher Household growth rates. Nagapattinam LPA as of today has 38711 households. By 2041, Nagapattinam LPA will require additional 18,328 dwelling units to accommodate the future population and urban poor. Population density for 2041 has been projected to be about 8826 persons/sq.km for the Municipal area, 3403 persons/sq.km for Velankanni Town Panchayat, and 1152 persons/ sq.km for Villages. Based on the projected density the additional land requirement for residential purposes is 4.5 sq.km.

5. PHYSICAL INFRASTRUCTURE

5.1 EXISTING PHYSICAL INFRASTRUCTURE FACILITIES

Quality of life in any urban area is very much conditioned by the level of availability, accessibility and quality of physical and social infrastructure. Physical Infrastructure is one of the most important driving forces for economic development. Efficient water supply systems, sewerage systems, solid waste collection, and disposal systems are essential for good urban health and for leading productive lifestyles. The rapid growth of the population generates a need for the augmentation of physical infrastructure. An overview of the existing scenario in Nagapattinam LPA is presented below followed by a future demand assessment.

5.1.1 Water Supply

Source and Quantity

The existing quantity of water supply for Nagapattinam Municipality is 11 MLD, consisting of 2.0 MLD from Vettar River, and 9.0 MLD from CWSS-Kollidam. As per TWAD Board Norms, the existing quantity of water supply is inadequate. So, to increase the supply, the existing source needs to be augmented in the municipal area. In Velankanni, the total quantity of water source available is 2 MLD, consisting of 1.2 MLD from RO plants, and 0.8 MLD from CWSS-Kollidam (Table 5.1). As per TWAD Board Norms, the existing quantity of water supply is adequate for the existing population (including the floating Population) in Velankanni.

Table 5.1: Source of Water Supply in Nagapattinam LPA

Nagapattinam Municipality		Velankanni Town Panchayat	
Source	Quantity (MLD)	Source	Quantity (MLD)
Vettar river source at Odachery	2.0	RO Plant	1.2
TWAD (Kollidam CWSS)	9.0	TWAD (Kollidam CWSS)	0.8

(Source:Nagapattinam Municipality Website and CHP, Velankanni)

Mode of Supply

Nagapattinam LPA has different modes of water supply. In Nagapattinam Municipality (86%) and Velankanni Town Panchayat (70%) and Villages (87%), the majority of the households receive water supply through Tap Water connections. (Figure 5.1-5.3).

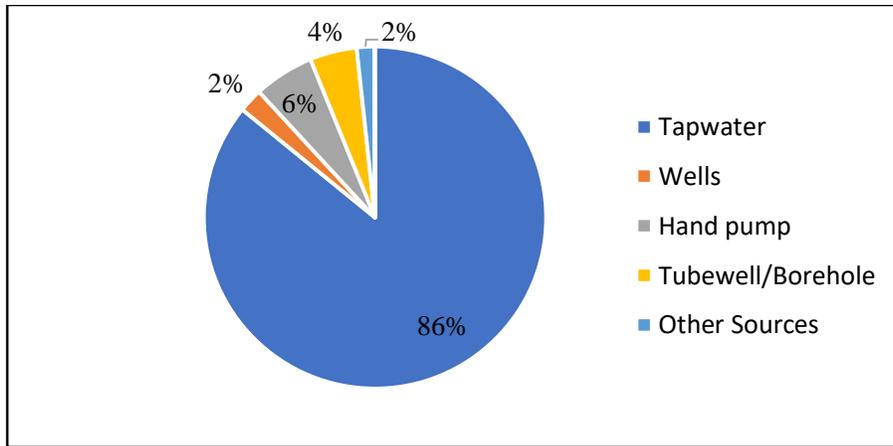


Figure 5.1: Mode of water supply in Nagapattinam Municipality

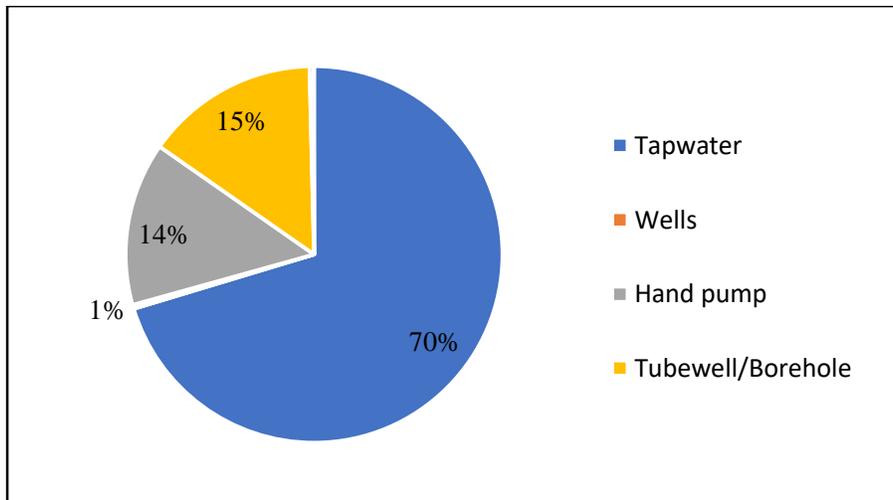


Figure 5.2: Mode of water supply in Velankanni Town Panchayat

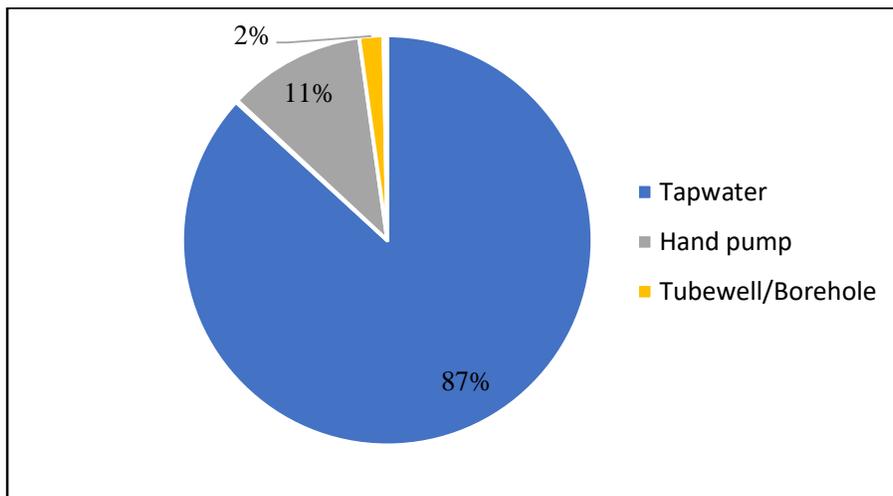


Figure 5.3: Mode of water supply in Villages in Nagapattinam LPA

Infrastructure for Water Supply

Nagapattinam LPA is receiving water supply through a combined water supply scheme (CWSS). Nagapattinam Municipality has about 13 OHTs with a storage capacity of 10.8 MLD, Velankanni Town Panchayat has about 2 OHTs with a storage capacity of 0.6 MLD, and the rest of LPA has about 68 OHTs (Figure 5.4). The location of OHT facilities within the LPA is shown in Map 5.1.

In the Municipal area, the existing storage facilities with a total capacity of 10.8 MLD are adequate at present. By 2041 the demand for water supply is about 17.1 MLD. The existing storage facility in Nagapattinam municipal area is adequate for the future also. In the case of Velankanni, the existing storage facilities (0.6 MLD capacity) are adequate for the existing and future demand.

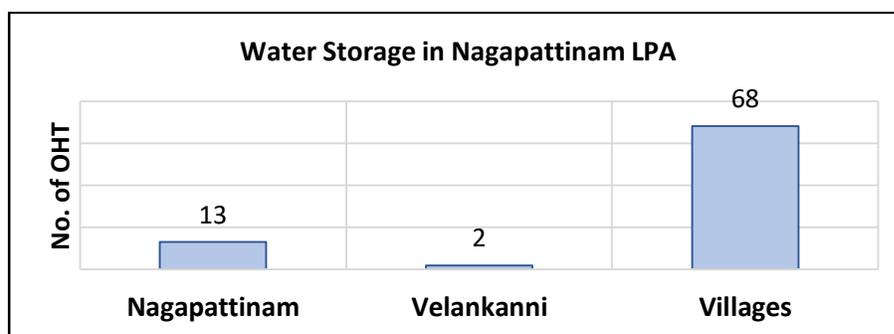


Figure 5.4: Water storage facilities in Nagapattinam LPA

Existing demand and supply

The Tamil Nadu Drainage and Water Supply Board recommend a per capita water supply of 135 litres per capita per day for municipalities with an underground sewerage system, 90 litres per capita per day for Town Panchayat with an underground sewerage system, and 55 litres per capita per day for Villages.

Table 5.2: Existing gap in water supply-Nagapattinam LPA

S. No.	Description	Nagapattinam Municipality	Velankanni Town Panchayat	Villages
1	Population (2011)	102905	11108	50811
2	Floating Population	-	3000	-
3	Coverage of water Supply connection	72%	-	-
4	Per capita Supply (TWAD Board Norms)	135	90	55
5	Total quantity required (in MLD)	13.9	1	2.8

S. No.	Description	Nagapattinam Municipality	Velankanni Town Panchayat	Villages
6	Existing Per capita supply (in lpcd)	74	83	40
7	Total quantity supplied (in MLD)	7.6	0.9	2
8	Existing demand (in MLD)	6.3	0.1	0.8
9	Water requirement for floating	-	0.1	-

(Source: Municipality Website & TWAD Board)

The existing per capita supply in Nagapattinam Municipality and Velankanni Town Panchayat are 74 and 83 lpcd whereas in Villages the average per capita supply is 40 lpcd. As per the TWAD norms the per capita supply for Municipality, Town Panchayat and Villages are 135 lpcd, 90 lpcd and 55 lpcd. As per this norm, the existing gap in water supply for Nagapattinam LPA is found to be 7.3 MLD (Table 5.2). The existing water sources need to be augmented and water bodies need to rejuvenate to fulfil the existing demand in the water supply.

5.1.2 Sewerage and Sanitation

An Underground sewerage scheme was formulated for Nagapattinam Municipality covering Nagapattinam and Nagore under World Bank assistance from the funds received through TNUIFSL. To treat the collected sewage and dispose of the treated effluent to prescribed standards, two sewage treatment plants under the process of Activated Sludge have been proposed separately, one for an area covering Nagapattinam town and another for an area covering Nagore.

Sewage generation and Treatment

The total sewage generated from Nagapattinam Municipality, Velankanni Town Panchayat, and Villages within Nagapattinam LPA is presently estimated at 6.1 MLD, 0.8 MLD, and 1.6 MLD, and 90% of the Nagapattinam municipal area is covered with sewer network. Nagapattinam Municipal area has Sewage Treatment Plants with a total capacity of 12.6 MLD. The existing STP is adequate to treat the present sewage in Nagapattinam Municipality. Velankanni Town Panchayat has one STP of 2.3 MLD capacity which is adequate in the existing scenario. Villages do not have any sewage treatment facilities (Map No 5.1).

Access to Sanitation facilities

As per Census 2011, 68.6% of total households in Nagapattinam LPA had latrine facilities within their premises while 31.4% of the total households do not have latrine facilities within the premises. It may be observed that there is a direct correlation between the extent of the slum

population and access to the sewage system. In Nagapattinam LPA, 30.1% of total households are living in slums and 31.4% of the total households in the LPA had no access to latrine facilities (Table 5.3).

Table 5.3: Household Sanitary facilities 2011-Nagapattinam LPA

S. No.	Name of the Town/Village	Total households	Households having latrine facility within the premises	% Share	Households not having latrine facility within the premises	% Share
1	Nagapattinam (M)	24518	18261	74.5	6257	25.5
2	Velankanni (TP)	2753	2055	74.6	581	25.4
3	Nagore (Kottagam) (Muttam & Thethi)	852	465	54.6	387	45.4
4	Palaiyur	346	81	23.5	265	76.5
5	Ivanalur (Sellur)	1295	859	66.4	436	33.6
6	Anthanapettai (Manjakollai)	1625	1304	80.3	321	19.7
7	Vadaku Poigainallur (Akkarapettai)	2503	1144	45.7	1359	54.3
8	Therkku Poigainallur	1171	396	33.8	775	66.2
9	Poravacheri	1029	674	65.5	355	34.5
10	Sikkal	1451	836	57.6	615	42.4
11	Pappakoil	1177	519	44.1	658	55.9
12	Karuvelankadai	345	61	17.8	284	82.2
13	Nagapattinam Village	507	505	99.6	2	0.4
14	Nagapattinam LPA	39572	27161	68.6	12294	31.4

(Source:Census of India)

The concentration of EWS and LIG groups in Villages such as Palaiyur, Ivanalur, Therkku Poigainallur, Pappakoil, and Karuvelankadai are higher. It can be related to a greater number of households that do not have latrine facilities within their premises. The households that do not have latrine facilities within the premises are using facilities such as public toilets and open defecation for sanitation. 79.4% of total households not having latrine facilities are using open defecation (Table 5.3). Since the introduction of the Swachh Bharat mission in 2014, LPA has become Open defecation free.

Sewage disposal system

The households having latrine facilities within the premises have different types of disposal systems such as Piped sewer systems, Septic tanks, Pits, open-drain, etc. The majority of households in Nagapattinam LPA use septic tanks (86%), followed by piped water systems (10%) in the Municipal area and Velankanni. Villages use Pits for the disposal of sewage (Figure 5.5).

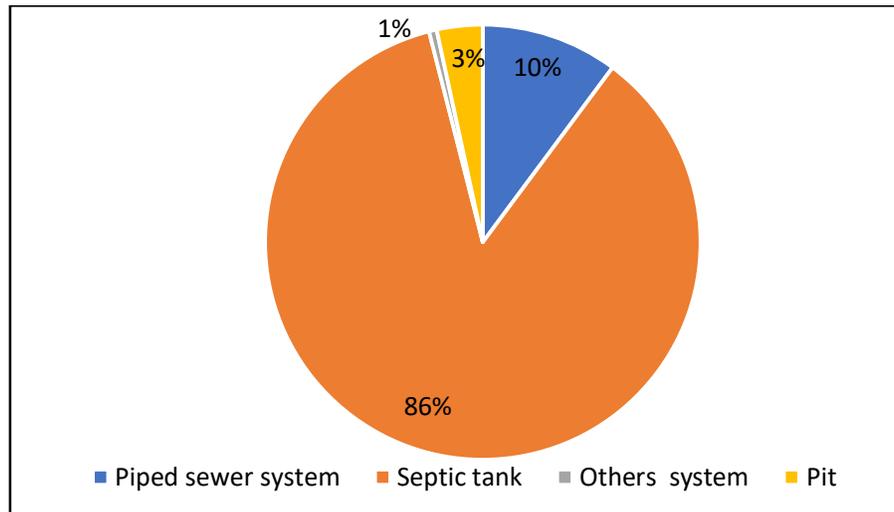


Figure 5.5: Type of latrine facility within the premises-Nagapattinam LPA

Existing gap in Sewage Treatment

Presently, Nagapattinam Municipality generates about 6.1 MLD of sewage (estimated at 80 % of the water supply). Nagapattinam Municipality has an STP of 12.6 MLD capacity. The existing STP is sufficient for treating the total sewage generated in the Nagapattinam municipal area. Velankanni Town Panchayat generates an estimated 1.1 MLD sewage (using population figures and estimated at 80 % of water supply) and has an STP of capacity 2.3 MLD which is highly sufficient. Villages generate about 1.6 MLD of Sewage. At the Village level, there are no treatment facilities so Decentralized Wastewater Treatment Systems can be proposed (Table 5.5). The location of STP is shown the Map 5.1.

Table 5.4: Status of Existing Sewerage Network and STPs in Nagapattinam LPA

Description	Coverage of Sewerage Network	Households connected to Sewer System	Length of sewer Lines	No. of Existing STPs	Total Installed Capacity of STPs (MLD)	Disposal Area
Nagapattinam (M)	90%	70%	62.1 km	2	9.6	Vettar river
Velankanni (TP)	-	82%	19.9 km	1	2.3	Kazhugukulam

(Source:Nagapattinam Municipality Website)

Table 5.5: Existing gap in Sewage treatment in Nagapattinam LPA

Description	Existing Water Supply (MLD)	Existing Sewage Generated (MLD)	Present Installed Capacity of STPs (MLD)	Present Gap (MLD)
Nagapattinam (M)	7.6	6.1	12.6	6.5 (Excess)
Velankanni TP (including floating population)	1.3	1.1	2.3	1.2 (Excess)
Villages	2	1.6	-	No provision for Sewage treatment

5.1.3 Solid Waste management

Solid Waste management is an essential service that relates directly to public health and the environment. ULB is responsible for creating, operating, and maintaining infrastructure for the collection, storage, segregation, transportation, processing, and disposal of municipal solid wastes. Poor solid waste management has direct implications on the environmental health of the region and has a significant bearing on the quality of life of citizens.

Nagapattinam Municipality is looking after the waste management within its jurisdiction, while the rest of the area, Velankanni Town Panchayat and different Gram Panchayat's local body is responsible for waste management in their respective jurisdictions.

Solid Waste Generation

Nagapattinam LPA generates about 65.9 TPD of Solid waste. Currently, in Nagapattinam Municipality Average Garbage Generated per person per day is 500g. So, the estimated quantity of Waste Generated per day in the Municipal Area is 52 T (Table 5.6).

Table 5.6: Existing Solid Waste Generation-Nagapattinam LPA

S. No.	Local Body	Population 2011	NEERI Standards	Quantity of waste generated (TPD)
1	Nagapattinam (M)	102905	0.5 kg/capita/day	51.5
2	Velankanni (TP)	11108	0.2 kg/capita/day	2.2
3	Floating Population (per day)	3000	0.2 kg/capita/day	0.6
4	Villages	50811	0.2 kg/capita/day	10.2

(Source:CPHEEO.2016)

Composition of Municipal Solid Waste

Municipal Solid Waste (MSW) in Nagapattinam Municipality comprises 65% of Biodegradable waste and 15% non-Biodegradable, 10% Plastic waste. The large quantum of it is Biodegradable waste (Figure 5.6).

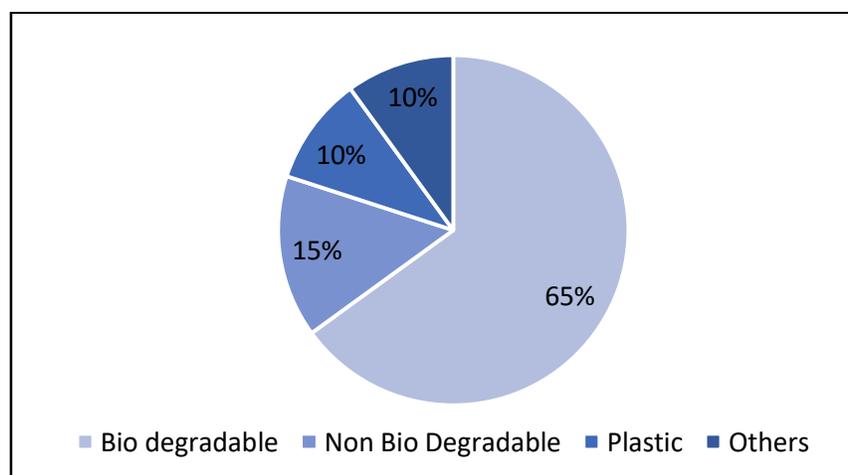


Figure 5.6: Composition of Municipal solid waste in Nagapattinam Municipality

Waste Collection & Transportation

Door or door collection has been ensured for 10 wards only in Nagapattinam Municipality. In the rest of the wards, a municipal bin (144 bins) has been kept and the community puts the garbage in the bin. In some places, the community puts the garbage on the street corner. Only 80% of the households in municipal areas had coverage of solid waste management services.

The garbage from street sweeping and door-to-door collection is kept in a nearby municipal waste storage bin. These storage bins are cleared by the vehicle. 147 bins with a capacity of 0.75 tons have been placed in the town. Segregated waste from the eight wards and the market is collected separately.

MSW is collected through a dumper placer placed in the streets. Segregation is done only for 55% of the total municipal solid waste. MSW is stored in the compost yard. For transporting the MSW to the compost yard following vehicles are used.

- Truck – 1 No.
- Tippers – 4 Nos.
- Dumper placers – 4 Nos and
- Tricycles – 7 Nos.

Treatment facilities

Nagapattinam Municipality and Velankanni Town Panchayat are treating solid waste by composting. Nagapattinam Municipality is using Windrow Composting to treat 12 TPD of municipal wastes and the remaining waste generated is dumped in the dump yards. Nagapattinam Municipal area has a landfill site of 13.9 acres located adjoining Kaduvaiyar River and Bio Methanation plant of 5 TPD capacity. Velankanni Town Panchayat is having a dump yard site (Map 5.1). As per the Mission Andhodya survey, Villages namely Anthanapettai, Ivanalur, Karuvelankadai, Pappakoil and Sikkal have community waste disposal system.

Nagapattinam LPA generates 64.5 TPD of Solid Waste. The LPA has a landfill site and Bio methanation plant within the municipal area and a dump yard in Velankanni. The existing landfill site in the municipal area is adequate to cater for the existing population whereas in Velankanni an additional dump yard needs to be identified to fulfil the gap in solid waste generation and dumping facilities. For all the Villages Community waste disposal system should be proposed. Recycle and reuse concept needs to be implemented to minimize waste generation.

5.1.4 Storm water drainage

The existing drainage condition of Nagapattinam consists of the natural river and man-made drainage systems (stormwater drains). Nagapattinam LPA has 3 rivers namely Vetter, Kaduvaiyar and Vellaiyar. The municipal area has a stormwater drain for a length of 86.3 km which is 70% of the total length of the road. As Nagapattinam is prone to Cyclones the Storm Water drain needs to be implemented for the entire road length to protect the town from flooding. Though Waterlogging is not a major issue in Nagapattinam, the uncovered areas need to be covered.

5.1.5 Electricity

Based on the estimated requirements of power supply as per the National Electricity Policy published in 2005, the recommended consumption is 2.74 kWh per capita per day. The per capita demand for electricity includes domestic, commercial, industrial, and other requirements. Nagapattinam LPA has 2 substations, one with 110 KV capacity located within the municipal area and another one with 33KV capacity in Ivanalur village. LPA also has a 4 MW solar power project at Muttam village in Nagapattinam. The existing Substations can serve for 1.95000 Population. It is adequate for the present population.

5.2 PROJECTED REQUIREMENT

The provision of high-quality physical infrastructure facilities is necessary to make any City more habitable. Based on the Projected Population 2041 the additional requirement of physical infrastructure facilities which include water supply, sewerage system, stormwater management and solid waste management are estimated and given below.

5.2.1 Water Supply

As per TWAD Board Norms the standard per capita supply for Municipality with UGSS is 135 lpcd, for Town Panchayat with UGSS the standard is 90 lpcd and for Villages, the per capita supply should be 55 lpcd. The estimated water supply demand for the projected Population of 2041 is shown in Table 5.7. As per TWAD Board norms, Nagapattinam LPA will require 22.9 MLD water by the year 2041 to support the 2,14,711 population without accounting for losses in transmission and distribution. It is further assumed that these losses will be limited to 15%. Thus, the gross water requirement for domestic consumption is estimated at 26.3 MLD by the year 2041. Nagapattinam LPA has an available water quantity of about 13 MD, the remaining 13.3 MLD needs to be augmented. Water supplied by Nagapattinam Municipality is 11 MLD. Additionally, 6.1 MLD of water is required to cater for the future population. The existing source is adequate for the future population of Velankanni. As per Table 5.7, Villages need 3.8 MLD of additional water supply in 2041.

Table 5.7: Projected requirement for water supply in 2041

S. No.	Name of Villages/Town	Projected Population (2041)	Per capita Supply (TWAD Board Norms)	Total quantity required in 2041 (in MLD)	Quantity Available
1	Nagapattinam (M)	126644	135	17.1	11 MLD
2	Velankanni (TP)	18719	90	1.7	2 MLD
3	Floating Population per day (2041)	6600	40	0.3	
4	Villages	69348	55	3.8	-
Total			22.9+3.4 (15% transmission loss)		13 MLD

5.2.2 Sewage

The Projected Sewage generation by 2041 is achieved from the projected water supply (80% of the total supply). By 2041 Nagapattinam Municipality will generate 13.7 MLD of sewage but the existing STP has only a capacity of 12.6 MLD. Additional STP is required to treat 1.1 MLD of excess sewage in 2041. Velankanni Town Panchayat will generate an estimate of about 1.4 MLD of Sewage. The existing STP is highly sufficient till 2041. At the Village level, currently, there are no treatment plants. Decentralized Wastewater Treatment Systems (DEWATS) can be proposed in Villages (Table 5.8).

Table 5.8: Projected requirement for Sewage Treatment facilities in 2041

Description	Projected Water Supply (MLD)	Projected Sewage Generation (MLD)	Existing Capacity of STPs (MLD)	Additional capacity required (MLD)
Nagapattinam (M)	17.1	13.7	12.6	1.1
Velankanni (TP)	2.6	2.1	2.3	0.2 excess
Villages	3.8	3	No STP	DEWATS can be proposed

As per CPHEEO, an average of 0.5 hectares is taken as the area required per MLD. To treat 1.1 MLD of additional sewage generated in 2041, 0.6 ha of land is required in Nagapattinam Municipality. For Velankanni, the existing STP is adequate for treating the sewage generated in 2041. As per the handbook on Decentralized Wastewater treatment module by the National Institute of Urban Affairs, Delhi the area required for treating 1cubic.metre of wastewater is 60.5 sq.m.so to treat 3000 Cubic meters of wastewater collected in Villages 18 ha of land is required in the Villages.

5.2.3 Solid Waste Management

Based on the per capita generation of solid waste it is estimated that by 2041 about 84.9 TPD of solid waste will be generated in Nagapattinam LPA. As per NEERI Standards, the existing windrow composting landfill site is sufficient to store 350 TPD of Municipal Solid Waste so there is no need for any additional Compost yards in the Municipal area. But for Velankanni the existing dump yard is not adequate for the disposal of solid waste. Therefore, a landfill site of 0.1 Ha with 2.5 TPD capacity is proposed in Velankanni Town Panchayat. At the Village level, community waste disposal system is proposed (Table 5.9).

Table 5.9: Projected requirement for Solid waste generation and disposal facilities in 2041

S. No.	Local Body	Population 2041	NEERI Standards (kg/capita /day)	Projected Quantity of waste generated (TPD)	Existing Capacity of Compost yard/land fill site (TPD)	Additional Capacity required in 2041
1	Nagapattinam (M)	126644	0.5	63	350 & 5	Nil
2	Velankanni (TP)	18719	0.2	3.7	2.5	2.5
3	Floating Population (Per day)	6600	0.2	1.3		
4	Villages	69348	0.2	13.8	Nil	Community waste disposal system needs to be proposed

5.2.4 Electricity

As per URDPI guidelines, for every 15000 Population, a substation of 11 KV is required. The existing substations of 110 KV and 33KV Capacity can serve a population of 1, 95,000. In 2041 the population of LPA will be 2, 14,711. To serve an additional population of 19,711, two substations of 11 KV capacity each are proposed (Table 5.10).

Table 5.10: Substation requirement for 2041-Nagapattinam LPA

1	Population 2011	164824
2	Projected population 2041	214711
3	Additional Population	49887
4	No. of substations existing	2
5	Existing capacity of substation	110 KV and 33 KV
6	As per URDPFI guidelines	11 KV/15000 Population
7	Existing substation coverage	Existing substation can serve for 1,95,000

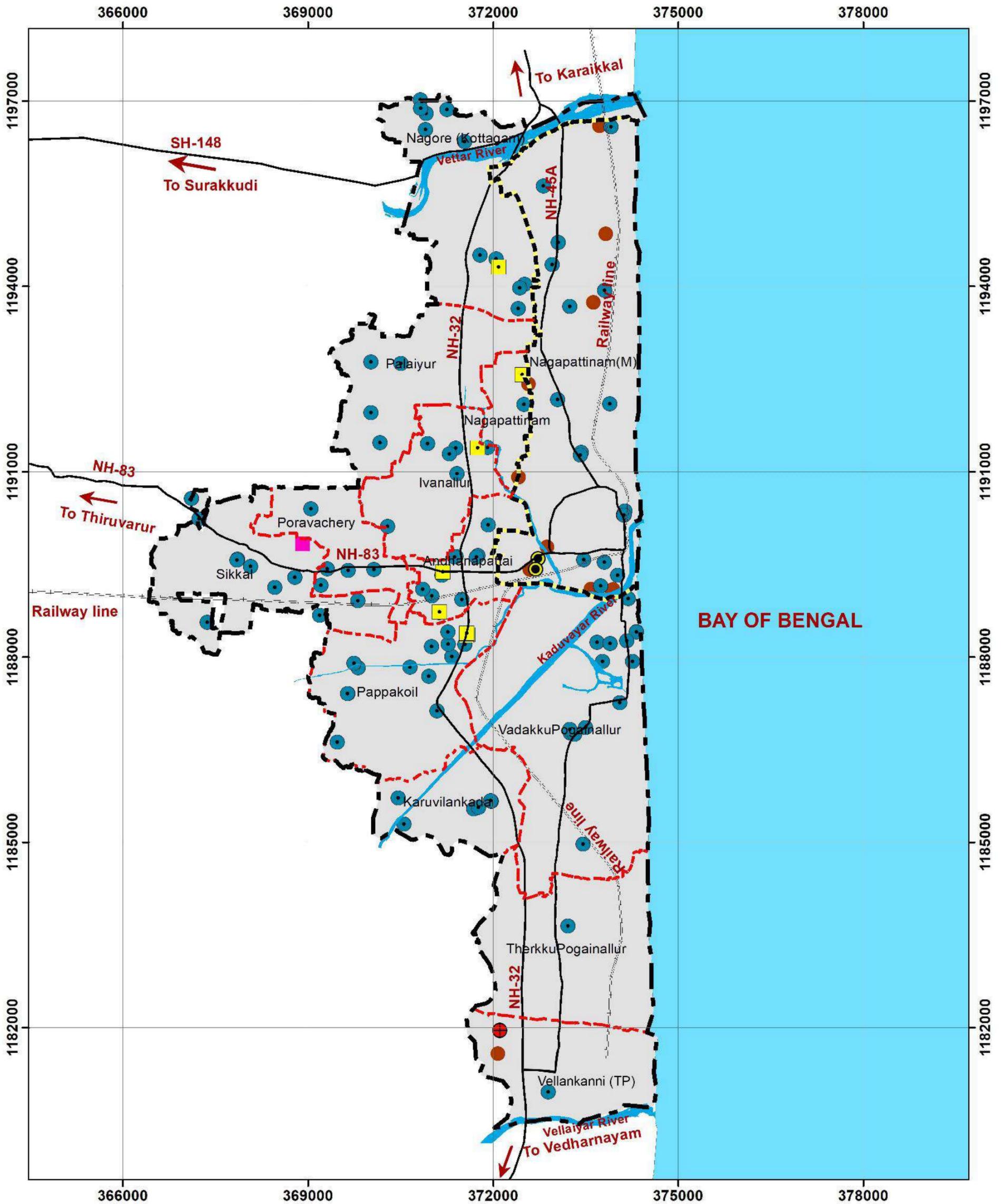
5.3 SUMMARY

The major source of Water supply for Nagapattinam is through CWSS (Kollidam) by TWAD Board and Vetter River. By 2041, the additional water requirement will be 13.3 MLD. The additional requirement for water is to be met by augmenting the existing water resources. The Stormwater drain coverage is only available for 70% of the total road length in the Nagapattinam Municipality. It may be extended to the newly developing areas in the Municipality. Velankanni Town Panchayat is provided with underground drainage to dispose of the stormwater.

The total sewage generated from Nagapattinam Municipality, Velankanni Town Panchayat and Villages within Nagapattinam LPA is presently estimated at 6.1 MLD, 0.8 MLD, and 1.6 MLD. By 2041 Nagapattinam Municipality will generate 13.7 MLD of sewage. The existing STP has only a capacity of 12.6 MLD. Therefore, an additional STP to treat 1.1 MLD of excess sewage in 2041 is required. Velankanni Town Panchayat will generate an estimate of about 1.4 MLD of Sewage. The existing STP available in Velankanni is highly sufficient till 2041. At the Village level, there are no treatment facilities, so Decentralized Wastewater Treatment Systems are proposed.

Nagapattinam Municipality and Velankanni Town Panchayat are treating solid waste by composting. The existing capacity of the solid waste compost plant in Nagapattinam LPA is enough for the future. Whereas in Velankanni, an additional dump yard needs to be identified to fulfil the gap. A community waste disposal system should be proposed at the Village level. Recycle and reuse concept needs to be implemented to minimize waste generation.

Nagapattinam LPA has 2 sub-stations of 110 KV and 33 KV to fulfil the existing requirements. To meet the additional requirement and to serve the projected population two substations of 11 KV capacity are required for the future.



LEGEND

OHT	Dumpyard	LPA Boundary	Roads
WTP	Landfill Site	Municipal Boundary	Railway line
STP	Compost Yard	Village Boundary	Sea

PHYSICAL INFRASTRUCTURE IN NAGAPATTINAM LPA

GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU

0 0.5 1 2 3 Kilometers

PROJECTION SYSTEM : UTM
 DATUM : WGS84
 SPHEROID : WGS84
 ZONE : 44

SCALE: 1:58,000

MAP.NO:5.1 DATE:FEBRUARY 2022

CLIENT:
 Commissioner of Town and Country Planning
 Directorate of Town and Country Planning
 Government of Tamil Nadu

CONSULTANTS:
 Department of Planning,SAP Campus
 Anna University Chennai

6. SOCIAL INFRASTRUCTURE

6.1 EXISTING SOCIAL INFRASTRUCTURE FACILITIES

Social infrastructure covers a range of services and facilities that meet local needs and contribute towards a good quality of life. It includes health provision, education, community facilities, youth, recreation, sports, faith, and emergency facilities. As the city grows rapidly, the need to amplify the number of social infrastructures is essential to develop strong and inclusive communities.

6.1.1 Educational facilities

The literacy rate in Nagapattinam LPA has increased by 5.66 % from 2001 to 2011. According to the Census 2011, the literacy rate in the region (87.6%) is higher than that of India (74.04%) and Tamil Nadu state (80.08%). The literacy rate is high due to several public & private educational intuitions located in Nagapattinam and it serves as an educational hub for the surrounding area. However, the literacy rate is low, when compared with other municipalities in Nagapattinam District like Sirkali (90.19%) and Mayiladuthurai (91.83%). In overall terms, Nagapattinam LPA has a fairly good network of educational infrastructure in comparison to the rest of the municipalities.

Schools

Nagapattinam LPA has approximately 180 numbers of schools managed by both private and local bodies. There are 99 primary schools, 38 middle schools, 20 high schools, and 21 higher secondary schools (Map 6.1). The total enrolment of students in Nagapattinam LPA is 33946 (Table 6.1) and it constitutes about 20.5 % of the total population of the LPA. Table 6.1 gives details about the total number of schools present in Nagapattinam LPA.

Table 6.1: No. of Schools Available in Nagapattinam LPA

S. No	Name of Villages/Town	Primary School	Middle School	High School	Higher Secondary	Enrolment
1	Nagapattinam (M)	53	24	13	16	21,284
2	Velankanni (TP)	7	3	1	1	3,298
3	Nagore	3	1	0	0	440
4	Palaiyur	3	1	1	1	1,533
5	Ivanalur	2	0	0	0	98
6	Anthanapettai	5	1	1	0	696

S. No	Name of Villages/Town	Primary School	Middle School	High School	Higher Secondary	Enrolment
7	Vadaku Poigainallur	12	5	3	2	3,206
8	Therkku Poigainallur	3	2	0	0	539
9	Poravacheri	3	1	0	0	249
10	Sikkal	5	0	0	1	1,777
11	Pappakoil	3	0	1	0	590
12	Karuvelankadai	0	0	0	0	236
13	Nagapattinam Village	0	0	0	0	0
Total		99	38	20	21	33,946

(Source: Primary Survey & School Report Card)

The URDPFI norms for educational facilities suggest a provision of one primary school for 5000 population and one senior secondary school for 7500 population. The existing number of schools in Nagapattinam LPA is satisfactory for the present population. According to Tamil Nadu School Education Department, any place with a population of 300 and above must have schools located at a distance as mentioned in Table 6.2.

Table 6.2: Tamil Nadu School Education Norms for Schools

S. No.	Type of Institution	Distance
1	Primary Schools	1 Km
2	High Schools	5 Km
3	Higher Secondary School	8 Km

(Source: Tamil Nadu School Education)

As per RTE Act 2009, a primary school must be accessed within a 1 km radius and a middle school within a 3 km radius. Presently, all the areas in Nagapattinam LPA are adequately covered by school facilities based on the above-mentioned norms. (Figure 6.1, 6.2, 6.3 & 6.4). Improving the existing facilities will enhance the quality of education in Nagapattinam LPA. Spatial distribution of schools as per the standards must be ensured in the future.

Higher Education

The Nagapattinam LPA has 25 colleges of which there are 3 Engineering colleges, 4 Arts & Science colleges, and 5 Polytechnic colleges (Map 6.1). There is a College of Fisheries Engineering, which was established in the year 2012 to improve the fishing sector. College of Fisheries Engineering is a constituent college of TNJFUT and was recognized by the All-India Council for Technical Education (AICTE), New Delhi and it is also certified by ISO 9001:2015. and

there is one Government Industrial Training Institute that provides technical skills to develop the industrial sector in the region. A substantial amount of skilled manpower is generated every year from the Govt. ITI & polytechnic colleges, and can be utilized properly through developing industrial sectors in this region. This can prevent the out-migration of the inhabitants in search of better employment opportunities and also help to boost the economy. The educational institutions in Nagapattinam LPA meet the planning norms for higher education mentioned in URDPFI guidelines and there is no need for the provision of additional facilities for the present population. Table 6.3 gives the list of various colleges located in Nagapattinam LPA.

Table 6.3: List of Colleges in Nagapattinam LPA

S. No.	Colleges	Nos
Engineering		
1	EGS Pillay Engineering College	3
2	Sir Isaac Newton College of Education	
3	Colleges of Fisheries Engineering	
Arts & Science		
4	Nagapattinam Govt. arts and science college	4
5	EGS Pillai Arts & Science college	
6	Sir Isaac Newton College of Arts	
7	ADM College for Women	
Polytechnic		
8	Dharmambal polytechnic Colleges	5
9	Govt. Polytechnic College	
10	Valivalam Polytechnic College	
11	EGS Pillay Polytechnic College	
12	Valivalam Desikar Polytechnic College	
Others		
13	Andavar College of Nursing	13
14	Arabic College	
15	KPS College of education	
16	Govt. ITI Institute	
17	ICAR Krishi Vigyan Kendra – Tamil Nadu Agriculture University	
18	Taqwa Islamic women college	
19	Karithkeyan Nursing School	
20	Nagai College of Education	
21	Sir Isaac Newton College of Education	
22	EGS Pillay College of Pharmacy	
23	NSS Nursing College	
24	Sairam College of Education	
25	St.Joseph's Community College	
	Total	25

(Source: Primary Survey)

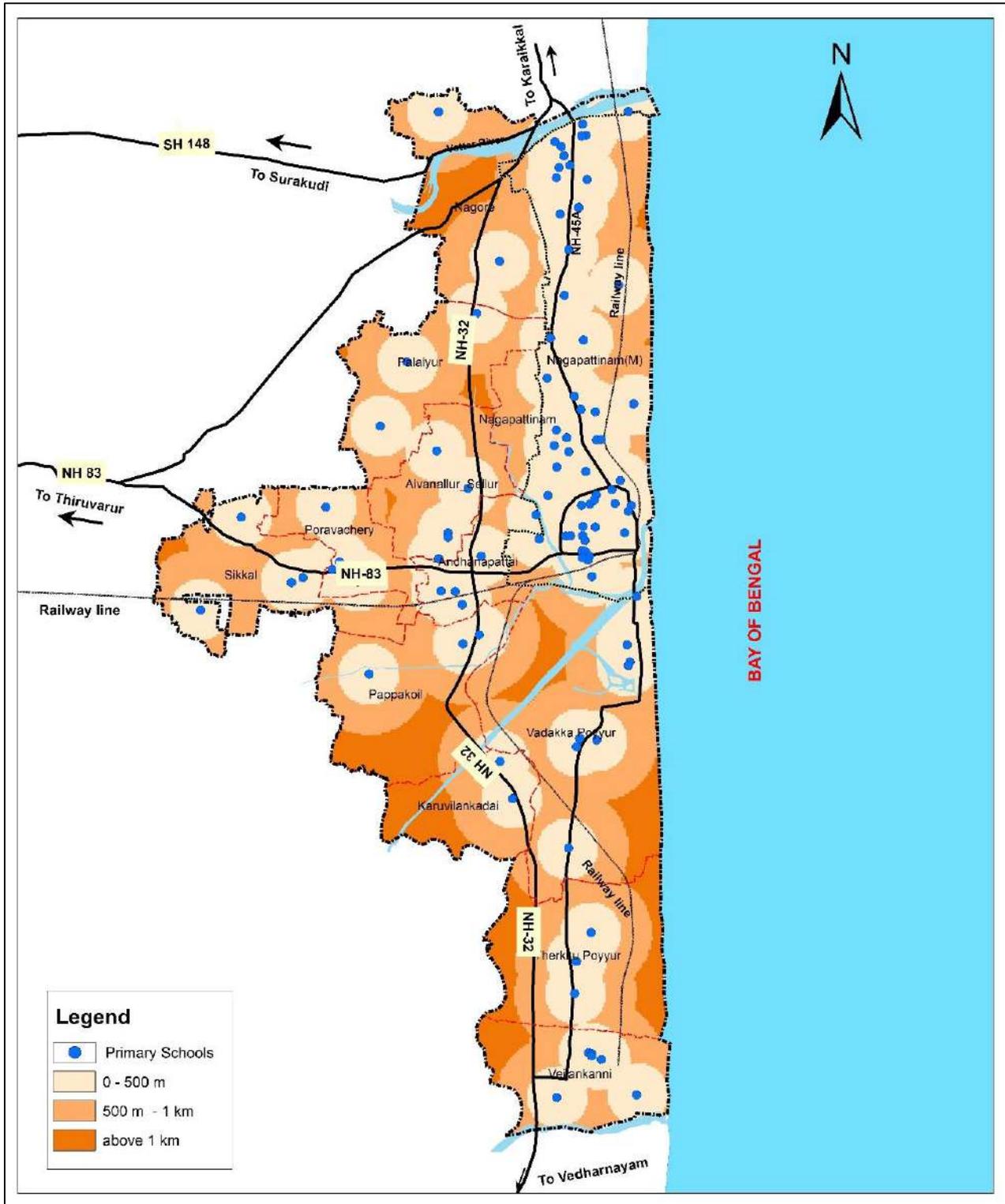


Figure 6.1: Area Covered by Existing Primary Schools

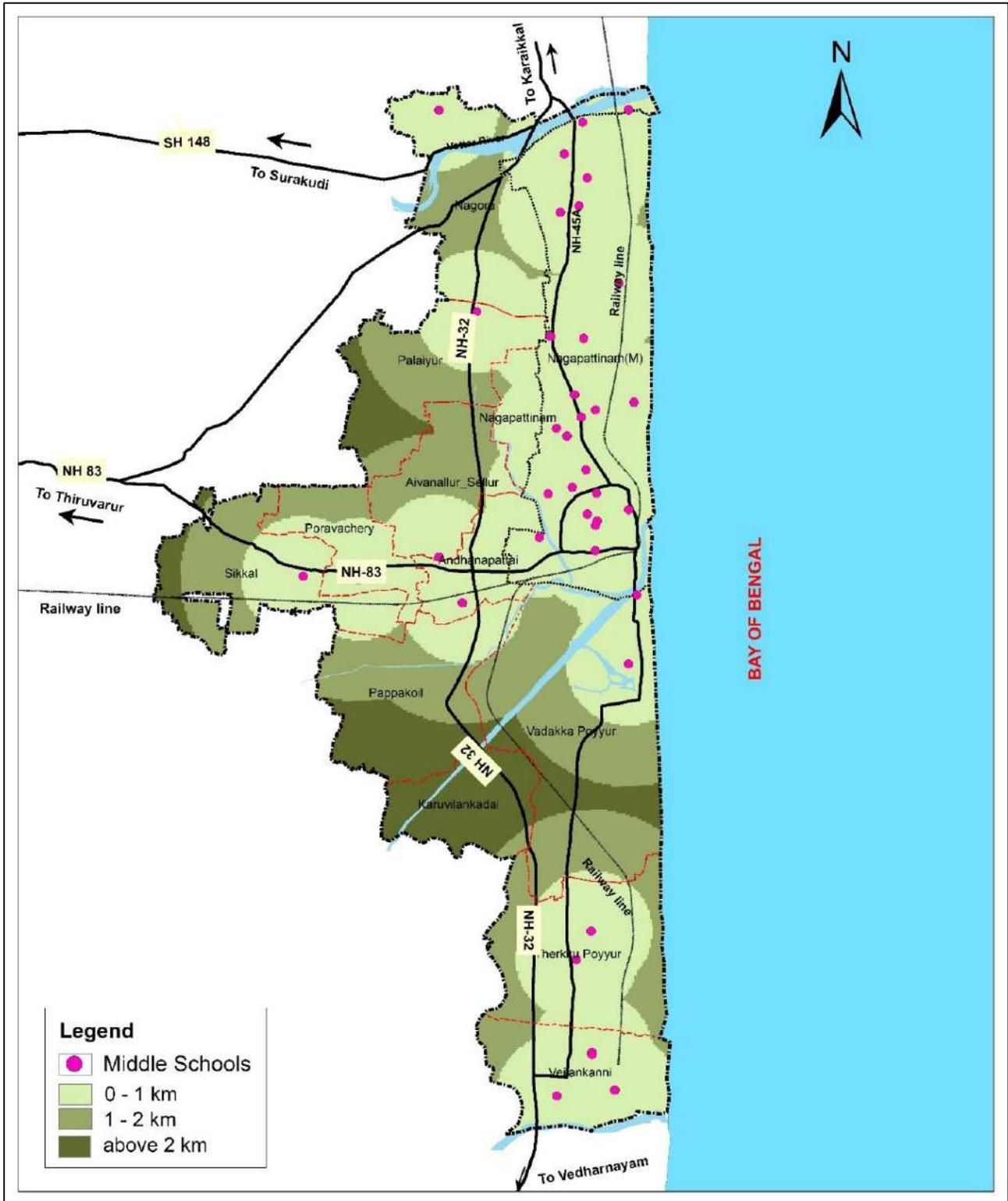


Figure 6.2: Area Covered by Existing Middle Schools

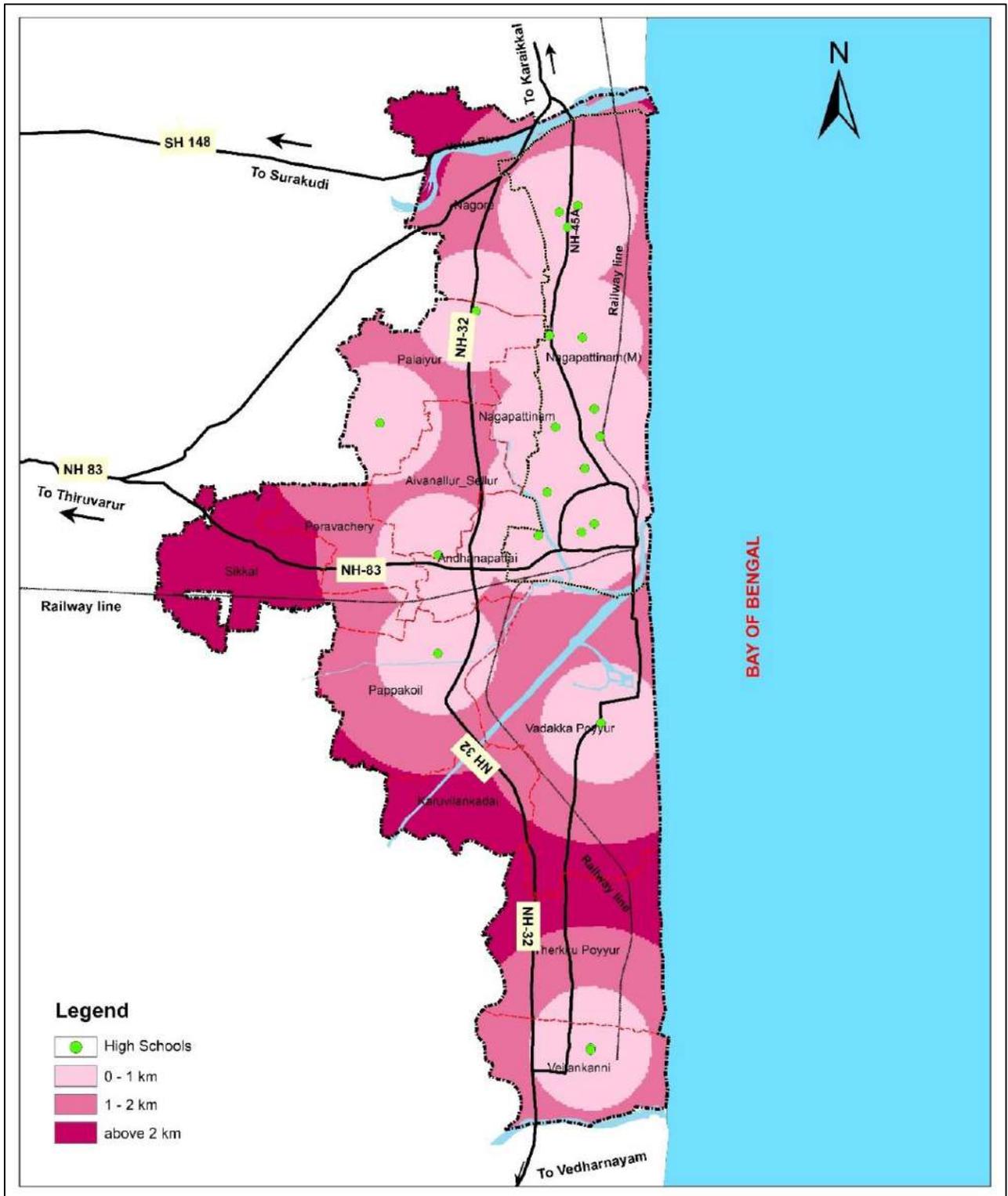


Figure 6.3: Area Covered by Existing High Schools

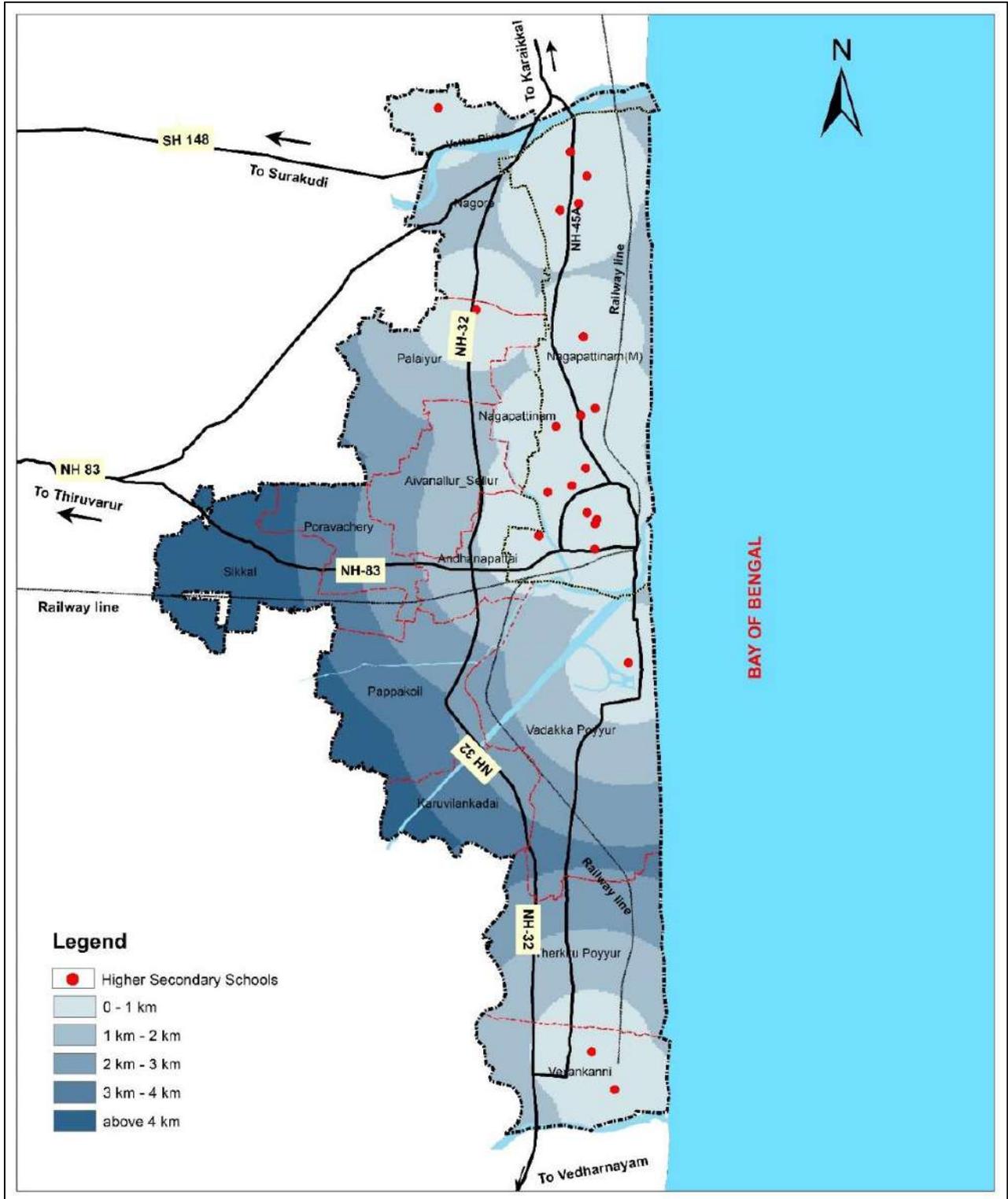


Figure 6.4: Area Covered by Existing Higher Secondary Schools

6.1.2 Healthcare facilities

Access to proper healthcare facilities is crucial for the well-being of the inhabitants. The Nagapattinam LPA has two government hospitals; a District Government Hospital and a Nagore GHS with a total number of 469 beds. In addition to this, there are 3 Primary Health Centres, 10 Health Sub Centres, 2 maternity & child welfare centres, 2 diagnostic centres etc., functioning (Map 6.2). The details of healthcare facilities available in Nagapattinam LPA are given in Table 6.4.

Table 6.4: Healthcare Facilities in Nagapattinam LPA

S. No.	Description	No's	Beds
1	Government Hospital	2	469
2	Primary Health Centre	3	-
3	Health Sub Centre	10	-
4	Private Hospitals	10	-
5	Diagnostic Centre	2	-
6	Community Health Centre	1	-
7	Dispensary	1	-

(Source: Primary Survey)

The norms for the provision of various healthcare facilities based on the population are given in the Tamil Nadu Health Policy. It recommends one Health Sub Centre for a population of 5000, one primary Health Centre for 30,000 population and one Community Health Centre for a population of one lakh. Based on these standards, certain Villages are deprived of any health care facilities, but they avail it from the surrounding Villages in proximity. There is also an ongoing project for a medical college in Orathur near Pappakoil which will satisfy the need for healthcare in Nagapattinam LPA as well as surrounding areas. Improving the existing health facilities is essential to enhance the quality of health services in Nagapattinam LPA.

6.1.3 Recreational Spaces

Recreational facilities include parks, playgrounds, open spaces, and cinema theatres. Parks and open spaces create a high quality of life and promote inner-city revitalization. Open space boosts local economies by attracting tourists and supporting outdoor recreation. In Nagapattinam LPA, there are 23 parks & 3 playgrounds and it is spread over an area of about 0.31 Sq.Km.(Figure 6.5). Most of these recreational facilities are mostly concentrated in the Nagapattinam Municipality and the vicinity areas are deprived of recreational facilities. Table 6.5 gives the details of various recreational facilities available in Nagapattinam LPA.

Table 6.5: Recreational Facilities in Nagapattinam LPA

S. No.	Facilities	No's
1	Parks	23
2	Playground	3
3	Movie Theatres	4

(Source: Primary Survey)

According to NBC rules, 3 Sq. m/person is the minimum norm for open space in a built-up area. This rule demands an area of 0.49 Sq.km as open space for the present population. The open space reserved for recreational activities at any layout must not be less than 100 Sq.m with a minimum dimension of 10 meters as recommended in TNCDBR 2019. Based on URDPFI guidelines, neighbourhood-level parks of area 1 hectare along with playgrounds have to be developed in all proposed residential areas.

6.1.4 Miscellaneous facilities

Anganwadi

The Anganwadi centres provide basic health care facilities which include contraceptive counselling and supply, nutrition education and supplementation, as well as pre-school activities for rural children. Based on URDPFI guidelines an Anganwadi must serve a population of 5000 in urban and rural areas. There is a total no. of 41 Anganwadi centres located in Nagapattinam LPA and it is satisfactory for the present population. Any Anganwadi centre must be accessible within 1 to 3 km of distance. As per this distance criteria, all the Villages in Nagapattinam LPA are easily accessible within a distance of 3 km range. (Figure 6.6)

Burial Ground

Nagapattinam LPA consists of 14 burial grounds. Table 6.6 gives details about the existing burial grounds in Nagapattinam LPA. An electric crematorium can be provided in Nagapattinam Municipality to upgrade the infrastructure facility. (Figure 6.7)

Table 6.6: Existing Burial Grounds in Nagapattinam LPA

S. No.	Description	No's
1	Nagapattinam (M)	2
2	Velankanni (TP)	4
3	Villages	8

(Source: Primary Survey)

Fire Station

There are 2 fire stations in Nagapattinam LPA, one in Nagapattinam Municipality and another in Velankanni Town Panchayat. As per URDPFI safety standards, one fire station is required for every 2 Lakh population with a 5 -7 km radius. The existing safety facilities in Nagapattinam are sufficient for the present population. The location of fire stations in Nagapattinam LPA are shown in the Figure 6.8.

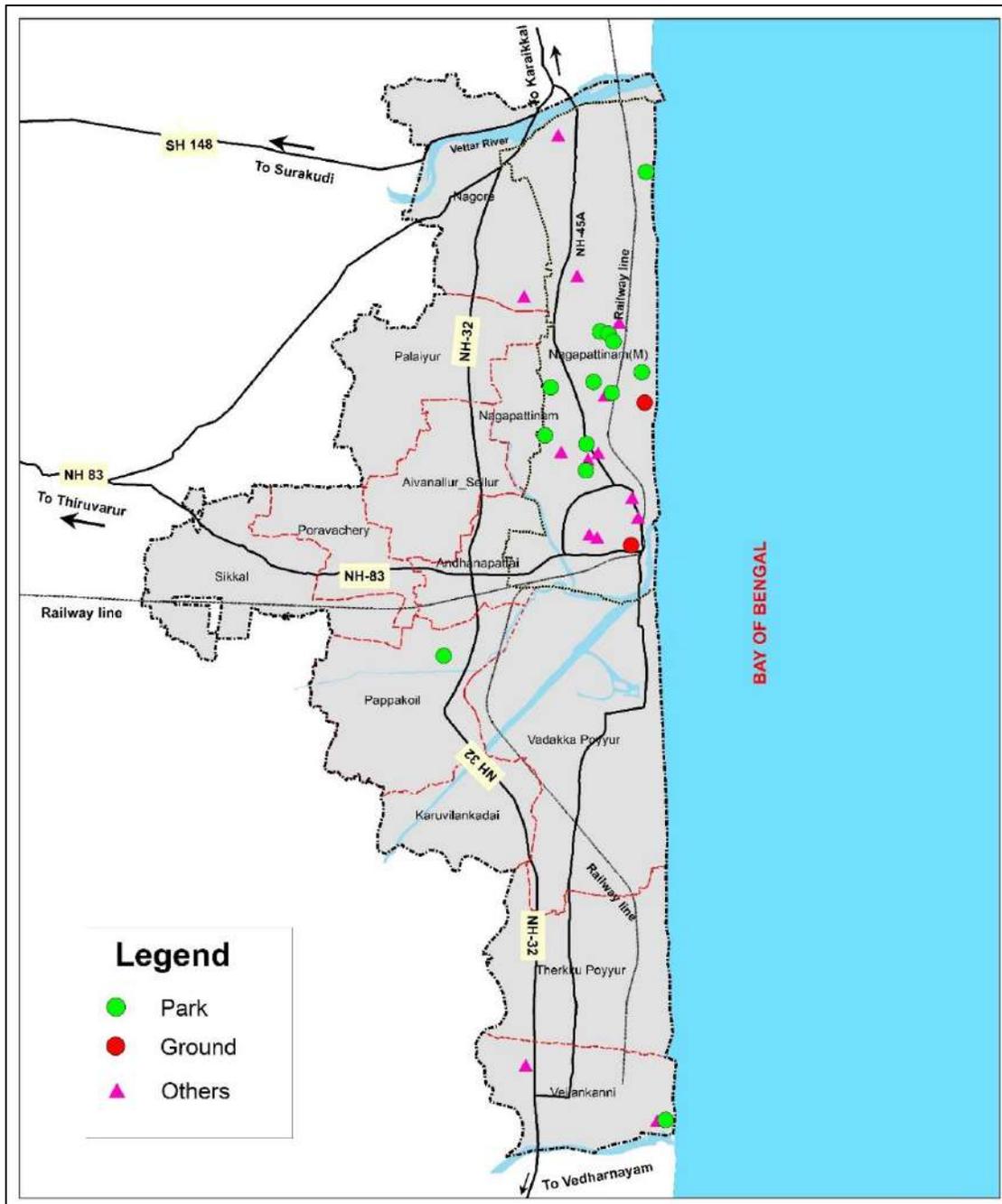


Figure 6.5: Location of Parks in Nagapattinam LPA

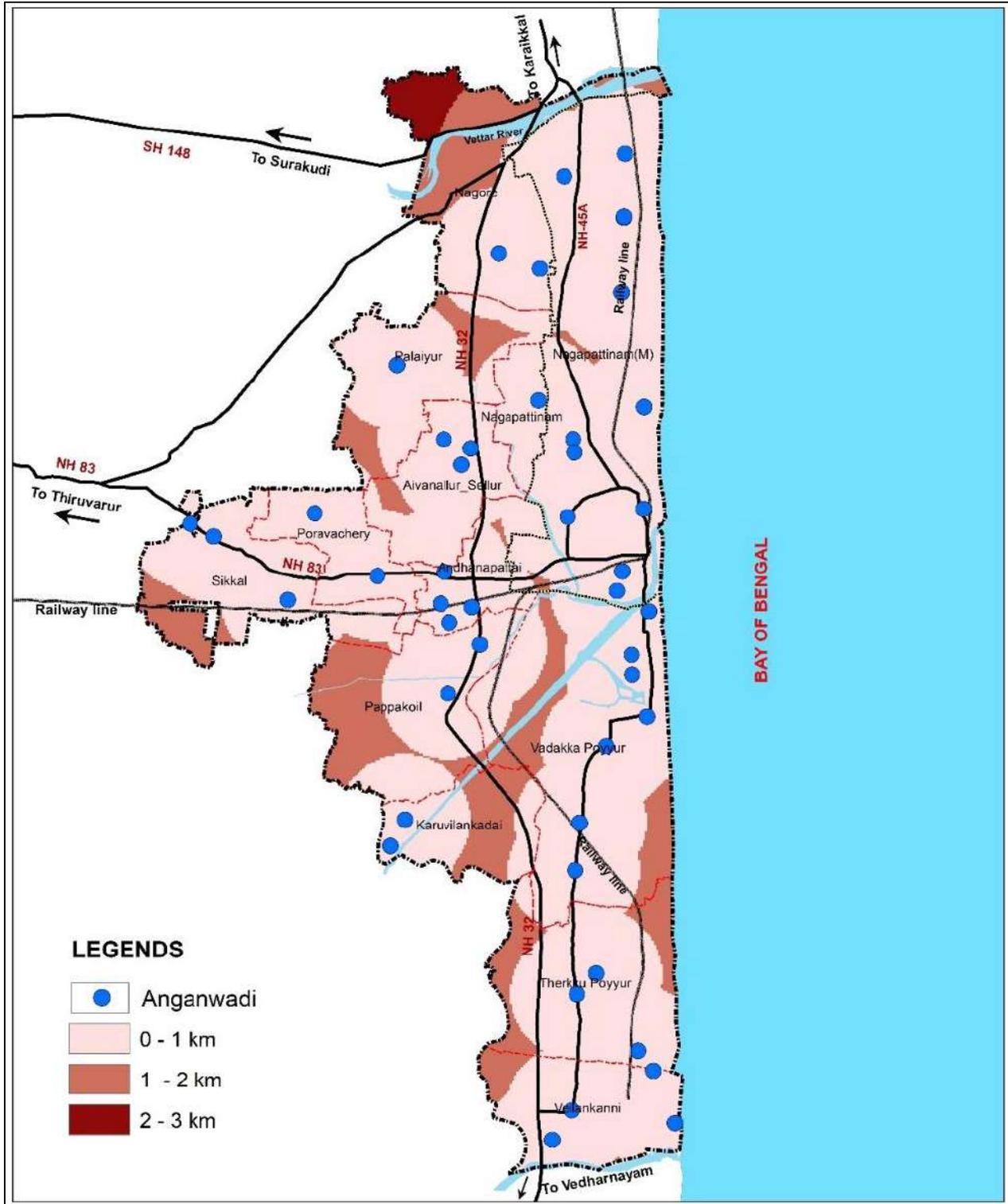


Figure 6.6: Location of Anganwadi in Nagapattinam LPA

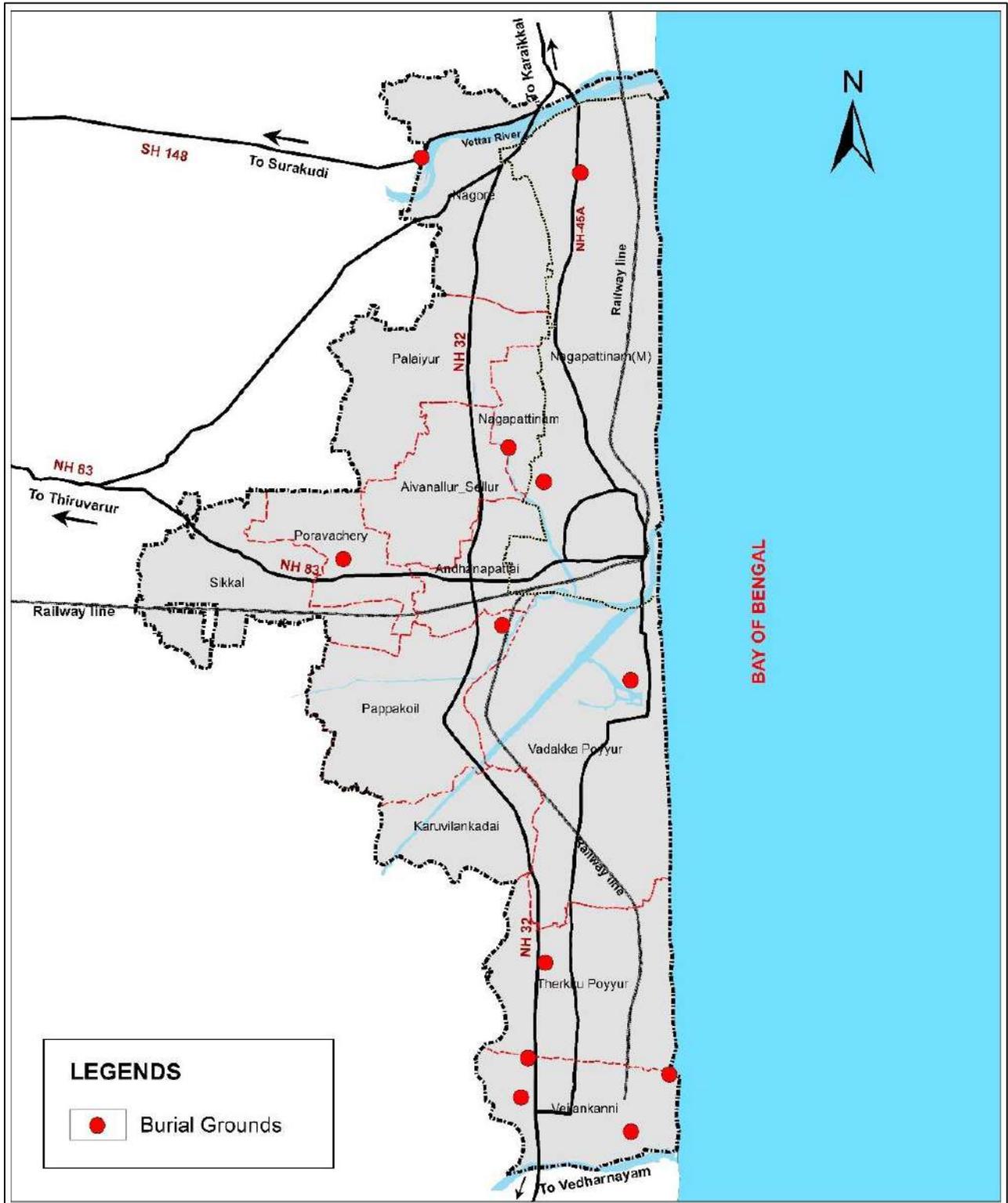


Figure 6.7: Locations of Burial Grounds in Nagapattinam LPA

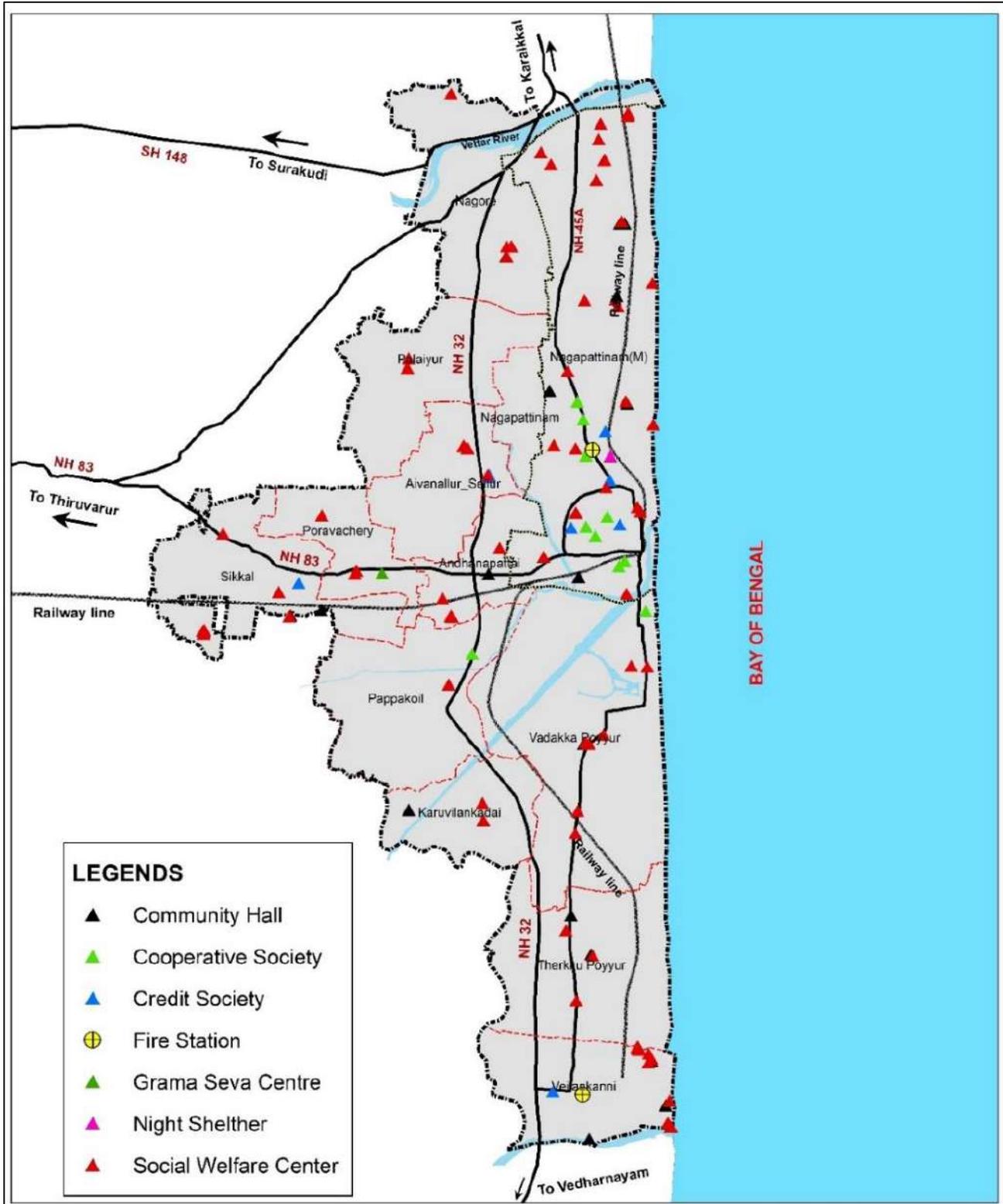


Figure 6.8: Other Social Infrastructure Facilities in Nagapattinam LPA

6.2 PROJECTED REQUIREMENT

Analysis has been carried out to identify the various social infrastructure that will be required for the projected population in the year 2041. The provisions for the required services will be facilitated through the proposed land use plan.

6.2.1 Education

The total number of schools available in Nagapattinam LPA is 180 managed by both private and local bodies. A gap analysis study has been made for the projected population based on the URDPFI guidelines. It suggests one primary school for every 5,000 population and one senior secondary school for every 7,500 population. Table 6.7 shows the gap analysis study of education facilities for the projected population, 2041. It reveals that the current school facilities available within the LPA cater to the educational need of the present population as well as the projected future population. There will be no necessity to provide additional educational facilities in Nagapattinam LPA. Improving the existing facilities will enhance the quality of education in Nagapattinam LPA. Spatial distribution of schools as per the standards must be ensured for new schools in the future.

Table 6.7: Gap Analysis for Projected Population - 2041

S. No.	Type of Institution	Existing Population 2011	Existing Number	Projected Population 2041	Required Nos as Per URDPFI
1	Primary schools	1,64,824	99	2,14,711	Nil
2	Middle School	1,64,824	38	2,14,711	Nil
3	High School	1,64,824	20	2,14,711	Nil
4	Higher Secondary	1,64,824	21	2,14,711	Nil

6.2.2 Health

The town is served by 2 Government hospitals, 3 primary health centres, and several private hospitals. The World Health Organization (WHO) has recommended a norm of 5 beds per thousand population and URDPFI guidelines suggest 500 beds for a population of 2.5 lakh. From the analysis, it is estimated that the total number of beds required for the projected population in the year 2041 will be around 215. The details are given in Table 6.8 indicates that the Nagapattinam LPA is well established with healthcare infrastructure facilities for the future.

Table 6.8: Gap Analysis for Health Facilities

Existing Population (2011)	Existing Beds	URDPFI Norms	Future Population (2041)	Bed Requirement
1,64,824	469	500 Beds/2.5 Lakh Population	2,14,711	Nil

The norms for the provision of various healthcare facilities based on the population are given in the Tamil Nadu Health Policy. It recommends one Health Sub Centre for a population of 5000, one primary Health Centre for 30,000 population and one Community Health Centre for a population of one lakh. Based on these standards, certain Villages are deprived of any health care facilities, but they avail it from the surrounding Villages in proximity. There is also an ongoing project for a medical college in Orathur near Pappakoil which will satisfy the need for healthcare in Nagapattinam LPA as well as surrounding areas. Improving the existing health facilities is essential to enhance the quality of health services in Nagapattinam LPA.

6.2.3 Recreation & Open Space

According to NBC rules, 3 Sq. m/person is the minimum norm for open space in a built-up area. This rule demands an area of 0.64 Sq.km as open space for the projected population in 2041. The open space reserved for recreational activities at any layout must not be less than 100 Sq.m with a minimum dimension of 10 meters as recommended in TNCDDBR 2019.

Based on URDPFI guidelines, neighborhood-level parks of area 1 hectare along with playgrounds have to be developed in all proposed residential areas. A total no. of 14 Neighborhood level parks is required for the projected population. And two community park of area 5 hectares each has to be developed in Nagapattinam Municipality. The norms for Multipurpose Ground suggest for a provision of one Community level multipurpose ground of area 2 ha for the present and future population. Table 6.9 shows the details of the required open space for Nagapattinam LPA.

Table 6.9: Gap Analysis for Organized Open Space

Category	Population Served	Future Population	Requirement	Area Required
Neighborhood Park	15000	2,14,711	14	14 Ha
Community Park	1 lakh	2,14,711	2	10 Ha

Being a coastal city with three rivers running through it, Nagapattinam LPA has the potential for the development of riverfront & beachfront recreational activities. This will not only

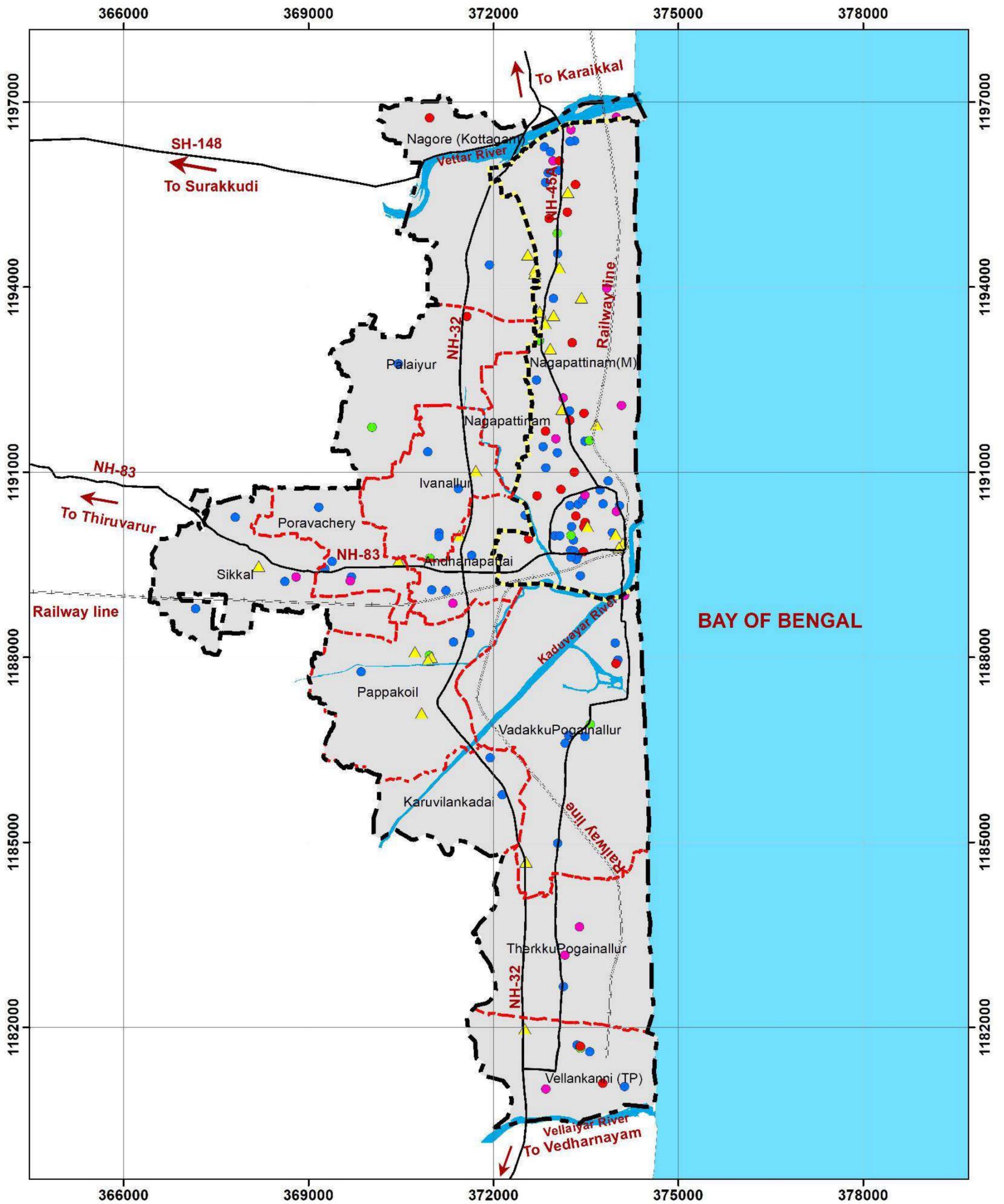
protect and rejuvenate the river but also promote recreational tourism for domestic as well as international tourist. Providing other leisure & recreational activities like water sports, aquariums, marine parks, etc., will help to promote the tourism industry in the area.

6.3 SUMMARY

Social infrastructure covers a range of services and facilities that meet local needs and contribute towards a good quality of life. As per Census 2011, the literacy rate of Nagapattinam LPA was about 87.6% which is higher than the state and the district. Nagapattinam LPA has 99 primary schools, 38 middle schools, 20 high schools, and 21 higher secondary schools serving the existing population of 1,64, 824. As per URDPFI guidelines and the RTE Act 2009, distance criteria, the existing number of schools in Nagapattinam LPA is satisfactory for the existing as well as the future population. Spatial distribution of schools as per the standards must be ensured for new schools in the future. Nagapattinam LPA has 25 colleges including Engineering colleges, Arts & Science colleges, Polytechnic colleges and College of fisheries Engineering. The higher education facilities in Nagapattinam LPA are adequate to cater for the existing as well as the future population.

Being a district headquarter, Nagapattinam has a District Government Hospital with 469 beds and also a government hospital in Nagore. In addition to this, there are 3 Primary Health Centres and 10 Health Sub Centres located within the LPA. There is also an ongoing project for a medical college in Orathur near Pappakoil which will satisfy the need for healthcare in Nagapattinam LPA as well as surrounding areas in the future.

Nagapattinam LPA has 23 parks & 3 playgrounds and is spread over an area of 0.3 Sq.km. As per URDPFI guidelines to cater for the future population, Nagapattinam LPA requires a 14-ha area for a neighbourhood park and 10 ha for a community park. These facilities are to be provided in the future to cater to the requirements. As Nagapattinam LPA is bestowed with beaches and rivers, it has greater potential for the development of riverfront & beachfront recreational activities to improve the green infrastructure.



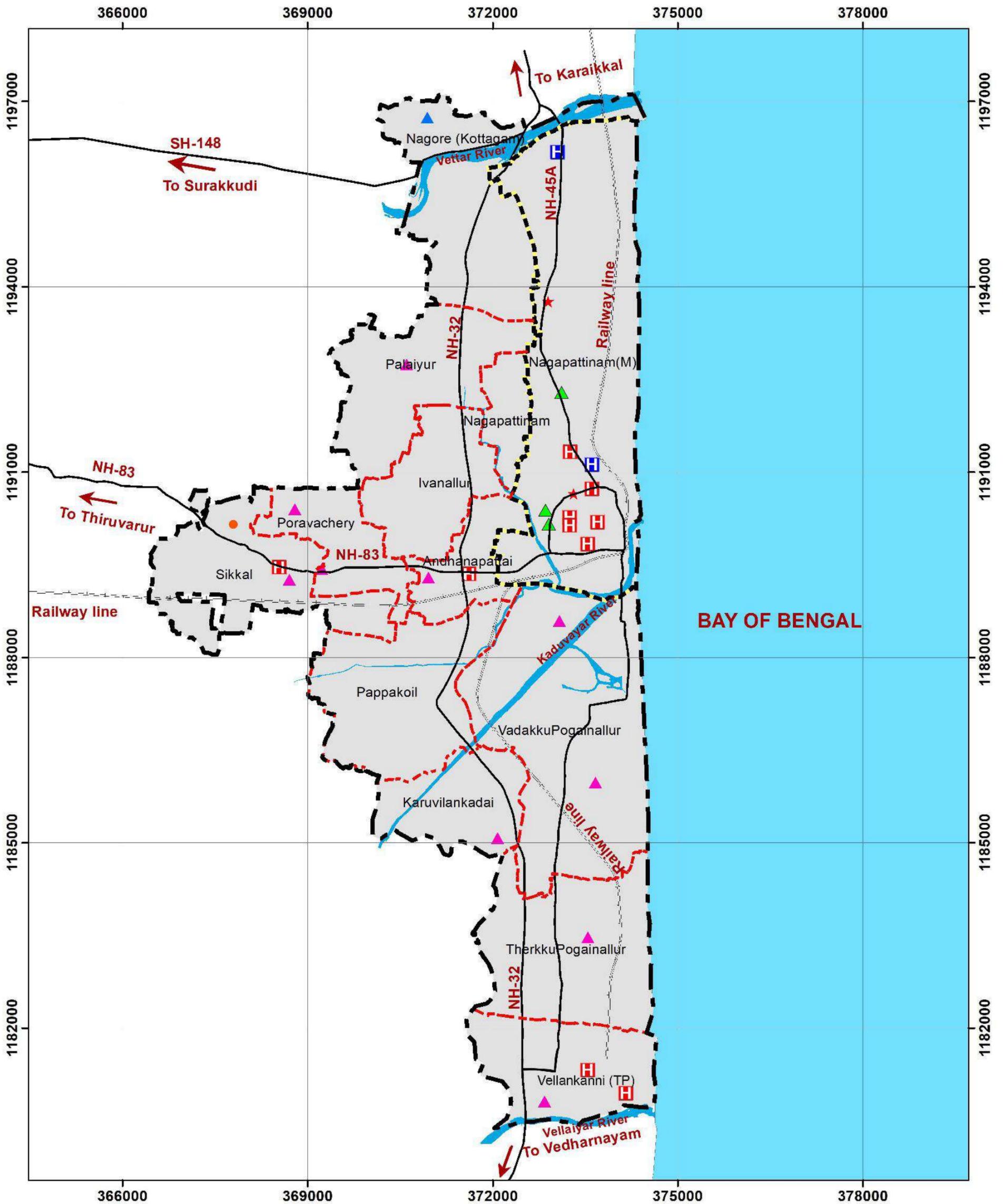
LEGEND

- Primary Schools
- Middle Schools
- High Schools
- Higher Secondary Schools
- ▲ Colleges
- LPA Boundary
- Municipal Boundary
- Village Boundary
- Roads
- Railway line
- Sea

EDUCATION FACILITIES IN NAGAPATTINAM LPA

GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU

<small>PROJECTION SYSTEM : UTM DATUM : WGS84 SPHEROID : WGS84 ZONE : 44</small>	
<small>SCALE: 1:58,000</small>	<small>DATE: FEBRUARY 2022</small>
<small>CLIENT: Commissioner of Town and Country Planning Directorate of Town and Country Planning Government of Tamil Nadu</small>	
<small>CONSULTANTS: Department of Planning, SAP Campus Anna University Chennai</small>	



LEGEND

- | | | | |
|-------------------|------------|--------------------|--------------|
| Govt. Hospitals | SHC | LPA Boundary | Roads |
| Private Hospitals | CHC | Municipal Boundary | Railway line |
| PHC | Dispensary | Village Boundary | Sea |

HEALTH FACILITIES IN NAGAPATTINAM LPA

GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU

PROJECTION SYSTEM : UTM DATUM : WGS84 SPHEROID : WGS84 ZONE : 44	
SCALE: 1:58,000	DATE: FEBRUARY 2022
CLIENT: Commissioner of Town and Country Planning Directorate of Town and Country Planning Government of Tamil Nadu	
CONSULTANTS: Department of Planning, SAP Campus Anna University Chennai	

7. TRAFFIC & TRANSPORTATION

Transportation is the main element of urban infrastructure and an important factor for economic development for any place. The decisions made in developing new neighbourhoods or expanding the economic base of any region will have a direct and tangible impact on the transportation system. Insufficiency in the provision of transportation infrastructure has been the main cause of the deterioration of quality of life in urban areas. And also, the absence of efficient transportation planning for the growing population will create an imbalanced and unequal distribution of activities leading to more congestion in the core city. Therefore, transportation has to be carefully planned to meet the demand for the increasing population.

7.1 EXISTING TRAFFIC & TRANSPORTATION SCENARIO AND FACILITIES

Nagapattinam LPA is well connected with the state capital and surrounding district headquarters by State highways, National highways, and railway networks. The LPA is located at a distance of 84 km from Thanjavur, 14 km from Karaikal, 40 km from Mayiladuthurai, 40 km from Kumbakonam, 25 km from Thiruvarur, and 305 km from Chennai, the state capital of Tamil Nadu.

7.1.1 Road Network

Hierarchy of Roads

Based on the function and capacity, the roads in Nagapattinam LPA are classified as Arterial Roads, Sub Arterial Roads, Collector Roads, and Local Roads. (Refer Map No. 10)

- i. **Arterial Roads** - The primary roads which facilitate traffic movement to the external area are the two National highways and two State highways in the Nagapattinam LPA. The NH 83 connects Nagapattinam with Thiruvarur, Thanjavur, Tiruchirappalli, and Dindugal in the west. The NH 32 also known as East Coastal Road connects Nagapattinam with Karaikal, Cuddalore, Puducherry, Chengalpattu, Chennai in the North and Ramanathapuram, Thoothukudi in the South. The two State Highway SH 148 connects the LPA with Vettar in the west and SH 67 connects the LPA with Nachiyar Koil and Kumbakonam in the west. The total length of NH 83 and NH 32 is 4.9 km and 16.4 km respectively. These roads are maintained by the Roads and Highway Department, Government of Tamil Nadu (Map 7.1).
- ii. **Sub Arterial Roads** – The major roads that carry a large volume of traffic to important urban nodes within the planning area are NH 45A and Akkarapettai Poigainallur roads. The NH 45A connects Nagore with the Nagapattinam Municipality and the Akkarapettai

Poigainallur road connects Akkarapettai to Velankanni via Vadakku Poigainallur village. The core city has a circular pattern of road network surrounding the old port town (Map 7.1).

iii. Collector Roads - The major collector roads which channel traffic from the local roads to the arterial roads are V.O.C Road, Hospital Road, Nethaji Road, EGS Pillai Road, Nambiyar Nagar Road, Neela west street, Naduvar Keela Veedhi, Thethi Road, Perumal street, and Velankanni Church Road. The circular pattern of roads in the old port town is interconnected by cross collector roads.

iv. Local Roads - The local roads that provide direct access to the properties in Nagapattinam LPA are in a grid pattern in the core city and tree-like road pattern in the sub-urban areas.

Bus terminus

There are four bus stands in Nagapattinam LPA, two within Nagapattinam Municipality, one in Nagore area, and another one in Velankanni Town Panchayat. The bus stand at Nagapattinam is a class B bus stand that has 28 bus bays and the Nagore bus stand has 6 bays.

7.1.2 Railway Connectivity

The Nagapattinam LPA is served by a total number of 6 railway stations including Nagapattinam Junction. Nagapattinam Junction railway station is located at Nethaji Road, Tata Nagar in Nagapattinam Municipality and it is 2.3 km from Nagapattinam New bus stand. It connects Thiruvarur, Thanjavur, and Tiruchirappalli in the west, Nagore, Karaikal in the North, and Velankanni in the South. The Nagore railway station in Nagapattinam Municipality has located 1 km from Nagore Dargah and 7 km from Nagapattinam Junction. The important trains passing via Nagore station are Ernakulam Express, Karaikal Express, Chennai Express, etc.

The railway station at Velankanni is a terminal station with 3 platforms and 5 tracks. The Chennai Egmore – Velankanni Link Express functions daily from Velankanni station and halts at important stations like Nagapattinam Junction, Cuddalore Port Junction, Villupuram Junction, etc. There is also a weekly express train Vasco da Gama – Velankanni Express connecting Vasco da Gama in Goa with Velankanni via Madgaon, Hubli junction, Yesvantpur, Salem, Karur, Tiruchirappalli, Thanjavur, Thiruvarur, and Nagapattinam. This is the only dedicated express train for Velankanni, all other trains are slip trains, slow passenger trains, and special trains to Velankanni. Table 7.1 gives details about the No. of train arrivals and departures in the stations.

Table 7.1: Train Arrival and Departure

Stations	No. of Platforms	Type of track	No. of Train Arrivals/ Departures
Nagore	3	Single – Line Electrification	9
Vellipalayam	1	Single – Line Electrification	8
Nagapattinam	3	Single – Line Electrification	27
Anthanapettai	1	Single – Line Electrification	8
Velankanni	3	Single – Line Electrification	6
Sikkal	1	Single – Line Electrification	8

7.1.3 Port

The Nagapattinam Port is an ancient port located on the banks of the Bay of Bengal near the mouth of river Kaduvaiyar. It is one of the 15 minor ports in Tamil Nadu under the control of the Tamil Nadu Maritime Board (TNMB). The anchorage of this port is an open roadstead. The port facilities such as Wharves, stacking area, Cargo shed, Passenger terminal station, Weigh Bridge and Slipway are provided. Lighthouse and VHF are operating at the port for navigational purposes. The Nagapattinam lighthouse is the first conventional 20m high lighthouse tower to be built inside the port premises by the British in 1869.

7.1.4 Traffic analysis

Traffic analysis is the most essential and complex component for planning, building, and operating transportation infrastructure. This analysis forms the basis for evaluating the transportation needs during the planning process. To determine the existing traffic conditions in Nagapattinam LPA the following traffic surveys were conducted;

- Volume count
- Moving car method
- Parking survey

Volume Count

The traffic volume survey determines the volume of traffic moving on a road at a particular section during a specific time. It is usually expressed in terms of passenger car unit (PCU) and measured to calculate the level of service (LOS) of the roads and other related attributes like congestion, carrying capacity, v/c ratio, identification of peak hour, etc. This analysis was carried out at six intersections (Figure 7.1) in Nagapattinam LPA, namely

- Bus stand Junction
- Four Pillar Junction
- Thonithurai Junction
- Puthur Junction
- Water Tank Junction
- Anna Statue Junction

Volume to Capacity Ratio (V/C)

Volume capacity ratio (V/C) is one of the most used indices for the assessment of traffic conditions in urban areas. V is the total number of vehicles passing a given point in one hour and C is the maximum number of cars that can pass the same point at a reasonable traffic condition. A v/c ratio less than 0.85 generally implies that adequate capacity is available and vehicles are not expected to experience significant queues and delays. As the v/c ratio approaches 1.0, traffic flow may become unstable, and delay & queuing conditions may occur. Once the demand exceeds the capacity (v/c ratio greater than 1.0), traffic flow is unstable and excessive delay and queuing is expected.

The analysis carried out reveals that the v/c ratio of all six intersections is below 1.0 indicating that there is no delay or disruption in the traffic flow.

However, the Anna Statue Junction which serves as an important linkage between the central business district and other areas has a high concentration of vehicular movement during the peak hours. When the development takes place in the surrounding areas of this junction, it will lead to traffic congestion in the future. So, a junction improvement will be required at Anna Statue Junction. Necessary investments in traffic facilities such as enhanced public transportation, road widening, construction of new roads & overpasses, and more lanes can avoid traffic congestion in the future. Table 7.2 presents the peak hour traffic volume at the intersections.

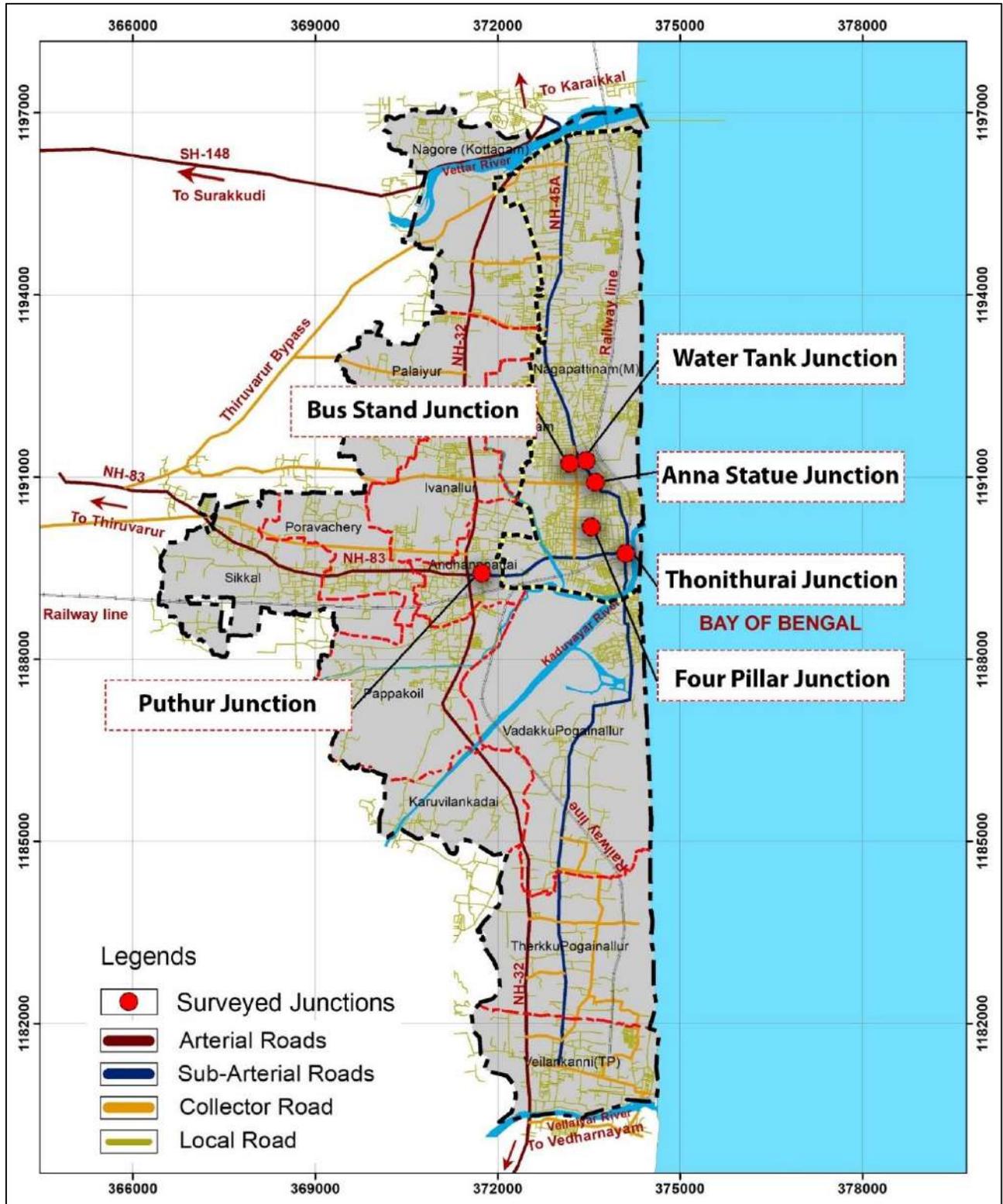


Figure 7.1: Surveyed Junctions in Nagapattinam LPA

Table 7.2: Traffic Volume at Intersections

S. No.	Location	Peak Morning Hour	Total PCUs	Total Vehicles	Peak Evening Hour	Total PCUs	Total Vehicles
1	Bus Stand Junction	09.00am – 10.00am	3758	4982	05.00pm – 06.00pm	3608	4210
2	Four Pillar Junction	09.30am – 10.30am	2658	3702	05.00pm – 06.00pm	3030	3754
3	Thonithurai Junction	08.30am – 9.30am	2537	3771	06.00pm – 07.00pm	2644	3740
4	Puthur Junction	09.00am – 10.00am	3840	5351	05.00pm – 06.00pm	3583	4615
5	Water Tank Junction	09.00am – 10.00am	3235	4364	05.00pm – 06.00pm	2788	3679
6	Anna Statue Junction	09.15am – 10.15am	4704	6476	04.45pm – 05.45pm	4073	5412

Moving Observer Method

The moving observer method is usually used to assess the average flow and journey time of traffic on a road stretch through collected data of moving vehicles. The enumerators in the test vehicle record the no. of opposing vehicles met, no. of vehicles to which test vehicle overtook, number of vehicles overtaking the test vehicle while it was travelling, the average speed of the test vehicle, and journey time of the observer in each run. Using these data, the traffic flow on the roads is computed. This survey is conducted on 11 road stretches in Nagapattinam LPA (Figure 7.2).

Figure 7.3 reveals that the stretches FE, IK, and KF are the most congested roads having a journey speed of 8.79 KMPH, 10.11 KMPH, and 12.18 KMPH respectively in the northbound. Similarly, the stretches DC, BA, and IJ have the maximum journey speed of about 50.48 KMPH, 48.17 KMPH, and 50.07 KMPH respectively in the northbound direction. Table 7.3 shows that the maximum journey speed of all the stretches in southbound direction is not more than 35 KMPH approximately. This implies that the number of vehicles entering the planning area is more when compared to the vehicles moving away from the planning area.

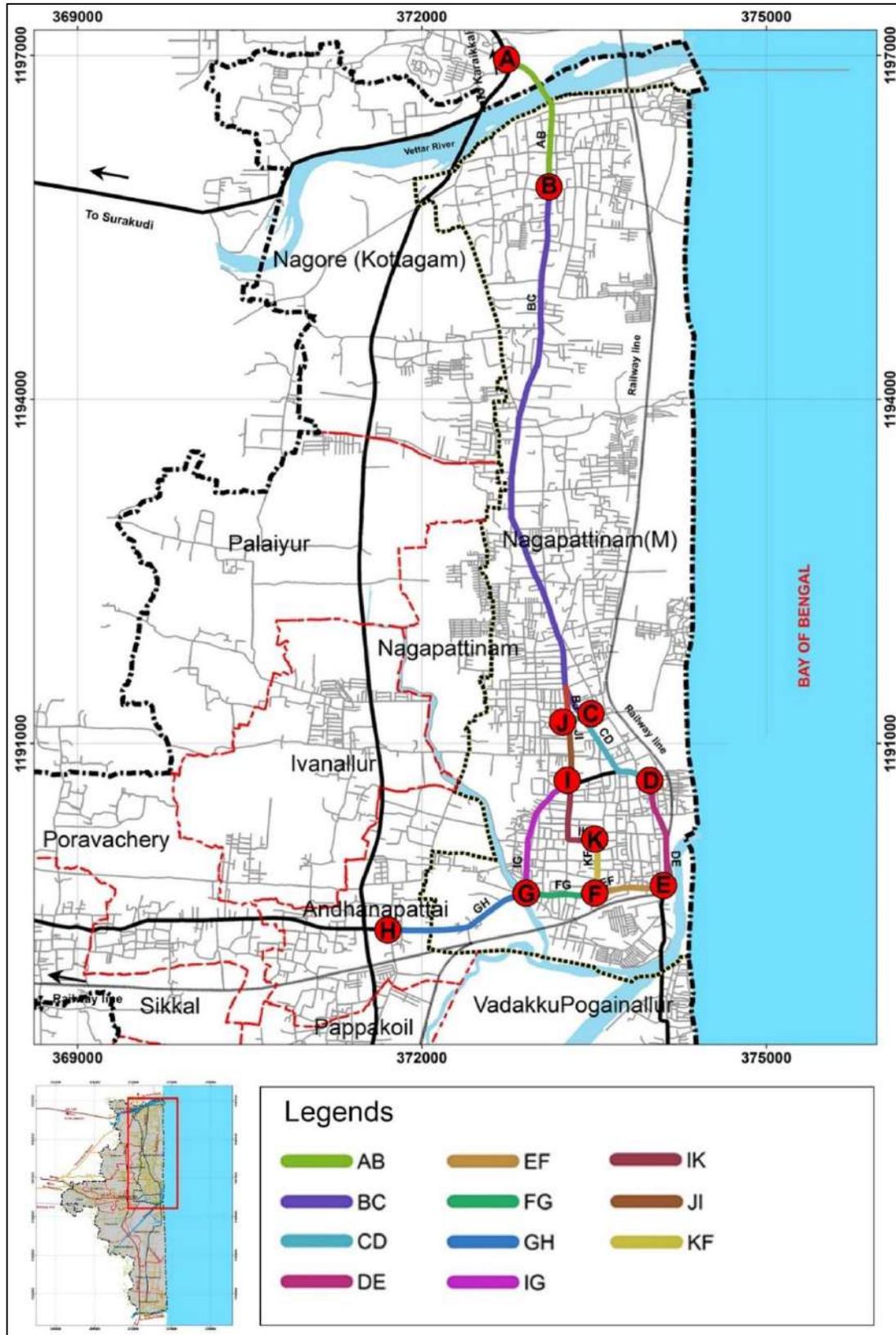
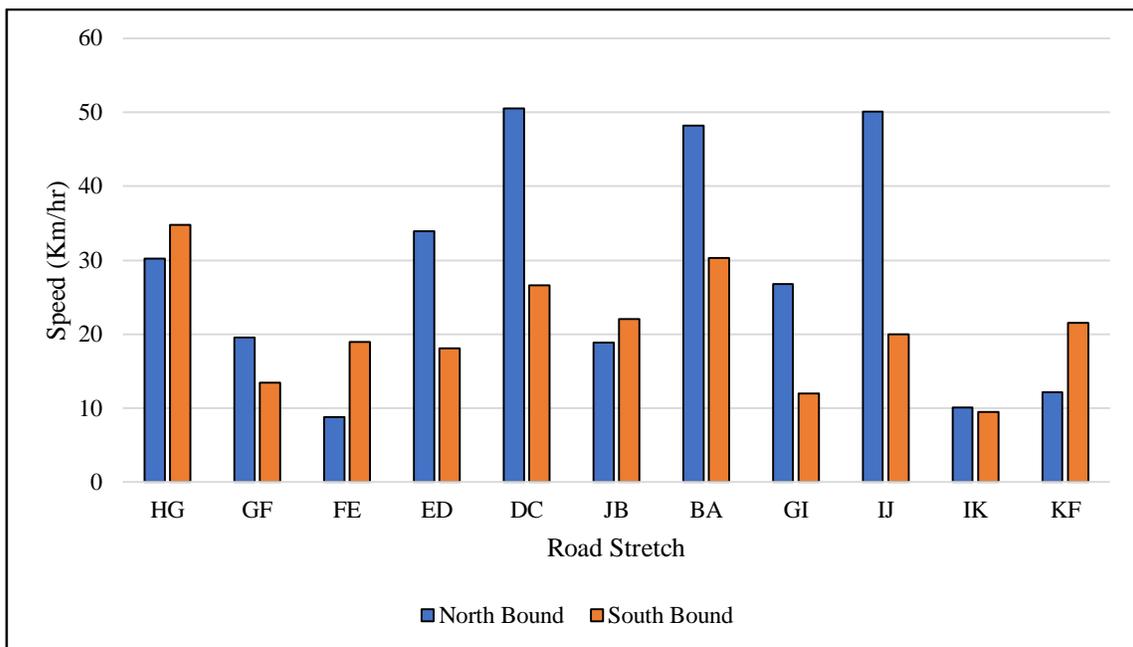


Figure 7.2: Running/journey speed in different stretches

Table 7.3: Moving Vehicle Method Data Collection

Stretch	qn	qs	tn'	ts'	Mean journey speed Km/hr		Mean running time (min)		Mean running speed (Km/hr)	
	PCU/hr		min		North Bound	South Bound	North Bound	South Bound	North Bound	South Bound
HG	480.48	229.40	2.60	2.25	30.21	34.78	2.55	1.93	30.80	40.62
GF	293.28	109.75	1.73	2.51	19.57	13.48	1.68	2.48	20.15	13.67
FE	62.23	112.38	4.24	1.96	8.79	18.95	3.93	1.87	12.55	19.86
ED	180.04	161.53	1.75	3.29	33.91	18.07	1.69	3.24	35.21	18.38
DC	351.33	180.04	1.02	1.95	50.48	26.59	0.87	1.88	59.44	27.51
JB	203.86	273.61	1.98	2.89	38.13	25.65	2.45	3.76	40.50	28.13
BA	456.52	275.05	1.63	2.59	48.17	30.31	1.55	2.46	50.66	31.85
GI	121.86	76.98	2.53	5.67	26.75	11.95	0.25	5.64	61.41	12.01
IJ	309.95	147.03	0.69	1.74	50.07	19.97	0.57	1.41	60.52	24.64
IK	97.90	80.67	4.26	4.52	10.11	9.51	4.22	4.38	10.20	9.81
KF	129.63	169.08	2.34	1.32	12.18	21.55	2.25	1.28	12.69	22.22

(Source: Traffic Survey)

**Figure 7.3: Average Journey Speed on the surveyed Road Stretch**

Parking

Parking is one of the major issues created by the increase in urban mobility and vehicular density. The availability of less space in the urban area has increased the demand for parking spaces, especially in the central business districts. Therefore, a Parking survey is necessary to help in the effective management of on-street and off-street parking requirements at necessary places.

On-Street Parking

The on-street parking survey is carried out on five roads in the most important commercial and tourist areas in Nagapattinam. The roads selected for the on-street parking survey were Syed Palli Street, Manara North Street, Kalmatu Street, Neela East Street, and Neela South Street (Figure 7.4). The number of vehicles parked within these defined zones is noted at regular predetermined time intervals for 12 hrs. With the help of this data peak parking hours and their accumulation are determined. Table 7.4 reveals that maximum parking is observed in Neela South Street with 4799 vehicles parked from 9.00 am to 8.00 pm. and the least amount of parking is observed in Kalmatu St. among the surveyed locations. However, during festival seasons inadequacy in parking space is observed in Syed Palli Street, Manara North Street, and Kalmatu street. The number of vehicles parked over different times are shown in the figure 7.6.

The table below shows the summary of the on-street parking in the survey locations in Nagapattinam.

Table 7.4: Summary of on-street parking

Name of the Road	No. of vehicles parked (12 Hrs)								
	Car	Two-Wheeler	Auto	Cycle	Rickshaw	Tempo	Truck	LGV	Total
Syed Palli Street	143	944	113	72	0	7	1	0	1280
Manara North Street	185	443	58	56	0	0	0	0	742
Kalmatu Street	54	338	49	25	0	0	0	1	467
Neela East Street	255	1733	53	155	26	20	9	4	2255
Neela South Street	80	3891	51	736	25	5	1	10	4799

(Source: Primary Survey)

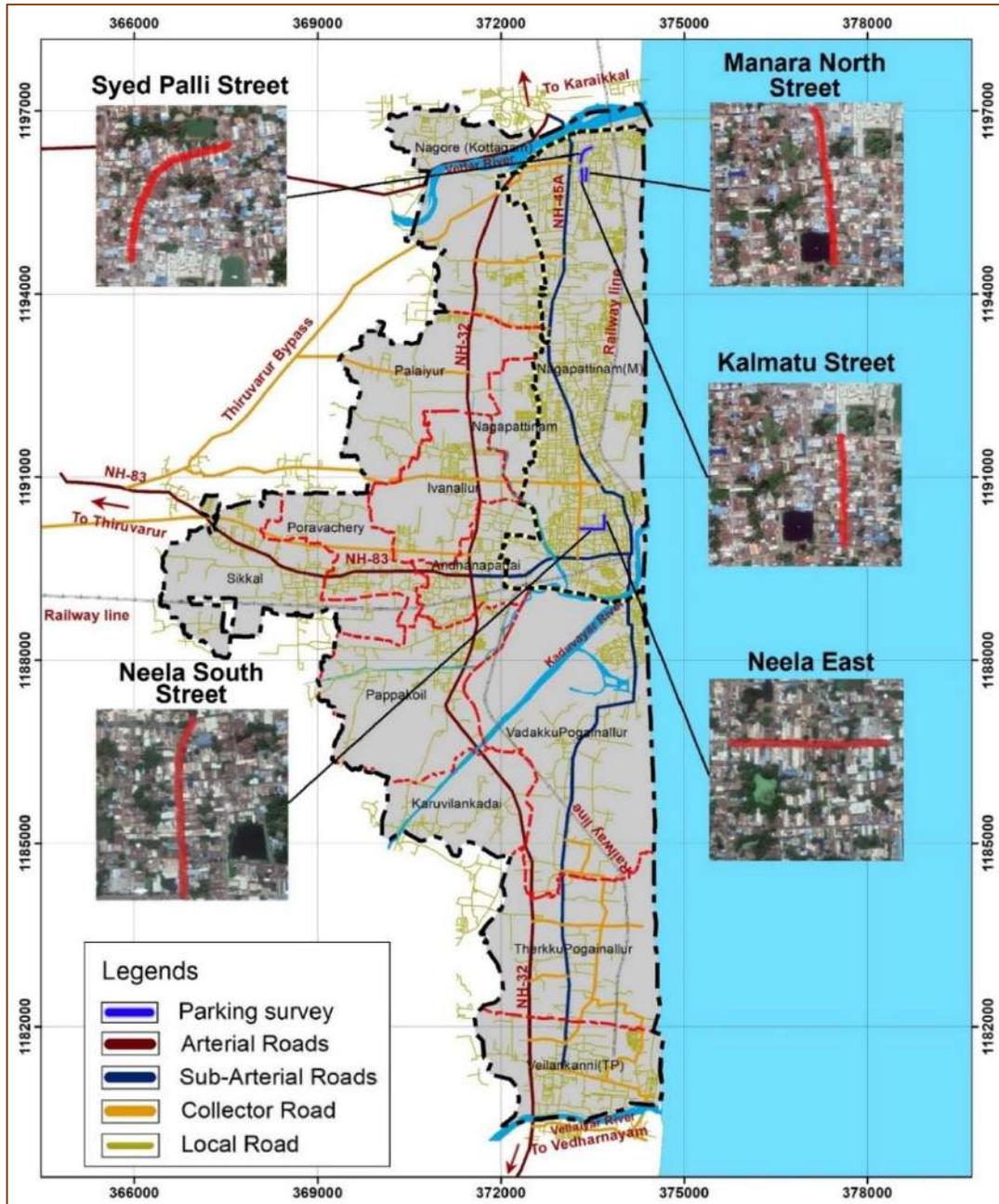


Figure 7.4: Parking Survey locations in Nagapattinam LPA

Composition of Vehicles

It is noticed from the figure 7.5, that the two-wheelers shared the majority of total vehicles parked, which constitutes 77 % of total vehicles followed by bicycles. A maximum number of two-wheeler parking is observed at Neela South Street in the central business district. Maximum car parking is observed in Neela East Street and the total car parking constitutes 11 % of the total vehicles. Large Goods Vehicles are largely seen in Neela South Street.

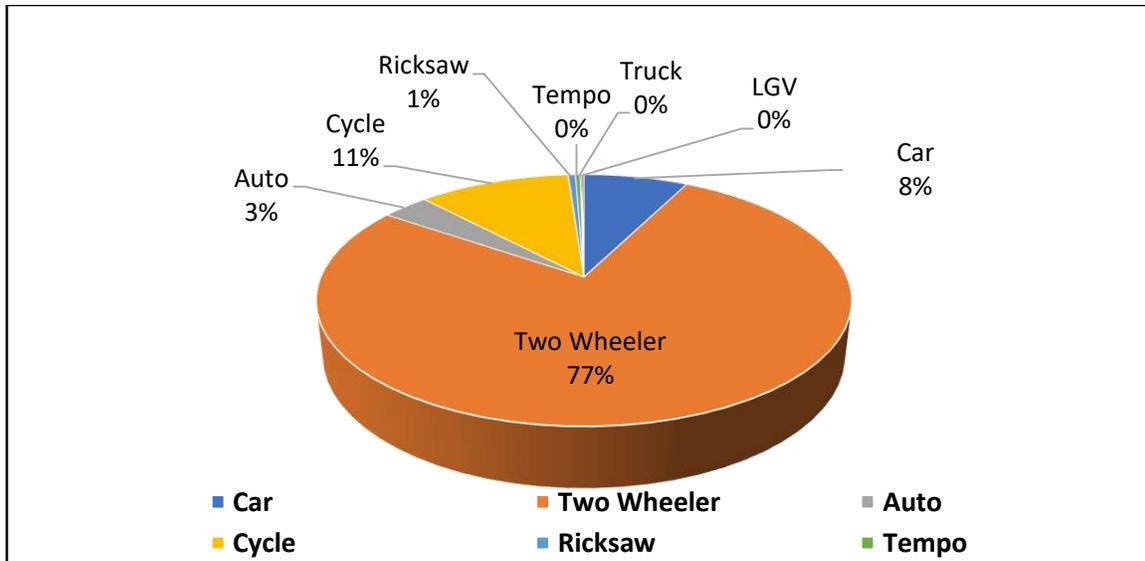


Figure 7.5: Average Composition of Vehicles parked

Peak Parking Hour

Average parking accumulation and peak parking accumulation are determined using the Equivalent Car Space (ECS) value recommended by IRC standards for each vehicle. The peak parking hour and its parking accumulation for the surveyed roads are given in Table 7.5. It is observed that Neela South Street has the maximum parking accumulation from 10.00 am to 11.00 am and it is mainly associated with the existence of several banks and other semi-public buildings. Whereas in Neela East Street, the peak parking hour is between 11.00 am to 12.00 pm due to the presence of a large number of commercial buildings. Inadequacy in parking spaces is noticed in most of the survey locations and the provision of the additional parking area will decrease traffic congestion. The table below gives the summary of parking accumulation at the surveyed location.

Table 7.5: Peak parking Ratio

S. No.	Name of the Road	Peak Parking Hour	Peak Parking Accumulation	Average Parking Accumulation	Peak Parking Ratio
1	Syed Palli Street	4.00 - 5.00 pm	58	39	1.49
2	Manara North Street	3.00 - 4.00 pm	39	27.5	1.42
3	Kalmatu Street	12.00 - 1.00 pm	24	14	1.71
4	Neela East Street	11.00 - 12.00 pm	90	69	1.3
5	Neela South Street	10.00 - 11.00 am	132	101	1.31

(Source: Primary Survey)

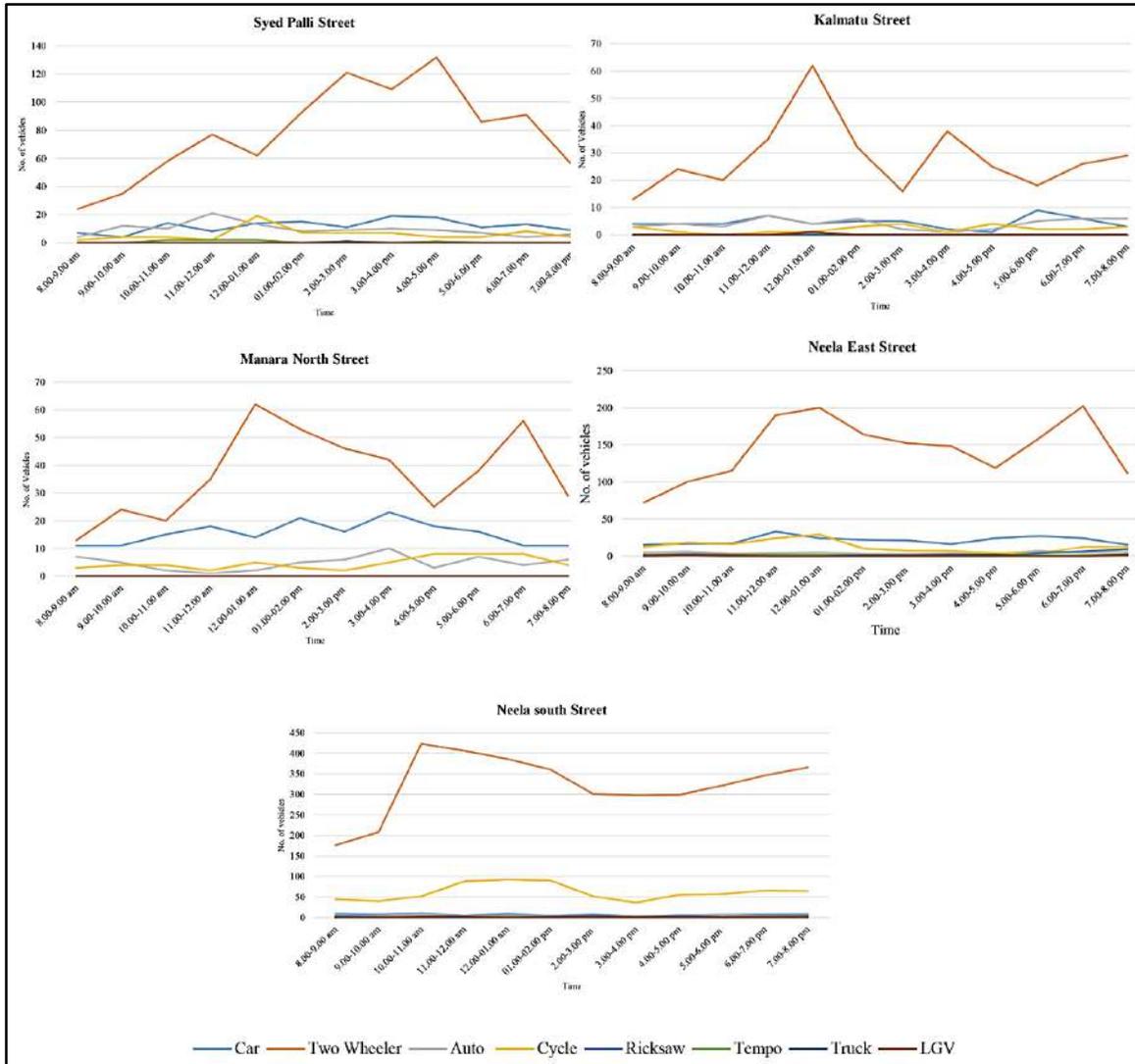


Figure 7.6: On-street Parking

7.2 Grid of roads

The Grid of Roads is prepared for Nagapattinam LPA to address the problems confronted in the linkage and connectivity of the road network. A well-planned Grid of Roads Network provides better connectivity and access to the major arterial and sub-arterial roads. It strengthens the supply of lower order roads and their effective networking in the hierarchy.

As per the IRC norms, the minimum standard distance to reach the Arterial, Sub arterial and Collector roads are,

- i. Arterial Roads - 4 km
- ii. Sub Arterial Roads - 2 km
- iii. Collector roads - 1 km

The above-mentioned roads are classified following the functions they serve irrespective of the right of way, carriageway, or volume of traffic. Map 7.1 shows the existing road network pattern in Nagapattinam LPA.

The IRC recommends that the arterial roads are spaced at 8km or more in the sparsely developed urban areas and the sub-arterial roads in the similar area spaced between 3 to 5 km. Similarly, the collector roads are spaced between 2 km. This would enable easy access to any arterials within a 4 km distance and sub arterial within a 2 km distance. Figure 7.7 presents the conceptual grid of the road network pattern.

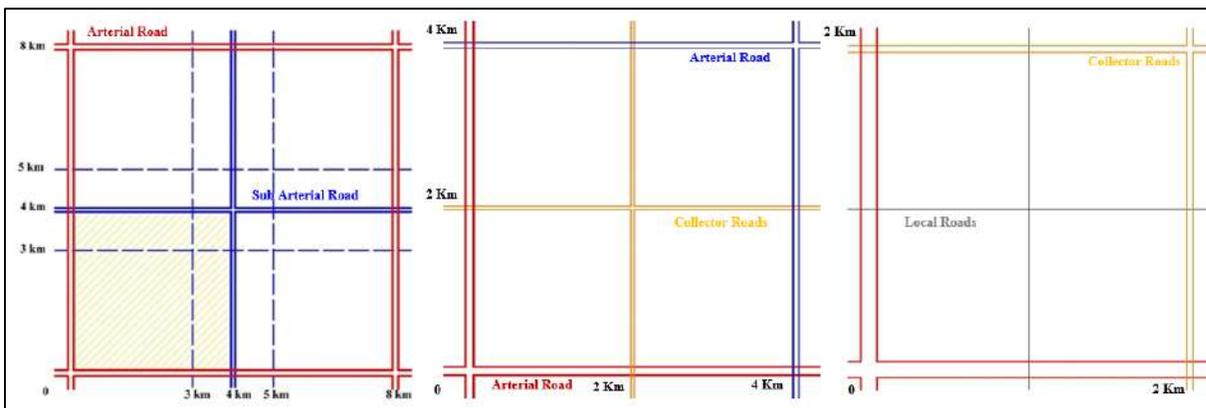


Figure 7.7: Conceptual Road Network Pattern

7.2.1 Grid of Roads Network Plan

The grid of road network plan is formulated for Nagapattinam LPA to develop a strong hierarchical order of roads which ensures smooth flow of traffic. The proposals are expected to enhance the functioning of the neighborhoods through improved accessibility of the inner area. The road development proposals identified as part of this study are the development of new collector roads & widening of the existing collector roads under Local bodies. The new road developments are identified at places where the intensity of developments is less and where it is considered essential in the view of the long-time development perspective. While proposing for the widening of roads, criteria such as abutting land use, length/width of roads, the hierarchy of roads, and traffic flow have been considered to meet the demand for present and future.

The connectivity issues are mostly spotted in Villages like Palaiyur, Ivanalur, Poravacheri, Sikkal, and Pappakoil. The absence of proper approach roads to the arterial and sub-arterial roads, and inadequate width of internal roads are the common problems observed at the neighborhood level. To provide better accessibility in the planning area, new road linkages are proposed at places where major inadequacies are experienced.

7.2.2 ROAD DEVELOPMENT PROPOSALS

There are 16 new collector road development proposals identified as part of the formulation of the grid of road network plan. The proposed new collector roads cover Villages like Palaiyur, Ivanalur, Poravacheri, Sikkal, Nagapattinam, and Pappakoil.

The total length of the proposed new collector road is 34.8 km. Table 7.6 gives details about the proposed collector roads in Nagapattinam LPA. Road widening is proposed to ensure the smooth flow of traffic and to cater to the volume of traffic in the future. There are 10 roads identified in Nagapattinam LPA for road widening and the total length of these roads is 35.9 km. Of these, 9 roads are collector roads and the remaining one is sub arterial road. Table 7.7 gives details about the proposal for road widening in Nagapattinam LPA. (Map 7.2)

Table 7.6: Proposed New Collector Roads for Nagapattinam LPA

S.No.	Road Description	Road Annotation	Proposed Road Width	Length of the Road (m)
1	Connects NH 32 to Thiruvarur Road	AA	18 m	2,182
2	Connects proposed Road A to Palaiyur Road	BB	15 m	1,211
3	Connects Palaiyur Road to Nagai Sangamangalam Puliur Road	CC	15 m	1,788
4	Connects Palaiyur Road to Nagai Sangamangalam Puliur Rd	DD	15 m	1,839
5	Connects NH 32 to Tiruvarur Road	EE	18 m	3,539
6	Connects Nagai Sangamangalam Puliur Road to bypass	FF	18 m	1,225
7	Connects Nagai Sangamangalam Puliur Road to NH 83	HH	18 m	1,104
8	Connects Nagai Sangamangalam Puliur Road to NH 83	II	24 m	610
9	Connects NH 83 to proposed road O	JJ	24 m	3,244
10	Connects NH 83 to proposed road O	KK	15 m	2,542
11	Connects NH 83 to proposed road O	LL	15 m	2,647

S. No.	Road Description	Road Annotation	Proposed Road Width	Length of the Road (m)
12	Connects proposed road N to proposed road O	MM	18 m	1,221
13	Connects NH 32 to proposed road J	NN	24 m	4,821
14	Connects NH 32 to proposed road J	OO	15 m	4,179
15	Connects NH 32 to NH 45 A	PP	15 m	1,455

Table 7.7: Road Widening Proposals

S. No.	Road Name	Road Annotation	Road Type	Existing Road Width	Road Length (m)	Proposed Road Width
1	Thethi Road	C'C'	Collector Road	7 m	1,544	15 m
2	Palaiyur Road	B'B'	Collector Road	7 m	2,864	24 m
3	Nagai Sangamangalam Puliur Road	E'E'	Collector Road	7 m	5,034	18 m
4	Sellur Road	I'I'	Collector Road	7 m	2019	18 m
5	Thiruvarur Bypass	A'A'	Collector Road	8 m	8,022	24 m
6	Vadakudi Road	D'D'	Collector Road	7 m	1,296	18 m
7	Akkarapettai Poigainallur Road	F'F'	Sub Arterial Road	7 m	9148	18 m
8	Therkku Poigainallur Road	I'I'	Collector Road	6 m	1,138	12 m
9	Velankanni Main Road	G'G'	Collector Road	10 m	2,168	18

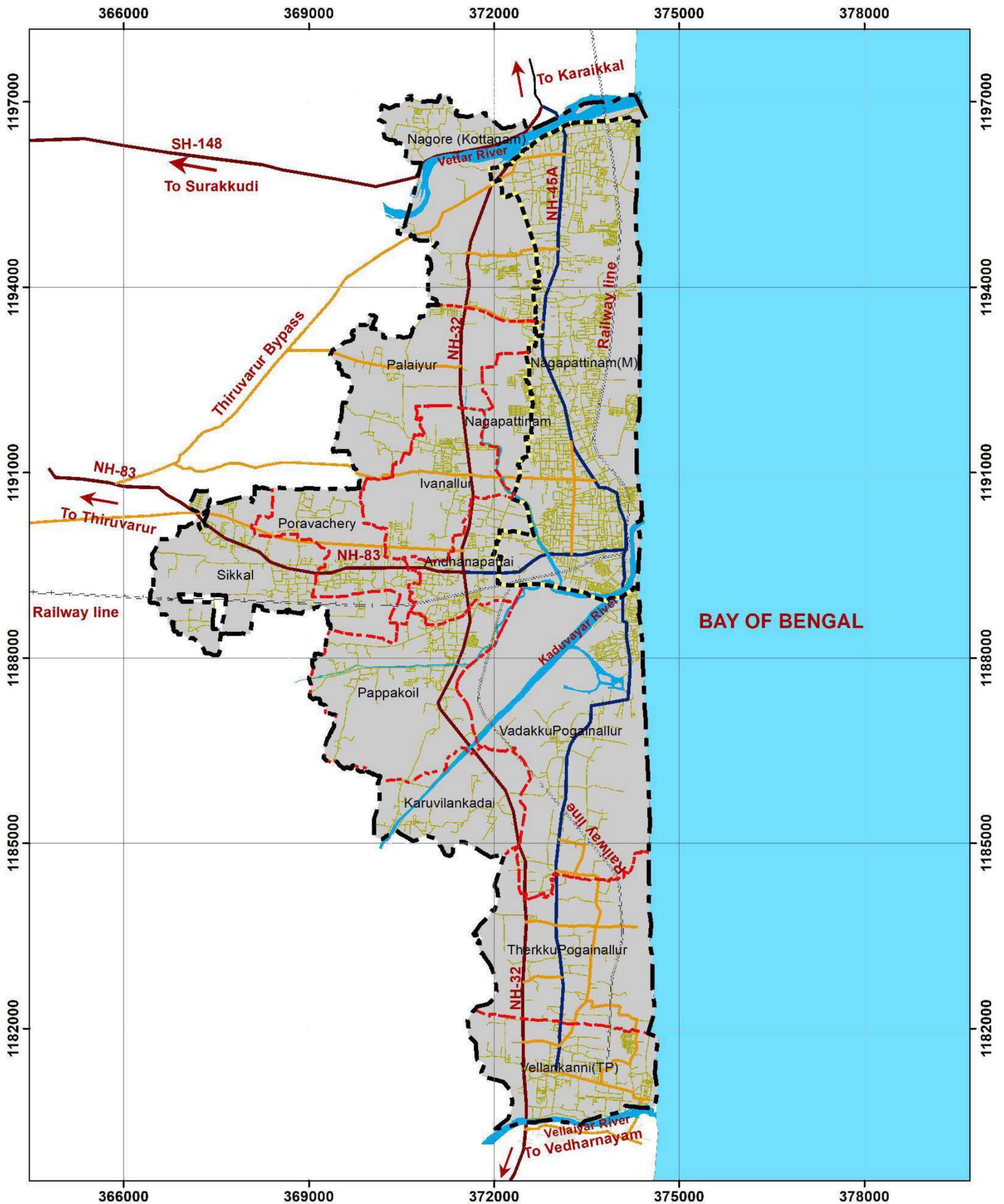
7.3 SUMMARY

Transportation is the main element of urban infrastructure and an important factor in the economic development of any place. Nagapattinam LPA has a good transportation network and it is well connected to all the nearby important towns. NH 83 and NH 32 are the two major roads that connect Nagapattinam with other cities. The major roads that carry a large volume of traffic to important urban nodes within the planning area are NH 45A and Akkarapettai-Poigainallur

road. The Bus stand facilities in Nagapattinam LPA are two within Nagapattinam Municipality, one in the Nagore area, and another one in Velankanni Town Panchayat. The rail connectivity in Nagapattinam connects the town to Chennai, Trichy, and Karaikal. Nagapattinam Port is an ancient port and one of the 15 minor ports in Tamil Nadu under the control of the Tamil Nadu Maritime Board (TNMB).

To determine the existing traffic conditions in Nagapattinam LPA, various traffic surveys were conducted. The volume count survey shows that the v/c ratio of all six intersections is below 1.0 indicating that there is no delay or disruption in the traffic flow. Anna Statue Junction which serves as an important linkage between the central business district and other areas has a high concentration of vehicular movement during peak hours. So, a junction improvement proposal will be required at Anna Statue Junction. The moving observer method is conducted on 11 road stretches in Nagapattinam LPA to identify the congested roads. Three stretches are identified as the most congested roads having a journey speed of 8.79 KMPH, 10.11 KMPH, and 12.18 KMPH respectively. A parking survey was conducted for both on-street and off-street parking. The maximum parking is observed in Neela South Street with 4799 vehicles parked from 9.00 am to 8.00 pm it is mainly associated with the existence of several banks and other semi-public buildings. Two-wheelers shared the majority of total vehicles parked, which constitutes 77 % of total vehicles followed by bicycles. Inadequacy in parking spaces is noticed in most of the survey locations and the provision of the additional parking area will decrease traffic congestion.

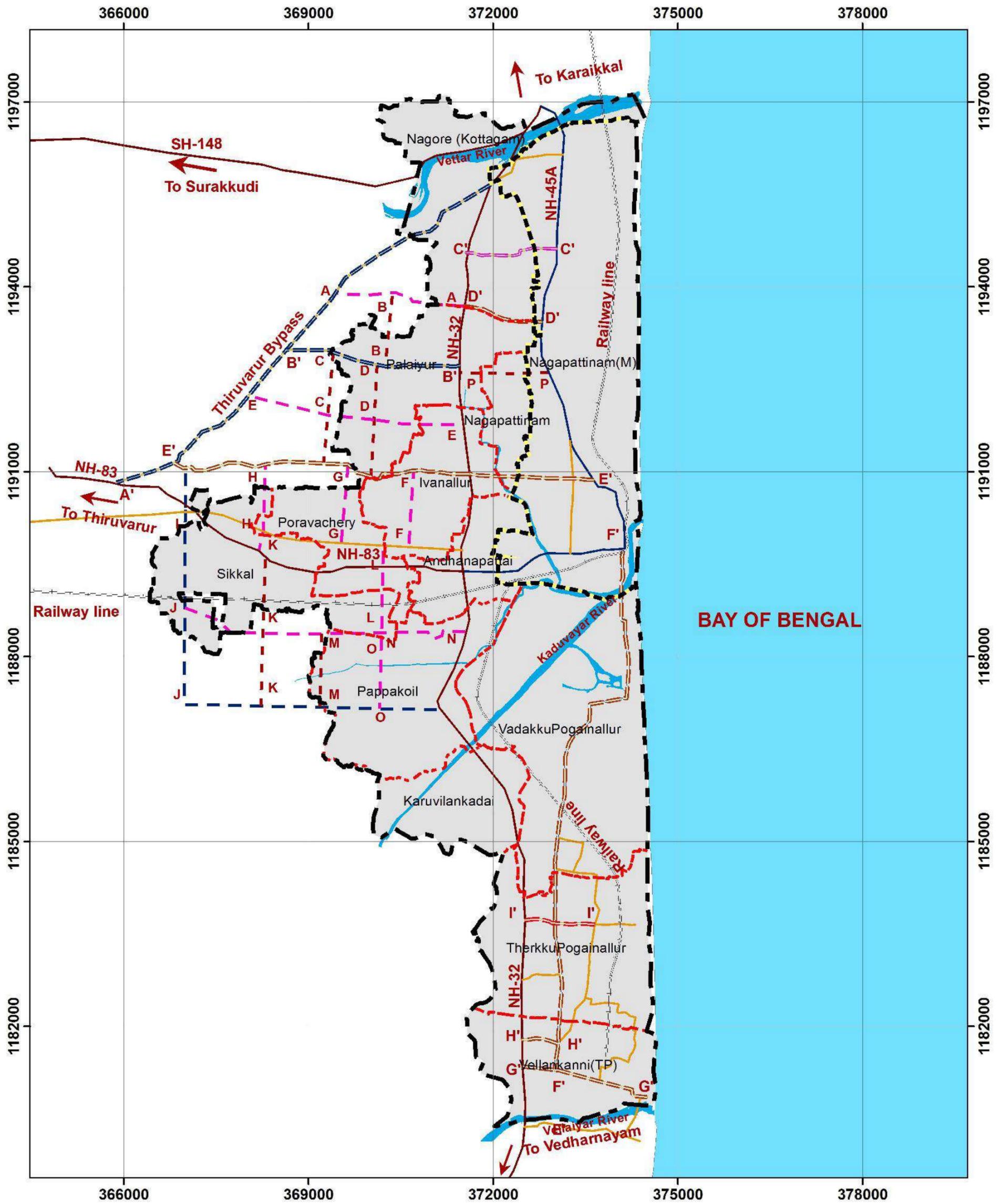
The connectivity issues are mostly spotted in Villages like Palaiyur, Ivanalur, Poravacheri, Sikkal, and Pappakoil. The absence of proper approach roads to the arterial and sub-arterial roads, and inadequate width of internal roads are the common problems observed at the neighbourhood level. The grid of road network plan is formulated for Nagapattinam LPA to develop a strong hierarchical order of roads which ensures smooth flow of traffic. The road development proposals identified as part of this study are the development of new collector roads & widening of the existing collector roads under Local bodies. The proposed new collector roads (34.8 km) cover Villages like Palaiyur, Ivanalur, Poravacheri, Sikkal, Nagapattinam, and Pappakoil. There are 10 roads identified in Nagapattinam LPA for road widening and the total length of these roads is 35.9 km.



LEGEND		
	Arterial Roads	
	Sub-Arterial Roads	
	Collector Road	
	Local Road	
	LPA Boundary	
	Municipal Boundary	
	Village Boundary	
	Railway line	
	Sea	
	LPA	

EXISTING ROAD NETWORK IN NAGAPATTINAM LPA
GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU

0 0.5 1 2 3 Kilometers	
PROJECTION SYSTEM : UTM DATUM : WGS84 SPHEROID : WGS84 ZONE : 44	
SCALE: 1:58,000	DATE: FEBRUARY 2022
CLIENT: Commissioner of Town and Country Planning Directorate of Town and Country Planning Government of Tamil Nadu	
CONSULTANTS: Department of Planning, SAP Campus Anna University Chennai	



LEGEND

New Roads

- 15m Wide Road
- 18 m Wide Road
- 24 m Wide Road

Road Widening

- 12m Wide Road
- 15m Wide Road
- 18m Wide Road
- 24m Wide Road

- LPA Boundary
- Municipal Boundary
- Village Boundary
- Railway line

GRID OF ROADS FOR NAGAPATTINAM LPA

GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU

<small>PROJECTION SYSTEM : UTM DATUM : WGS84 SPHEROID : WGS84 ZONE : 44</small>	
SCALE: 1:58,000	DATE: FEBRUARY 2022
MAP.NO: 7.2	
<small>CLIENT: Commissioner of Town and Country Planning Directorate of Town and Country Planning Government of Tamil Nadu</small>	
<small>CONSULTANTS: Department of Planning,SAP Campus Anna University Chennai</small>	

8. ENVIRONMENT

The Environment is important because everything that supports the survival of human beings is dependent on it. The quality of the environment is directly related to the quality of life of the people. Environment plays an important role in spatial planning. Environmental factors need to be taken into account in spatial planning, to ensure safety and adequate conditions of life of the population and limit the negative impact of economic and other activities on the environment and ensure the protection and rational use of natural resources for the benefit of present and future generations. Air and Water Quality, green cover, Agriculture lands, water Bodies, surface temperature, environmentally sensitive areas, and natural hazards should be considered and protected in spatial planning to improve the quality of life and enhance sustainable development.

Nagapattinam is one of the coastal areas in Tamil Nadu. It is bestowed with beaches, lakes and abundant with unique and rare flora and fauna. Nagapattinam is situated in plain terrain with a gentle slope towards the east and southeast. The town is built on the banks of two rivers namely Vettar and Kaduvaiyar. Nagapattinam LPA has a higher share of agricultural land (39.80% of the total area). Nagapattinam is one of the cyclone-prone zones in Tamil Nadu.

8.1 CLIMATE AND RAINFALL

Nagapattinam has a Tropical Savana climate with a wet season from October to December due to the Northeast monsoon. The town receives an annual rainfall of 1393.3 mm. Proximity to the sea results in high humidity throughout the year, which reaches 70% from August to May. The mean maximum temperature in 2020 is varied in the range of 31°C to 23.7°C. As Nagapattinam is located in the Coastal area the intensity of heat will not be much higher due to frequent breezes. As Nagapattinam is located in the coastal area the rainfall of Nagapattinam is higher than the state level.

8.2 ENVIRONMENTAL ASSETS

Nagapattinam LPA has unique environmental features. On the one hand, it has more agricultural lands and on the other hand, it has 2 rivers, Water Bodies, and a sea.

8.2.1 Green Cover

The presence of more green spaces will enhance biodiversity and improve the quality of life. one square meter of green space can retain up to 200 grams per year of small contaminating particles that are harmful to health. So, by having more green spaces pollution levels can be

reduced. Protecting local green spaces can help to minimize the impacts of urban heat in towns. The classification of Non-Vegetation, Low Vegetation, and High Vegetation is based on the NDVI Index. NDVI map has been prepared to analyze the vegetation in Nagapattinam LPA which shows that Nagapattinam LPA does not have any dense vegetation/forest. The presence of more agricultural land results in a higher concentration of low vegetation area. Nagapattinam LPA has more green cover which indicates that the quality of the environment is fairly good. These green spaces need to be further protected to maintain an ecological balance.

8.2.2 Agriculture

As per the existing land use survey, the share of agricultural land is about 39.80 % (31.87Sq.km) of the total LPA area. Agriculture and fishing are the major means of livelihood for the people of Nagapattinam. As Nagapattinam falls under the “protected agricultural zone” declared by Tamil Nadu Government in 2020, the agricultural lands need to be protected. To ensure food security and enhance the source of livelihood, the conversion of agricultural land for urban development needs to be prevented. Protecting agricultural lands will create an ecological balance and enhance the quality of life (Map 8.1).

8.2.3 Water Bodies

The total area of water bodies which includes lakes, rivers, and streams constitutes 6.5 Sq. km. which is 8.1 % of the total planning area. Nagapattinam LPA has 2 rivers running into the planning area. Vettar River acts as a major source of drinking water for Nagapattinam Municipality. Water bodies help in improving biodiversity, prevent waterlogging and improve the microclimate. As Nagapattinam is blessed with an abundance of green spaces and water bodies they can be protected through development regulations and enhance the quality of the environment.

As Nagapattinam LPA is rich in green cover (open space and agricultural land) the land surface temperature is comparatively less. The maximum surface Temperature in April is about 31°C which shows that the town has a very moderate temperature with a greener cover.

8.3 TOPOGRAPHY & CONTOURS

Nagapattinam LPA lies between 10°49'32.22"N and 79°46'46.02"E. The entire Nagapattinam LPA is a plain terrain with a slope of less than 1.3°. The topographical slope is towards the east and southeast. The elevation of Nagapattinam LPA varies between -2 to 10m. The highest point is at Nagore bus stand at 10m elevation and the lowest point is at Keechankuppam fishing harbour of -2m elevation. The topology of Nagapattinam is flat. Gentle

slopes with low lying areas constitute harbour areas and riversides. There are 2 rivers namely Vettar and Kaduvaiyar running in the north and south parts of the planning area.

The Digital Elevation Model (DEM) map and Slope map of the planning area have been generated to study topography. One of the critical factors that led to massive devastation in the area of Nagapattinam during Tsunami 2004 is the topography of the area. Nagapattinam LPA has a very gentle slope of less than 1.3°. The gentle slope in Nagapattinam has both merits and demerits, the merit is as the slope is very gentle it will be highly suitable for residential development. But as it is located in a coastal area, the gentle slope will result in more damage during flooding due to tsunamis and cyclones. The DEM and the slope map are utilized while proposing and planning infrastructures such as road and drainage system and for delineation of low-lying areas and hazard-prone areas which needs to be prevented from developments.

8.4 ENVIRONMENTAL DEGRADATION

8.4.1 Air Pollution

The major cause of air pollution is Vehicular and industrial emission. As there are very few industries and Vehicular emissions the air quality of Nagapattinam LPA is very good and free from pollution. The concentrations of ambient parameters in the Nagapattinam LPA were well below the permissible CPCB standards which indicate that the entire area has access to clean air. Ambient air quality within the LPA is within the permissible level (Table 8.1).

Table 8.1: Air Quality Index of Nagapattinam LPA

S. No.	Pollutant	National ambient air quality standards for Good AQI (in µg/m ³)	AQI in Nagapattinam (in µg/m ³)
1	NO ₂	0-40	12
2	O ₃	0-50	30
3	PM _{2.5}	0-30	23
4	SO ₂	0-40	18
5	PM ₁₀	0-50	42

(Source: www.accuweather.com)

8.4.2 Noise Pollution

As per EA Report for UG Electric Cable Works in Nagapattinam Municipality, in the roadside and market area activities, expected noise levels during the daytime and nighttime could be as high as 70 and 50 dB (A) in the busy road corridors and market centres which is within the desirable limit as per the Noise Pollution (Regulation and Control) Rules, 2000. Though Noise

pollution is not a major problem in Nagapattinam, buffer areas can be created on both sides of the roads in the form of commercial activities to prevent residential areas from noise pollution.

8.5 COASTAL REGULATION ZONE

Under the Environment Protection Act, 1986 a notification was issued in February 1991, for the regulation of activities in the coastal area by the Ministry of Environment and Forests (MoEF). As per the notification, the coastal land up to 500m from the High Tide Line (HTL) and a distance of 100m along banks of creeks, estuaries, backwater, and rivers subject to tidal fluctuations, is called the Coastal Regulation Zone (CRZ).

8.5.1 Distribution of Coastal Regulation Zone in Nagapattinam LPA

Nagapattinam municipal area and Velankanni Town fall under CRZ II. Villages in the LPA fall under CRZ III. The total extent of CRZ in Nagapattinam LPA is about 14.2 Sq.km which is about 17.7% of the total LPA area (Map 8.2 & 8.3). The different coastal regulation zone classes of the Nagapattinam coast and their areal extent are presented in Table.8.2.

Table 8.2: CRZ classification of Nagapattinam LPA

Category	Area
CRZ-IA	0.7 Sq.km
CRZ-IB	3.5 Sq.km
CRZ-II	5.1 Sq.km
CRZ-III	2.4 Sq.km
CRZ-IVA	-
CRZ-IVB	0.7 Sq.km

(Source:Coastal Zone Management Plan-TamilNadu,2018)

As per CRZ notification 2019, the regulations need to incorporate CRZ areas in the preparation of the proposed land use map. Developments need to be restricted and regulated as per the notification to protect and preserve the coastal areas.

8.6 HAZARDS AFFECTING NAGAPATTINAM

Nagapattinam owing to its location is severely affected by Tsunami and Cyclones. The major hazards affecting Nagapattinam LPA are discussed below.

8.6.1 GAJA Cyclone-2018

As Nagapattinam is located in the coastal area it is highly prone to natural hazards. Cyclone Gaja affected districts of Nagapattinam, Thanjavur, Thiruvarur, Pudukottai, Karaikal,

Cuddalore, Trichy and Ramanathapuram. The coastal population were reported to be one of the worst affected due to the Gaja cyclone. The relief centres functioning during cyclones in the Nagapattinam district are furnished in Table 8.3. The Villages which are severely affected during Gaja Cyclone are as follows,

- Nagapattinam Town
- Pappakoil
- Therku Poigainallur
- North Poigainallur
- Velankanni

Table 8.3: GAJA Cyclone relief Centres in Nagapattinam District

Description	No. of Relief Centres identified other than Multi-Purpose Evacuation Shelters (MPES) constructed under CDRRP				No. of Multi-Purpose Evacuation Shelters (MPES)
	Schools	Colleges	Community halls	Other buildings	
Nagapattinam District	283	21	177	21	9

(Source: Study Report on GAJA Cyclone)

8.6.2 Tsunami-2004

The earthquake epicenter off the coast of Sumatra Island of Indonesia on 26th December 2004 in the Indian Ocean triggered a series of devastating tsunami waves. Nagapattinam, on the east coast of India, was severely affected during the tsunami. About 19.4 sq. km of the total LPA area had been inundated. The tsunami caused heavy damage to life and property, and the death toll was about 3,378 in Nagapattinam. Nagapattinam beach, which is a tourist spot, was destroyed and about 30 people lost their lives. Nagapattinam port also got worse affected. The extent of inundation during Tsunami 2004 are furnished in the Table 8.4.

Table 8.4: Extent of inundation during Tsunami 2004

Name of the Place	Inundation distance (m)	Run up height (m)
Nagapattinam Town	1460	3.7
Nagore	976	3.6
Nambiyar Nagar	772	3.8
Akkarapettai	2822	8.0
Vadaku Poigainallur	880	-

Name of the Place	Inundation distance (m)	Run up height (m)
Therkku Poigainallur	804	5.7
Velankanni	853	4.5

(Source: Science of Tsunami Hazards Report)

Nagapattinam was the worst hit, accounting for about 76% of the deaths in the State, besides heavy loss of cattle, houses and property. Large numbers of livestock - cows, buffaloes, sheep, goats, and poultry – were also killed, resulting in huge economic loss (Table 8.5).

Table 8.5: Damages due to Tsunami 2004 in Nagapattinam district

S. No	Damages caused by Tsunami 2004	No's
1	No. of Coastal Villages affected	38
2	Human Los	6065
3	Cattle loss	12821
4	Houses fully damaged	17461

(Source: Science of Tsunami Hazards Report)

Geomorphic features such as sand dunes and spits act as shields and assimilate the energy of the tsunami waves, thereby protecting the areas just behind them. Therkku and Vadakku Poigainallur Villages have long sand dunes all across their shores and hence were well protected from the onslaught of the tsunami waves. Akkarapettai was badly affected with inundation up to a distance of 3 km mainly due to the flat topography.

8.7 VULNERABLE AREAS

As per the Nagapattinam district disaster management report, Vulnerable areas has been identified based on the risk assessment. The vulnerable areas have been classified into 4 categories such as-

- Highly Vulnerable areas
- Medium Vulnerable areas
- Low Vulnerable areas

Ivanalur and Anthanapettai Villages are identified as highly Vulnerable area within the LPA and Villages such as Sikkal, Pappakoil comes under medium Vulnerable areas (Table 8.6). The other Villages and municipal area constitute low vulnerability areas.

Table 8.6: Vulnerable Area in Nagapattinam LPA

S. No	Highly Vulnerable areas	Medium Vulnerable	Less Vulnerable areas
1	Ivanalur	Sikkal	Nagapattinam Village
2	Anthanapettai	Pappakoil	Nagore
3	-	-	Poravachery
4	-	-	Nagore (Kottagam)
5	-	-	Palaiyur
6	-	-	Vadaku Poigainallur
7	-	-	Karuvelankadai
8	-	-	Therku Poigainallur

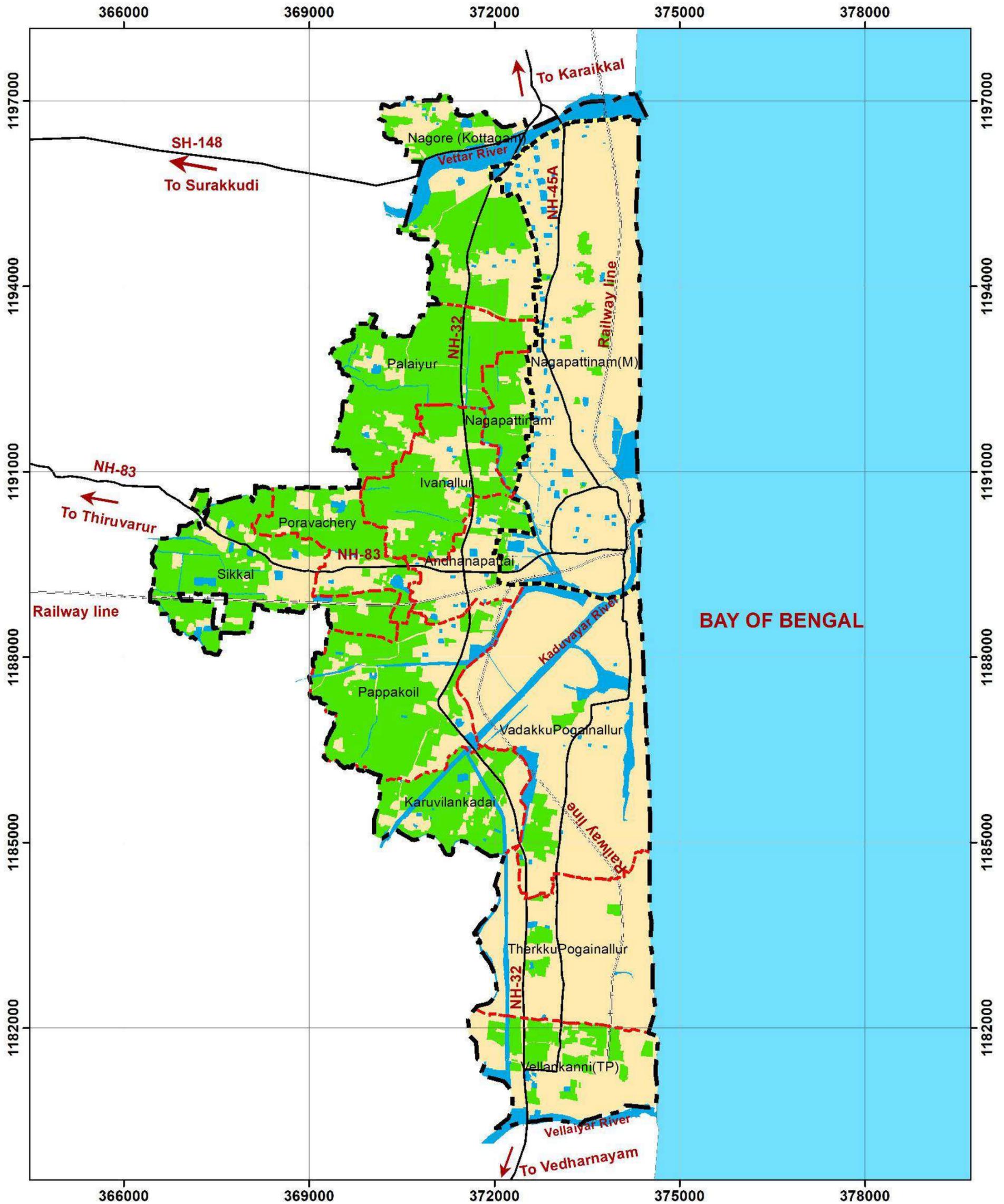
(Source: Nagapattinam District Website)

8.8 SUMMARY

The quality of the environment is directly related to the quality of life of the people. Therefore, the environment plays an important role in spatial planning. As Nagapattinam is one of the coastal areas in Tamil Nadu, it is bestowed with beaches. Nagapattinam is situated in plain terrain with a gentle slope towards the east and southeast. The town is built on the banks of two rivers namely Vettar and Kaduvaiyar. Nagapattinam has a Tropical Savana climate. The elevation of Nagapattinam LPA varies between -2 to 10m. While preparing the land-use plan, developments need to be restricted in low lying areas.

As per the existing land use survey, the share of agricultural land is about 37.8% (30.3Sq.km) of the total LPA area. In 2020, the Tamil Nadu government has declared Nagapattinam under a protected Agricultural Zone. To ensure food security and enhance the source of livelihood, the conversion of agricultural land for urban development needs to be prevented.

The total extent of CRZ in Nagapattinam LPA is about 14.2 Sq.km which is about 17.7% of the total LPA area. Naturally, Nagapattinam has dunes that are created to act as a barrier and protect the development from Coastal flooding. Dune stretches are missing in many places due to human activities which result in severe flood events in Nagapattinam. As per the Nagapattinam district disaster management report, Ivanalur and Anthanapettai Villages are identified as highly Vulnerable areas within the LPA. Proposals such as cyclone shelters need to be provided to protect people in highly vulnerable areas during natural disasters.



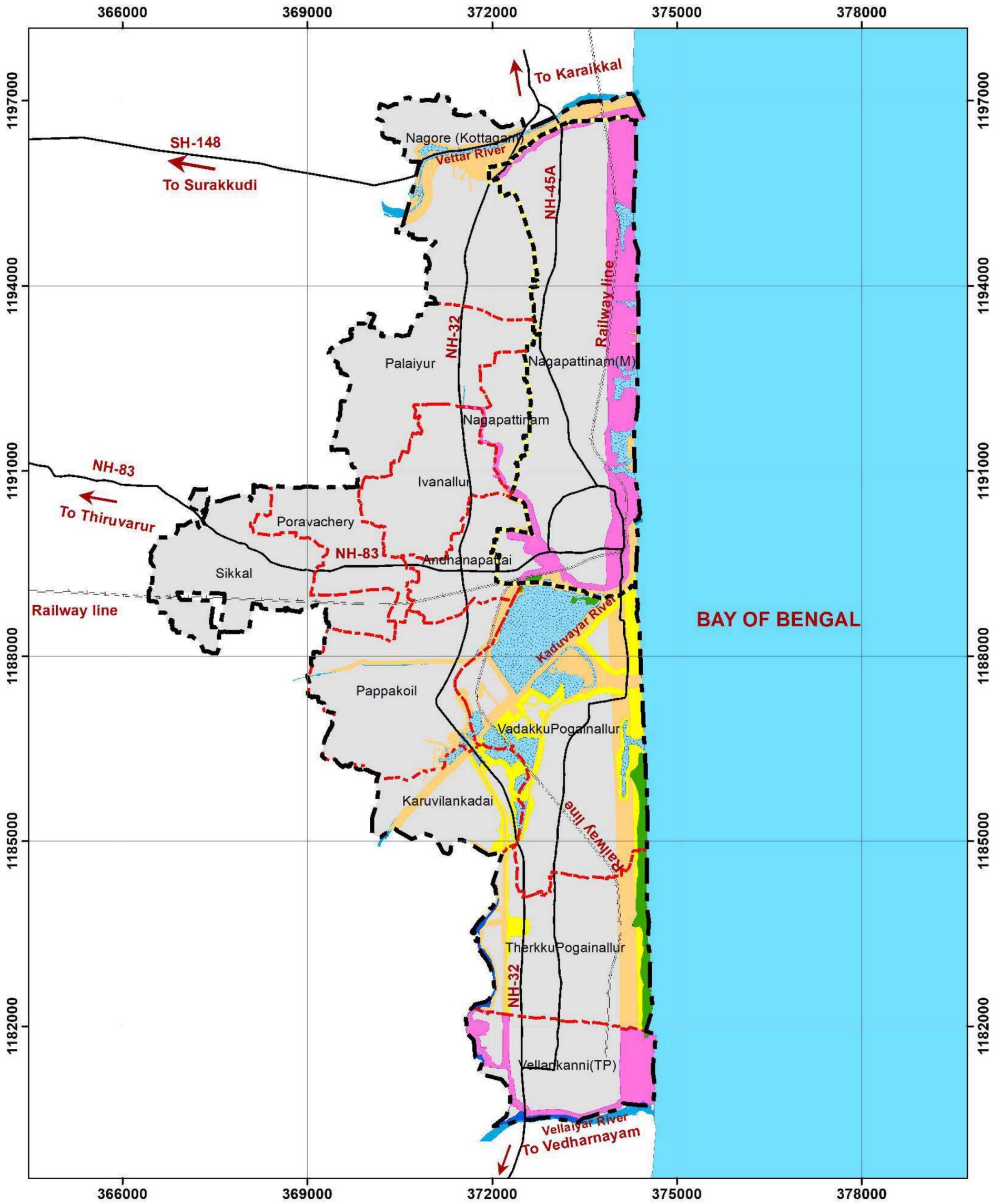
LEGEND

- Agriculture land
- Water Bodies
- Sea
- LPA Boundary
- Municipal Boundary
- Village Boundary
- LPA
- Roads
- Railway line

ENVIRONMENTAL ASSETS OF NAGAPATTINAM LPA

GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU

<small>PROJECTION SYSTEM : UTM DATUM : WGS84 SPHEROID : WGS84 ZONE : 44</small>	
SCALE: 1:58,000	DATE: FEBRUARY 2022
MAP.NO:8.1	
<small>CLIENT: Commissioner of Town and Country Planning Directorate of Town and Country Planning Government of Tamil Nadu</small>	
<small>CONSULTANTS: Department of Planning,SAP Campus Anna University Chennai</small>	

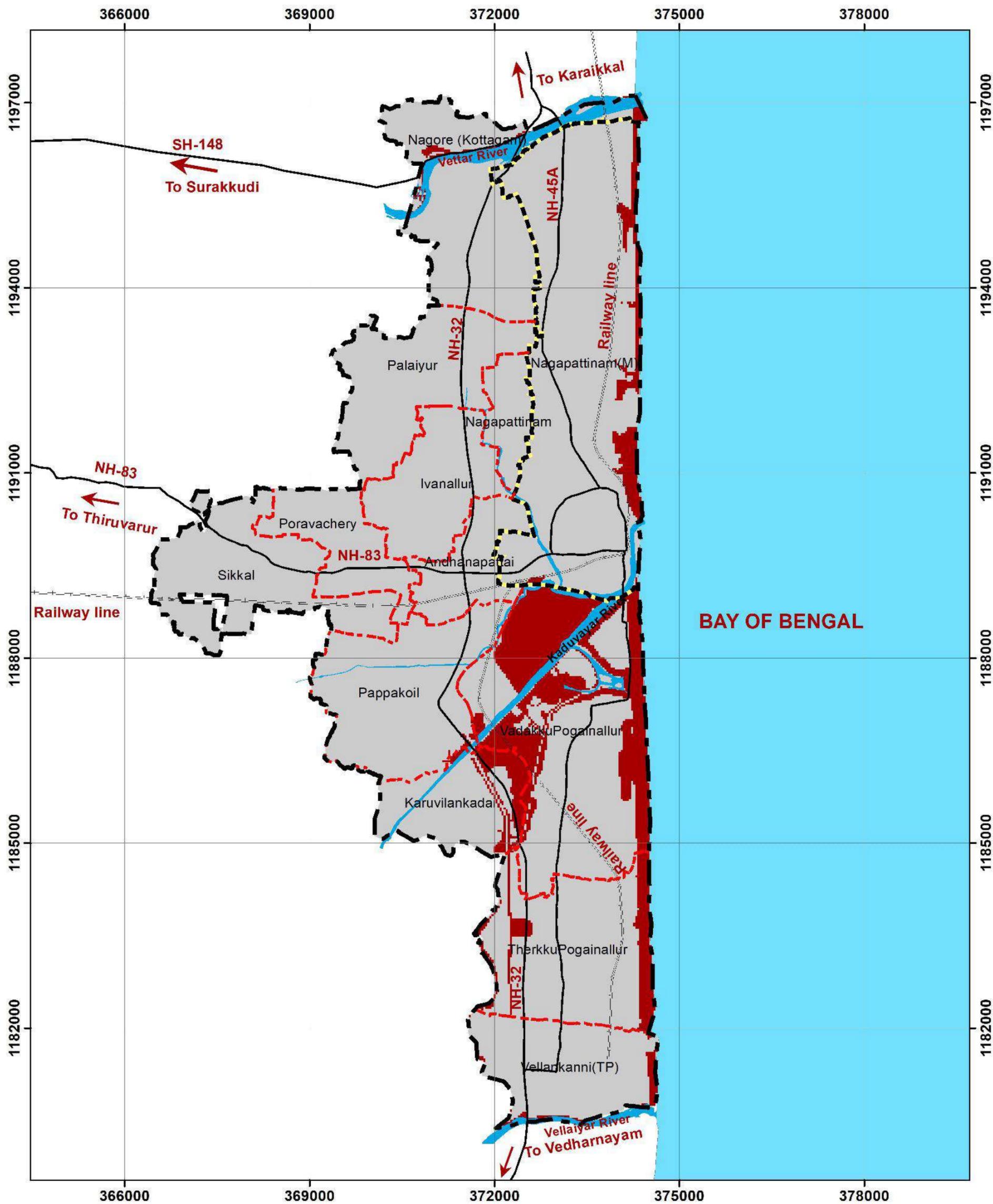


LEGEND			
■ CRZ-IA	■ CRZ-IIIA	 LPA Boundary	 Roads
■ CRZ-IB	■ CRZ-IIIB	 Municipal Boundary	 Railway line
■ CRZ-II	■ CRZ-IVB	 Village Boundary	■ Sea

COASTAL REGULATION ZONE 2011-NAGAPATTINAM LPA
GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU

PROJECTION SYSTEM : UTM DATUM : WGS84 SPHEROID : WGS84 ZONE : 44	
SCALE: 1:58,000	
MAP.NO: 8.2	DATE: FEBRUARY 2022
CLIENT: Commissioner of Town and Country Planning Directorate of Town and Country Planning Government of Tamil Nadu	
CONSULTANTS: Department of Planning, SAP Campus Anna University Chennai	





LEGEND

- No development Zone
- LPA
- LPA Boundary
- Municipal Boundary
- Village Boundary
- Roads
- Railway line
- Sea

NO DEVELOPMENT ZONE AS PER CRZ 2011

GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU



PROJECTION SYSTEM : UTM
 DATUM : WGS84
 SPHEROID : WGS84
 ZONE : 44

SCALE: 1:58,000

MAP.NO: 8.3 DATE: FEBRUARY 2022

CLIENT:
 Commissioner of Town and Country Planning
 Directorate of Town and Country Planning
 Government of Tamil Nadu

CONSULTANTS:
 Department of Planning, SAP Campus

9. TOURISM

The tourism industry is one of the important industries in India which provides direct and indirect employment opportunities to the people. Tourism contributes 7% to the national GDP and it is also a major contributor to the state GDP. It is estimated that in 2028 tourism industry will contribute up to 9.9% to the national GDP. It acts as an important tool for employment generation, poverty alleviation, and sustainable human development. The economic multiplier effect is induced by the tourism sector through which other industries such as transportation, telecommunication, hotels, and allied industries are stimulated. Nagapattinam is a tourism hub that has numerous sites with cultural and heritage significance. One of the ways to improve the economy in Nagapattinam LPA is to foster the Tourism Industry. Therefore, tourism has to be promoted in the Master Plan to improve the economy and the livelihood of the people.

9.1 PLACES OF INTEREST AND TOURIST POPULATION

Nagapattinam is renowned for its rich culture and built heritage sites dating back from the Chola dynasty to the British period. It has many historic places like Nagore, Velankanni, Sikkal, Kodyakkarai, and Mannargudi. The city attracts many pilgrims since numerous temples like Kayarohanaswami Temple, Neelayadakshi Temple, Nellukkadai Mariamman Temple, Soundararaja Perumal Temple, etc., are located here (Map 9.1). Besides the temple, it also houses the ancient Nagore Dargah and the famous church, The Basilica of Our Lady of Good Health at Velankanni (Figure 9.1). Therefore, it is apparent that tourism is a major economic driver in Nagapattinam LPA. Nagapattinam is also a place of religious harmony because it exemplifies the unity of three major religions Hinduism, Islam, and Christianity playing a significant role in the lives of the people. The important tourist centres in Nagapattinam LPA are situated in Nagapattinam Municipality, Nagore, Velankanni, and Sikkal. The important tourist destination in Nagapattinam LPA is listed in Table 9.1.



Figure 9.1: Places of Interest in Nagapattinam LPA

9.1.1 Nagapattinam Municipality

Nagapattinam is a famous pilgrimage and tourist centre. It is an ideal place that attracts many pilgrims and that too from different kinds of backgrounds. Numerous historic temples, museums, towering lighthouse, and a beautiful beach are located here. Some of the most popular temples are Kayarohanaswami Temple, Soundararaja Perumal Temple, and Nellukkadai Mariamman Temple.

Kayarohanaswami Temple

Kayarohanaswami Temple has been in existence since 6th AD and was built by the Lakolisa cult. The temple was rebuilt by Pallavas and Cholas. This temple was praised by Tamil Saints (Nayanmars) Appar, Sambandar, and Sudarar in their Thevaram Hymns. Kayarohanaswami temple is one of the seven temples called Saptha Vidangam of the Thyagaraja Cult. Kayarohanaswami temple has festivals throughout the year.

Soundararaja Perumal Temple

Soundararaja Perumal temple is one of the 108 Divya Desam for Lord Vishnu. The temple was built by Cholas in the 8th Century AD and later Nayaks built the seven-tier temple tower (90feet). This tower acted as a lighthouse during the period of Thanjavur Nayak's trade through Nagapattinam Port. The temple is constructed in the Dravidian style of architecture. Tamil saint Thirumangai Alvar visited this temple and praised the lord Vishnu in his poem. Soundararaja Perumal temple has festivals throughout the year.

Nellukkadai Mariamman Temple

Nellukkadai Temple was constructed from the late 19th century to the early 20th century. The temple was built by a rice trader and the devotees believe that the goddess here has mystical powers.

Nagapattinam New Beach

Nagapattinam beach lies on the shore of the Bay of Bengal. Nagapattinam beach is only known to seasonal and local tourists. This is the best spot for enjoying the beauty of the Sun Sea and sand. Beach is the major entertainment centre for Nagapattinam town people.

Museum

The museum displays collections of wood carvings and metal sculptures. The Museum showcases the Poempuhar excavation photos, leather puppets, and musical instruments. Museum attracts minimal tourists compared to other tourist spots in Nagapattinam.

Syed Shahul Hameed Dargah, Nagore

The Dargah located in Nagore is famous among the Muslim pilgrims and it is visited by them frequently. This place is considered the 'Holy Land of Muslims'. Not only the Muslims but also Hindus, Christians & Jains visit this sacred place throughout the year to offer their prayers and get the blessings of the saint. The Nagore Dargah is also known as Syed Shahul Hameed Dargah. Syed Shahul Hameed Dargah is built over the tomb of the Sufi saint Shahul Hameed who lived from 1490 to 1579 A.D. It is also known for its religious harmony. The Dargah was built on land donated by King Achuthappa Nayak who is a Hindu King. The dargah has five minarets of different heights and the tallest one is 131 feet high. The tallest minarets were built by Martha King Maharaja Pratap Singh in the eighteenth century.

Commemoration of the anniversary of a saint's death is celebrated as Kandhuri. The Kandhuri festival is a 14 days event celebrated in Nagore Dargah that attracts lakhs of pilgrims of both religions of the state and other countries like Sri Lanka, Singapore, Malaysia, Burma, and Gulf Countries. This festival also expresses the mixed faith of Muslims and Hindus. Thousands of people visit the dargah on Thursday to attend the worship and make offerings.

Nagore Beach

Nagore beach lies on the shore of the Bay of Bengal and it is a 5-minute walk from Nagore dargah. Nagore beach attracts tourists from visitors of Nagore Dargah. Nagore Beach is the best entertainment spot for tourists. It gets crowded at the time of the Kandhuri festival and every Thursday.

9.1.2 Velankanni

Velankanni is located 12kms from Nagapattinam Municipality. Velankanni is known as the Lourdes of the East and it is the top holy place for Christians in India. Recognizing the significance of the place, the Pope of Vatican City has declared Velankanni as a 'Holy City'. The most renowned site to visit here is the well-known Basilica of Our Lady of Good Health. The people of other faiths also visit this church to offer their prayers. Other places of interest are Velankanni Beach, Mary Book Depot, Velankanni Museum of Offerings, Naduthittu Church, Holy Path, Lady's Tank Church, Fountain of Revelation, and St Sebastian Church.

The Basilica of Our Lady of Good Health

The Basilica of Our Lady of Good Health shrine was started in the mid-sixteenth century and became a parish church in 1771. The Basilica was built in the European style of gothic architecture. In 1962, the Basilica of Our Lady of Good Health was granted a special status of a

Minor Basilica by Pope John XXIII. Later, the Basilica church was merged with the Basilica of St. Mary Major in Rome on 3 November 1962 by Pope John XXIII.

The Basilica of Our Lady of Health witnesses a huge footfall of tourists mostly attracted by creed and devotion. The Major season for pilgrimages is August and September and December to January. In the annual feast season (August to September) average tourist footfall is 2 lakhs per day. In the Christmas and New Year season (December to January) average tourist footfall is 60000 per day. On weekends average tourist's footfall is 25000 per day.

Velankanni Beach

Velankanni beach is 500meters from Basilica Our Lady of Health. The way leading to the beach consists of many shopping centres for the pilgrims. The tourists visiting the church, definitely pay a visit to the beach. The beach has recreational activities but is mostly crowded with pilgrims.

9.1.3 Sikkal

The most popular Singaravelavar temple dedicated to Lord Murugan is located in Sikkal which is at a distance of 5 km from Nagapattinam Municipality. The famous Soora Samharam festival associated with Lord Murugan is celebrated every year and during this time a large crowd is gathered here.

Singaravelavar Temple

Singaravelavar temple was constructed by Kochchenganan Cholan in the earlier period of the Chola dynasty. This temple is as popular as Arupadaiveedu for Lord Murugan. This temple was mentioned in their hymns by great poets Appar, Thirugnanasambandar, Sudaras, and Manickavasagar. The Most Important festival of the temple is Sashti in October and November. Sashti pulls a major crowd of people in and around the Nagapattinam district.

Table 9.1: Tourist Destination in Nagapattinam LPA

S. No.	Tourist Attraction	Type (Natural, adventure, pilgrimage, heritage etc.,)	Season
1	Basilica of Our Lady of Good Health, Velankanni	Pilgrimage	August to September and
2	Nagore Dargah, Nagore	Pilgrimage	February to May
3	Kayarohanaswami Temple, Nagapattinam	Pilgrimage	All the year
4	Nellukkadai Mariamman Temple, Nagapattinam	Pilgrimage	All the year

S. No.	Tourist Attraction	Type (Natural, adventure, pilgrimage, heritage etc.,)	Season
5	Soundararaja Perumal Temple, Nagapattinam	Pilgrimage	All the year
6	Singaravelavar Temple, Sikkal	Pilgrimage	All the year
7	Nagapattinam New Beach, Nagapattinam	Leisure	All the year
8	Nagore Beach, Nagore	Leisure	All the year
9	Velankanni Beach, Velankanni	Leisure	All the year
10	Museum, Nagapattinam	Cultural	All the year

Tourist footfall

Among the above-mentioned places, Velankanni and Nagore are the major attractions for tourists in Nagapattinam LPA. Other tourist spots are majorly attracted by local tourists and some of the seasonal tourists only. According to the department of tourism, Velankanni and Nagore attract tourists throughout the year. However, Velankanni attracts a huge crowd mostly during the annual feast and Nagore attracts a huge crowd during the Kandhuri festival.

Table 9.2: Year-wise tourist footfall of Velankanni and Nagore

Tourist Place	Year	Domestic	Foreign	Total
Velankanni	2006	5,50,432	7185	5,57,617
	2007	6,79,117	9565	6,88,682
	2008	9,60,000	10815	9,70,815
	2009	12,68,973	9164	12,78,137
	2010	21,81,314	10231	21,91,545
	2011	30,30,519	64141	30,94,660
	2012	40,58,824	67848	41,26,672
	2013	58,98,353	77338	59,75,691
	2014	74,35,350	69825	75,05,175
	2015	69,06,293	61883	69,68,176
2017	64,55,329	58555	65,13,884	
Nagore	2006	4,30,912	1598	4,32,510
	2007	3,40,124	4214	3,44,338
	2008	5,58,289	5617	5,63,906
	2009	10,18,811	3389	10,22,200
	2010	24,80,365	9776	24,90,141
	2011	27,69,317	12825	27,82,142
	2012	36,90,610	15900	37,06,510
	2013	49,48,828	18113	49,66,941
	2014	58,67,411	17885	58,85,296
	2015	50,02,413	16218	50,18,631
2017	47,76,174	8317	47,84,491	

(Source: District Diagnostic Study Nagapattinam)

It is observed from Table 9.2 that the tourists' arrival in Velankanni and Nagore from the year 2015 has decreased. In the year 2017, around 65 lakh and 47 lakh tourists have visited Velankanni and Nagore respectively. Therefore, the total tourist population in Nagapattinam LPA during the year 2017 is approximately around 1.12 crore. The tourist population growth trend in Nagore and Velankanni are shown in Figure 9.2.

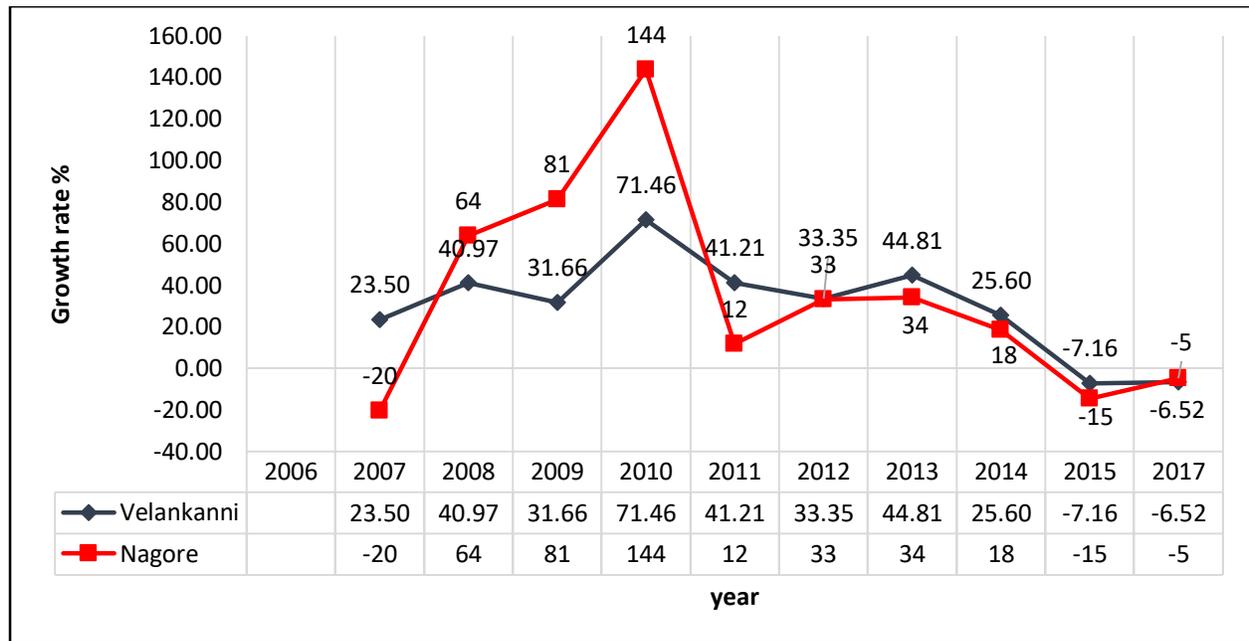


Figure 9.2: Tourist Growth trend in Velankanni & Nagore

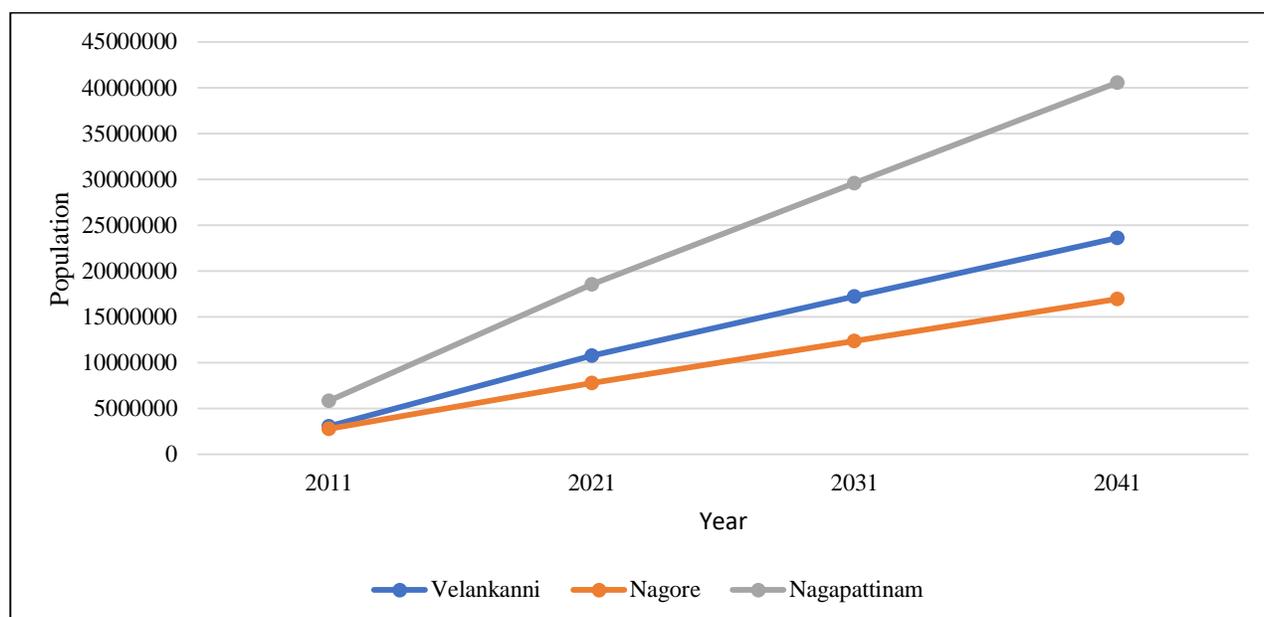
9.2 PROJECTED TOURIST POPULATION AND INFRASTRUCTURE REQUIREMENT

9.2.1 Projected tourist population

The annual tourist population projection is carried out for Velankanni and Nagore using the arithmetic increase method. The projected tourist population of Velankanni & Nagore for the year 2041 is estimated as 2.3 Crore and 1.6 Crore respectively. And the total projected tourist population of Nagapattinam LPA for 2041 will be around 4 Crore. Table 9.3 and Figure 9.3 gives the projected domestic & foreign tourist population for Nagapattinam LPA.

Table 9.3: Tourist Population Projection for Nagapattinam LPA

Year	Velankanni		Nagore		Total Domestic	Total Foreign	Nagapattinam LPA
	Domestic	Foreign	Domestic	Foreign			
2011	30,30,519	64,141	27,69,317	12,825	57,99,836	76,966	58,76,802
2021	1,07,19,809	94,701	77,45,313	24,990	1,84,65,122	1,19,691	1,85,84,813
2031	1,70,75,670	1,49,399	1,23,16,814	39,610	2,93,92,484	1,89,009	2,95,81,493
2041	2,34,31,531	2,04,097	1,68,88,315	54,230	4,03,19,846	2,58,327	4,05,78,173

**Figure 9.3: Tourist Population projection for Nagapattinam LPA**

9.2.2 Infrastructure requirement

According to the survey conducted by NSSO on Domestic Tourism in India, 21% of households reported at least one overnight stay with the leading purpose of business, social, religious & pilgrimage, education & training, and other activities. Based on these statistics the demand for accommodation facilities for the projected tourist population has been estimated.

Table 9.4: Projected Tourist Infrastructure Requirement

Description	Existing Tourist Population Stay per day	Existing No. of Beds	Projected Tourist Population Stay per day (2041)	Additional Beds Required	Area Required
Velankanni	630	14950	2500	Nil	Nil
Nagore	210	200 & Home stay	850	600 Beds	0.2 Ha

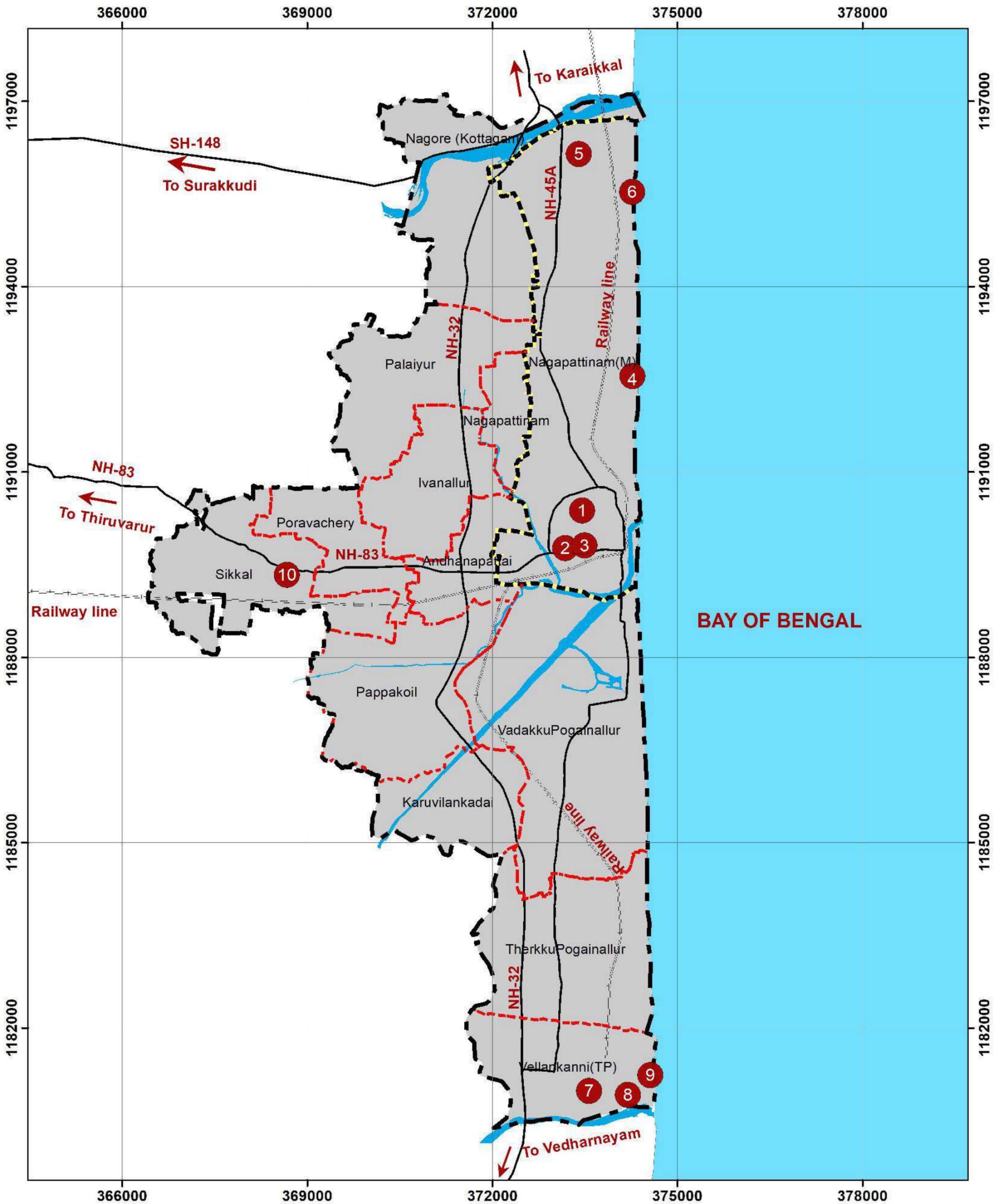
Gap analysis identified that an additional supply of 600 beds will be required to accommodate the tourist population at Nagore in the year 2041 (Table 9.4). And the land area required to provide additional accommodation facilities for the tourists will be around 0.2 ha. Like Velankanni, dormitory kind of accommodation facilities can also be provided at Nagore to enhance the quality of accommodation facilities. Upgrading the basic infrastructure facilities and proper maintenance of tourist sites will boost the tourism industry in Nagapattinam LPA.

9.3 SUMMARY

Nagapattinam is a tourism hub that has numerous sites with cultural and heritage significance. Tourism act as a major economic driver in Nagapattinam. The planning area houses the ancient Nagore Dargah and the famous church, The Basilica of Our Lady of Good Health at Velankanni. In the year 2017, around 65 lakh and 47 lakh tourists have visited Velankanni and Nagore respectively.

To facilitate tourists, tourism infrastructure facilities are to be ramped up to cater to the requirements. The annual tourist population projection is carried out for Velankanni and Nagore using the arithmetic increase method. The projected annual tourist population of Velankanni & Nagore for the year 2041 is estimated as 2.3 Crore and 1.6 Crore respectively.

In terms of accommodation facilities for tourists, Velankanni has dormitory kind of facilities to accommodate the tourist population whereas in Nagore home stays were found predominant. The existing accommodation facilities in Velankanni is adequate to cater for the future population. An additional supply of 600 beds will be required to accommodate the tourist population at Nagore in the year 2041. The land area required to provide additional accommodation facilities for the tourists in Nagore will be around 0.2 ha.



LEGEND

- | | | |
|---------------------------------|---------------------------|------------------------|
| 1. Kayarohanaswami Temple | 6. Nagore Beach | --- LPA Boundary |
| 2. Soundararaja Perumal Temple | 7. Morning Star Church | --- Municipal Boundary |
| 3. Nellukkadai Mariamman Temple | 8. Basilica of Our Lady | --- Village Boundary |
| 4. Nagapattinam New Beach | 9. Velankanni Beach | — Roads |
| 5. Nagore Dargah | 10. Singaravelavar Temple | --- Railway line |

TOURIST ATTRACTION SPOTS WITHIN LPA

GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU

0 0.5 1 2 3 Kilometers	
PROJECTION SYSTEM : UTM DATUM : WGS84 SPHEROID : WGS84 ZONE : 44	
SCALE: 1:58,000	N
MAP.NO:9.1	DATE: FEBRUARY 2022
CLIENT: Commissioner of Town and Country Planning Directorate of Town and Country Planning Government of Tamil Nadu	
CONSULTANTS: Department of Planning, SAP Campus Anna University Chennai	

10.EXISTING LAND USE

10.1 EVALUATION OF NAGAPATTINAM MASTER PLAN 2001

The planning area of Nagapattinam master plan 2001 comprises of Nagapattinam municipal area and parts of 3 Villages. The area under different land use was 14.35 Sq.km.

Nagapattinam Master Plan-2001 envisaged that the proposed residential use in 2001 is 8.40 sq. km which is 58% of the total area of the town. The reason for predicting a higher concentration of residential use can be because of the port-related activities, fishing and flourishing agriculture. But in the existing scenario (2021) non-functioning of Nagapattinam port results in a lower concentration of residential use of about 4.20 sq. km. The land reserved for the commercial was about 0.44 sq. km in 2001 proposed land use. The total land of 0.20 sq. km is developed under commercial use as per existing land use 2021, which shows that the town has less commercial development. The existing commercial areas are concentrated along the major transport corridors in Nagapattinam municipal area, Nagore and Velankanni. As Nagapattinam LPA has high tourism potential, tourism-related infrastructures can be promoted to induce higher growth.

The reserved area under industrial use was about 0.57 Sq. km. as per the proposed land use 2001. Whereas, in the existing land use (2021) only 0.10 Sq.km. of the total area is utilized for industrial use. The land allocated for agriculture was about 0.50 sq. km in the proposed land use in 2001 and the same 0.50 sq. km is under agriculture use as per the existing land use of 2021. This shows that the agriculture area has not been converted for any other uses. As Nagapattinam is an agriculture-rich area Agro-based industries can be proposed. Nagapattinam has a vast coastline with potential for fisheries. Therefore, there is a good scope for marine-based industries. An area of about 3.83 Sq.km. is proposed for the year 2001 under Public and Semi-Public use and the area developed under this use as per the existing land use 2021 is 3.00 Sq.km. Public and semi-public land use almost followed the proposed land use plan in 2001 because Nagapattinam became district headquarter in 1991.

Nagapattinam is highly prone to natural disasters. The concentration of vacant land is higher on the east side of the railway track. This is because the railway track and the seashore act as a barrier to development. The above analysis shows that there is only static growth in the town over the past two decades because of fewer economic activities.

**Table 10.1: Evaluation of proposed land use 2001 and Existing land use 2021
– Nagapattinam Municipality**

S. No.	Land Use	Proposed land use-2001 (in sq.km)	Existing landuse-2021 (in sq.km)
1	Residential	8.40	4.20
2	Commercial	0.44	0.20
3	Industrial	0.57	0.10
4	Public and semipublic	3.83	3.00
5	Agriculture	0.50	0.50
6	Vacant Land	0.60	5.10

10.2 EXISTING LAND USE

The Existing land use is the important input in devising the future growth strategy of any city/town, formulating alternatives and proposals in the master plan. The land use zoning for the existing land use plan is categorized based on the DTCP master plan rules. The existing land use maps show various current land uses indicating residential, commercial, industrial, public & semi-public uses, recreational, vacant land, land under agriculture and water bodies. The existing land use map for Nagapattinam LPA has been prepared by conducting a field survey with the support of high-resolution satellite imagery and base maps provided by the National Remote Sensing Centre (NRSC), Hyderabad. From the existing land use map, the growth potential for the town and suitable locations for future developments can be identified. (Map 10.1 & 10.2)

10.2.1 Residential

As per the existing land use 2021, the area under residential use in Nagapattinam LPA is about 13.32 Sq.km, which is about 16.63 % of the total LPA area (Table 10.2). As per URDPFI guidelines, Nagapattinam LPA falls under the medium town category. URDPFI guidelines suggest that a medium town can have 43-48% of the developed area for residential use. As of now, the share of residential development in Nagapattinam LPA is 50.21 % of the developed area.

The concentration of residential areas is high in the municipal area (29.34%). Next to the municipal area, Therkku Poigainallur has higher residential developments of about 1.77 sq. km which is 12.33 % of the total residential area. Velankanni (6.27%) and Anthanapettai Village (6.20%) have moderate residential concentrations. The residential growth in Nagapattinam Municipality is more towards north and west directions i.e.) from Nagapattinam core town to Nagore and Nagapattinam core town to Sikkal. Railway lines act as a barrier to the growth on the east side (Map 10.1 & 10.2).

10.2.2 Commercial

The share of commercial use in Nagapattinam LPA is only 0.6 Sq.km (Table 10.2). As per URDPFI guidelines, 0.24 to 0.32 ha/1000 persons of the area is required for commercial activities. The existing commercial area of 0.6 sq. km is sufficient for the present population. The concentration of commercial activities is along with three major areas such as Nagapattinam core area, Nagore Dargah, and Velankanni Church (Map 10.1 & 10.2). Velankanni and Nagore have higher tourism Potential. Commercial activities can be developed more in these areas. All the commercial area is concentrated in the core area and tourism spots. To promote development in a balanced manner, commercial activities should be made accessible to all the areas within the LPA. Fish markets are located in the Nagapattinam core area and Velankanni. The concentration of Retail Shops is higher in the Nagapattinam core area, Nagore and Velankanni. Commercial areas in Nagapattinam LPA are majorly present in the following locations,

- Big Bazaar Street, Nagapattinam
- Opposite to railway Station
- Beach Road
- Neela South and East Street
- Saalai Street
- Big Bazaar Street, Nagore
- New Bazaar line, Nagore
- Along State Highway in Nagore
- Velankanni Main Road
- Railway Station Road, Velankanni
- Church Road, Velankanni and Beach Road, Velankanni

10.2.3 Industrial

The existing Industrial use in Nagapattinam LPA is about 0.3 Sq.km which is only 0.37% of the total LPA area (Table 10.2). SIDCO industrial estate of 21 acres area is located along National highway 45-A within Nagapattinam Municipality. Manufacturing industries are located in and around the SIDCO (Map 10.1 & 10.2). Agro-based Industries are located along State Highway 49. The majority of the Chemical industries are located in Nagore Village. Nagapattinam core area has only one industry (Manufacturing). Ice plants are located near the seashore in Nagapattinam and Vadakku Poigainallur Village. Velankanni has no industrial developments. As per the micro small and medium scale enterprises (MSME) report, Nagapattinam has potential for Petrochemical Industries. The existing SIDCO industrial estate has seven industrial units and the products manufactured are steel trunks, iron, and steel fabrications. As Nagapattinam is rich in

agriculture and with a vast coastal stretch, Agro-based industries and marine-based industries such as Fish processing units, shipbuilding, etc. can be proposed which will create more employment and thereby the economy of the town can be improved.

10.2.4 Public and Semi Public

As per the existing land use 2021, the area under public and semi-public use is 3.76 Sq.km which is 4.70% of the overall planning area (Table 10.2). The concentration of public and semi-public use is more in the Nagapattinam core area (31.38% of the total area under public and semi-public use) and in and around Velankanni church (Map 10.1 & 10.2). As Nagapattinam became district headquarter in 1991, the area under administrative and other institutions increased. Nagapattinam Municipality has public and semi-public uses such as hospitals, educational institutions, religious buildings and government offices, etc. Nagapattinam government district headquarter hospital is located along National Highway 45-A opposite to new bus stand. Tamil Nadu warehouse Corporation's warehouse is located in Nambiyar Nagar. Animal husbandry-related institutions are located on Cooks Road near the government hospital. District Collectorate is located in Amirtha Nagar along New Beach Road and National highway 45-A. The Superintendent of Police office and police quarters are located in Elancheran Nagar in Velipalayam. Government institutions such as the district Court and revenue offices are located in VOC Nagar. Educational institutions are located along cook's road.

The Public and Semi-Public use in Nagore is majorly masjid and Dargah. As Velankanni is a famous tourist spot majority of the public and semi-public use are mainly religious buildings and lodging facilities.

10.2.5 Recreation

Recreational use includes open spaces, Parks and playgrounds. The existing recreation use in Nagapattinam LPA is 0.17 sq. km which is 0.29% of the total LPA area (Table 10.2). As Nagapattinam lies in the coastal area, beaches form a major part of recreational use. There are 3 beaches located within the LPA namely,

- Nagapattinam Beach
- Nagore Beach
- Velankanni Beach

Following are the Parks in Nagapattinam LPA,

- Kodimarathu Park in Thoonuthurai Road,
- Park near Thamaraikulam in Public office road,
- Thambi Thurai Park in Elancheran Nagar

- Maraimalai Nagar Park
- Neithal Nagar Park
- Neithal Nagar Park-2

A district sports complex is located in Vellipalayam. Residential areas lack open spaces for recreation. As Nagapattinam is enriched with beaches, Waterfront developments, Parks, and promenades along the seashore can be developed to improve the open space requirement as per the standards. Open spaces can enhance the quality of life and reduce the impact of heat.

10.2.6 Transportation

Transport corridors play an important role in developments within Nagapattinam LPA. The existing land use map of Nagapattinam LPA reveals that the growth of the city is in the form of ribbon development along the major roads and railway lines. The major transport corridor along which developments exist are National Highway 45-A and the railway line.

The area under Transportation and communication use in Nagapattinam LPA is about 8.38 Sq.km which is 10.46 % of the total LPA area (Table 10.2). Transportation in existing land use comprises major road networks, railway lines, and bus stands. Railway stations and ports. In terms of Nagapattinam Municipality, it has 2 bus stands, a new bus stand of 0.9 ha at Vellipalayam and an old bus stand near Nagapattinam Junction. Nagapattinam has a Junction railway station located in Tata Nagar.

Along National Highway 45-A, the majority of the developments are in residential use.

Within the LPA there is also National Highway 32 passing by, but there are no major developments along this road. In the core area of Nagapattinam Municipality, along the major streets, commercial use is the predominant use. Nearby the bus stand, there is only limited commercial use but around the railway station, there is a higher concentration of commercial activities. As Nagapattinam has major transport corridors, commercial and industrial activities can be proposed along those corridors.

Nagore Bus stand is located along National Highway 45-A. Around the bus stand and Nagore railway station, there is only limited commercial use. Whereas along the bazaar street commercial activities are highly concentrated. Velankanni has a high tourist potential and is connected by National Highway-32. Velankanni has a bus stand along the Velankanni main road and a railway station. The developments around the bus stand are predominantly commercial whereas nearby the railway station there is no commercial use. Along the main road connecting the National highway-32 to the church, commercial activities are concentrated.

National Highway 83 passes through Sikkal village and has a high potential for development. Transportation can be integrated with land use to promote development in LPA.

10.2.7 Water Bodies

Water bodies are an important environmental asset for an urban area. Nagapattinam LPA has an extent of 6.51 sq. km under Water Bodies which is 8.13% of the overall LPA area (Table 10.2). As the cities expand, the land use gets changed with the hitherto non-urban areas like agricultural lands, other vegetative areas, water bodies etc., getting replaced by concrete structures and black-topped roads.

This situation needs to be avoided, water bodies need to be conserved and protected from urban development to maintain an ecological balance.

10.2.8 Agriculture use

As Nagapattinam is a fertile agriculture resource area the share of agriculture use will be higher. Nagapattinam LPA has about 31.87 Sq.km of agriculture use which is 39.80 % of the total LPA area and 6.72 % (5.38 Sq.km) of the area under aquaculture (Table 10.2). Agriculture use in the municipal area is only 0.45 Sq.km which is 1.41% of the total agriculture use in the LPA. Villages have a higher concentration of agriculture use. Velankanni has 1.19 Sq.km of agriculture use which is 3.73% of the total agriculture use. Palaiyur Village has a higher concentration (4.31 Sq.km) of agriculture use which is 13.52 % of the total agriculture use in LPA. Next to Palaiyur, Sikkal (4.32 Sq.km) and Ivanalur (2.96 Sq.km) Villages have a higher concentration of agricultural use (Map 10.1 & 10.2). While preparing a land-use plan the existing agricultural use needs to be retained.

10.2.9 Vacant land

The share of vacant land in Nagapattinam LPA is about 9.79 Sq.km which is 12.22% of the total LPA area. The municipal area has a higher concentration of Vacant land (5.6 Sq.km) which is 39.02% of the total municipal area (Map 10.1 & 10.2). The presence of more vacant land in the municipal area will have lots of opportunities for urban development proposals such as residential developments, industries and recreational spaces. So Nagapattinam Municipality has a higher potential for urban development proposals.

Table 10.2: Existing land use in Nagapattinam LPA

Sl. No	Use	Extent in Sq.km	% of developed/ Undeveloped area	% of total area
Developed area				
1	Residential	13.32	50.21	16.63
2	Commercial	0.60	2.26	0.75
3	Industrial	0.30	1.12	0.37
4	Public and Semi Public	3.76	14.18	4.70
5	Transport and Communication	8.38	31.59	10.46
6	Recreational	0.17	0.64	0.21
7	Total developed area	26.53	100	33.13
Undeveloped area				
8	Agriculture	31.87	59.51	39.80
9	Vacant lands	9.79	18.28	12.22
10	Water Bodies	6.51	12.16	8.13
11	Aquaculture	5.38	10.05	6.72
12	Total undeveloped area	53.55	100	66.87
Total LPA area		80.08		

(Source: Land Use Survey)

10.3 URDPFI GUIDELINES STANDARDS FOR LAND USE STRUCTURE

As per the URDPFI guideline, Nagapattinam falls under the category of medium town. Table 10.3 represents the existing land use and URDPFI set standards. The share of each land use in Nagapattinam LPA is not up to the standards given by URDPFI guidelines.

After identifying the suitable areas for urban development land use proposals will be given to boost economic opportunities in the town and the existing land use structure will be increased as per the requirements given in URDPFI guidelines. (Table 10.3)

Table 10.3: Land use standards as per URDPFI guidelines

S. No.	Land Use	% Share in Existing land Use of Nagapattinam LPA	As per URDPFI guidelines
1	Residential	16.63	43-48 %
2	Commercial	0.75	4-6 %
3	Industrial	0.37	7-9 %
4	Public and semipublic	4.70	6-8 %
5	Transportation	10.46	10-12 %
6	Recreational	0.21	12-14 %
7	Agriculture, Water bodies & Special areas	66.87	Balance

10.4 SUMMARY

As per the proposed land use 2001, of Nagapattinam, a higher concentration of land is allocated for Residential use and Public and Semi-Public use. The reason for predicting a higher concentration of residential use was due to vibrancy created by the port-related activities and due to the economic activities proposed. As of now, the port was not functioning and due to a lack of other economic opportunities, the residential area as projected in the proposed land use 2001 was not achieved. The existing growth pattern of Nagapattinam LPA is along the major transport corridors in the North, West, and east directions. Sea Shore and Railway line passing through the municipal area from Nagapattinam to Nagore acts as a barrier to development along the east side of the municipal area. As per URDPFI guidelines, a medium-size town can have residential use of 43-48% of the total developed area. Nagapattinam LPA is categorized under the medium-sized town. Currently, Nagapattinam LPA has residential use of about 16.63 % of the total LPA area. It is not sufficient to accommodate the future population. Therefore, residential areas need to be increased based on the residential requirement.

As per the existing land use 2021, the concentration of residential areas is high in the municipal area (29.34%) followed by Therkku Poigainallur village (12.33 %). The residential growth in Nagapattinam Municipality is in north and west directions i.e., from Nagapattinam core town to Nagore and Nagapattinam core town to Sikkal. The concentration of commercial activities is found in three major areas of the LPA, i.e., Nagapattinam core area, Nagore Dargah, and Velankanni Church. The existing commercial area of 0.6 sq. km is sufficient for the present population. The commercial area is concentrated in the core area and tourism spots. It is to be distributed to the other parts of the LPA to make it accessible.

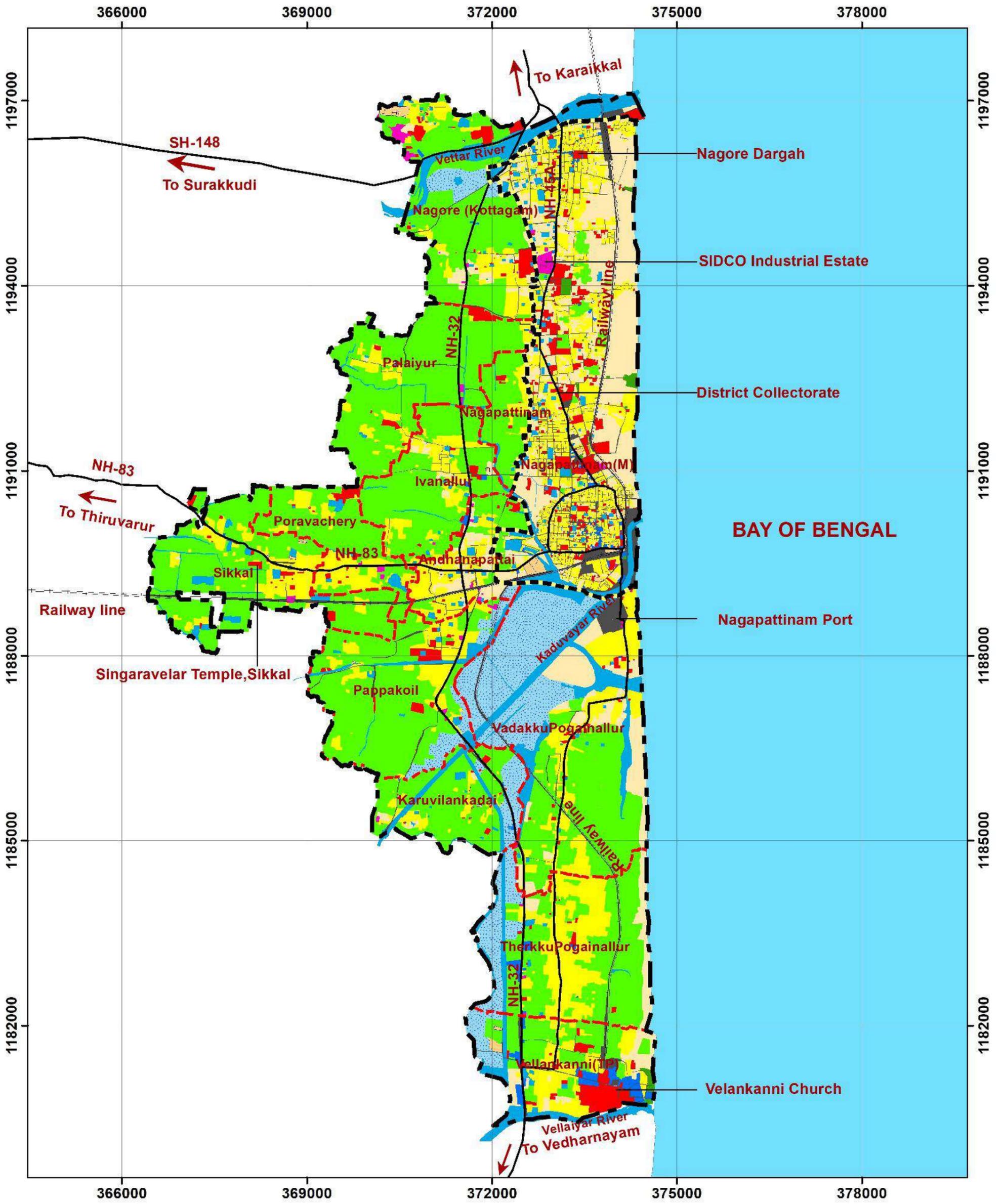
Nagapattinam LPA constitutes an industrial use of about 0.3 Sq.km which is only 0.37 % of the total LPA area. SIDCO industrial estate of 21 acres area is located along National highway 45-A within Nagapattinam Municipality. Ice plants are located near the seashore in Vadakku Poigainallur Village. Velankanni has no industrial developments. As per the MSME report, Nagapattinam has potential for Petro Chemical Industries.

As Nagapattinam LPA is rich in agriculture and has a vast coastal area, Agro-based industries and Marine based industries such as Fish processing units, shipbuilding, etc. can be proposed to generate employment.

Nagapattinam became district headquarter in 1991 which propelled the growth of administrative and other institutions in Nagapattinam Municipality by 1.18 sq. km which is about 31.38% of the total institutional use in the Nagapattinam LPA. Nagapattinam LPA has about 31.87

Sq.km of agriculture use which is 39.80% of the total LPA area. While preparing a land-use plan, the planning strategy for Nagapattinam LPA should be to retain most of the agricultural wetlands.

In terms of Vacant land, the municipal area has a higher concentration of Vacant land (5.6 Sq.km) which is 39.02 % of the total Municipal area. The presence of more vacant land in the municipal area will have lots of opportunities for urban development proposals such as residential developments, industries and recreational spaces. Commercial and Industrial activities promote economic development and employment for any town. So, to improve employment and economic development in Nagapattinam LPA commercial and industrial land use is to be promoted by assigning more area for the above-mentioned uses.



Residential	Transportation	Aquaculture	LPA Boundary
Commercial	Service and Utilities	Water Bodies	Municipal Boundary
Industrial	Recreational	Sea	Village Boundary
Public & Semi-Public	Agriculture	Roads	Railway line

0 0.5 1 2 3 Kilometers

PROJECTION SYSTEM : UTM
 DATUM : WGS84
 SPHEROID : WGS84
 ZONE : 44

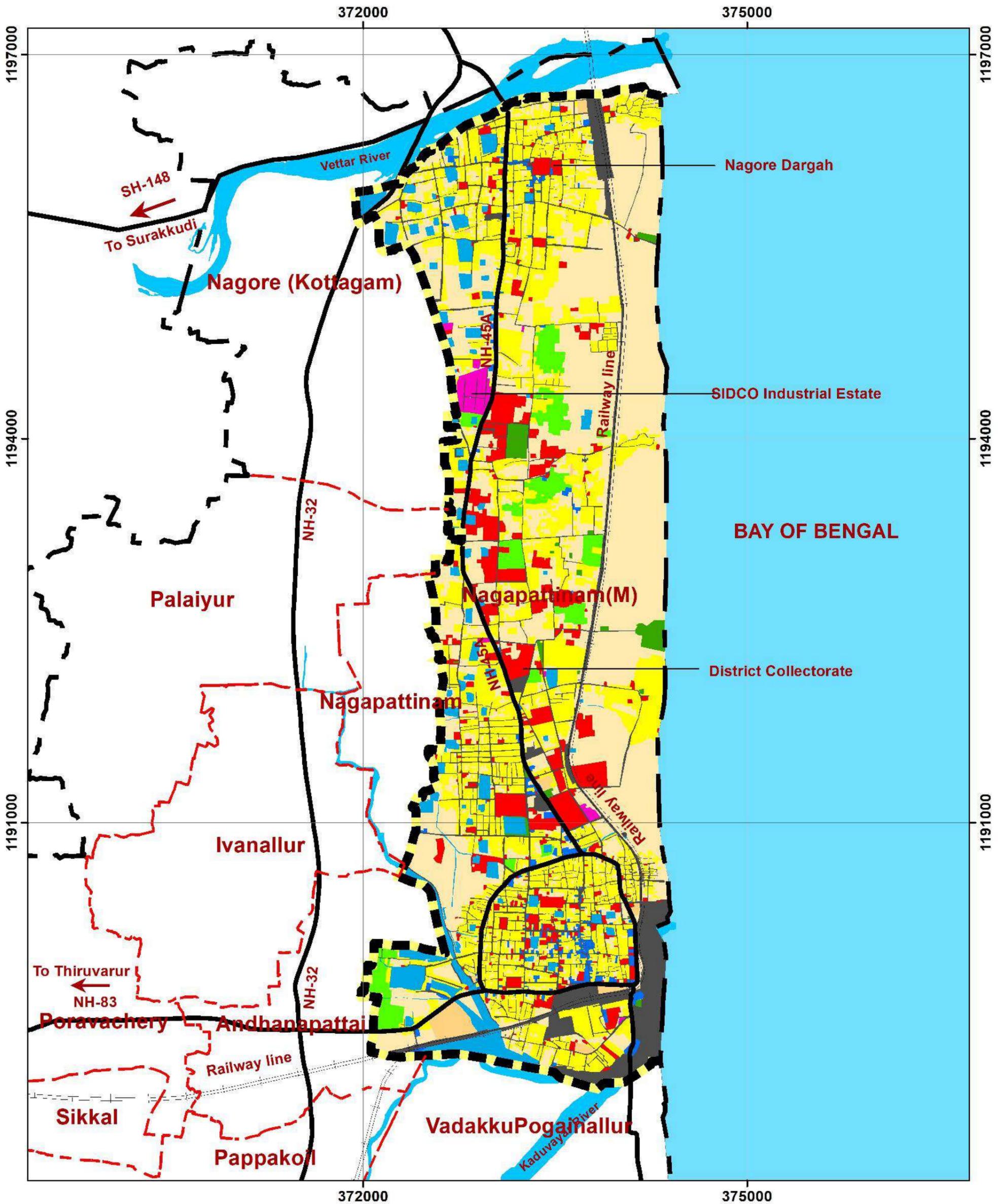
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MAP.NO: 10.1 DATE: FEBRUARY 2022

CLIENT:
 Commissioner of Town and Country Planning
 Directorate of Town and Country Planning
 Government of Tamil Nadu

CONSULTANTS:
 Department of Planning, SAP Campus
 Anna University Chennai

EXISTING LAND USE 2021-NAGAPATTINAM LPA
GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU



Residential	Transportation	Aquaculture	LPA Boundary
Commercial	Service and Utilities	Water Bodies	Municipal Boundary
Industrial	Recreational	Sea	Village Boundary
Public & Semi-Public	Agriculture	Roads	Railway line

0 0.225 0.45 0.9 1.35 Kilometers

PROJECTION SYSTEM : UTM
 DATUM : WGS84
 SPHEROID : WGS84
 ZONE : 44

SCALE: 1:28,000

MAP.NO: 10.2 DATE: FEBRUARY 2022

CLIENT:
 Commissioner of Town and Country Planning
 Directorate of Town and Country Planning
 Government of Tamil Nadu

CONSULTANTS:
 Department of Planning, SAP Campus
 Anna University Chennai

EXISTING LAND USE 2021-NAGAPATTINAM MUNICIPALITY
GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU

11. ISSUES & POTENTIALS

11.1 ISSUES IN NAGAPATTINAM LPA

Less Growth Rate

The trend of population growth rate in Nagapattinam LPA is generally declining (Figure 11.1 & Table 11.1). Since 1971, the LPA has witnessed an unstable growth and decrease in population growth rate and it has remained inconsistent due to various happenings. The overall growth in Nagapattinam town is slow when compared with other similar-sized towns. Migration to large cities with better employment opportunities and facilities led to the reduced growth rate in Nagapattinam. This is associated with low population density and a decrease in the child ratio in rural areas within the LPA from 2001 to 2011. Furthermore, the decrease of population in rural areas has an impact on the level of output and leads to uneven distribution of population resulting in increased pressure on the provision of services in urban areas. Expanding the job market, providing proper infrastructure facilities and other amenities can boost the development and stabilize the growth in Nagapattinam.

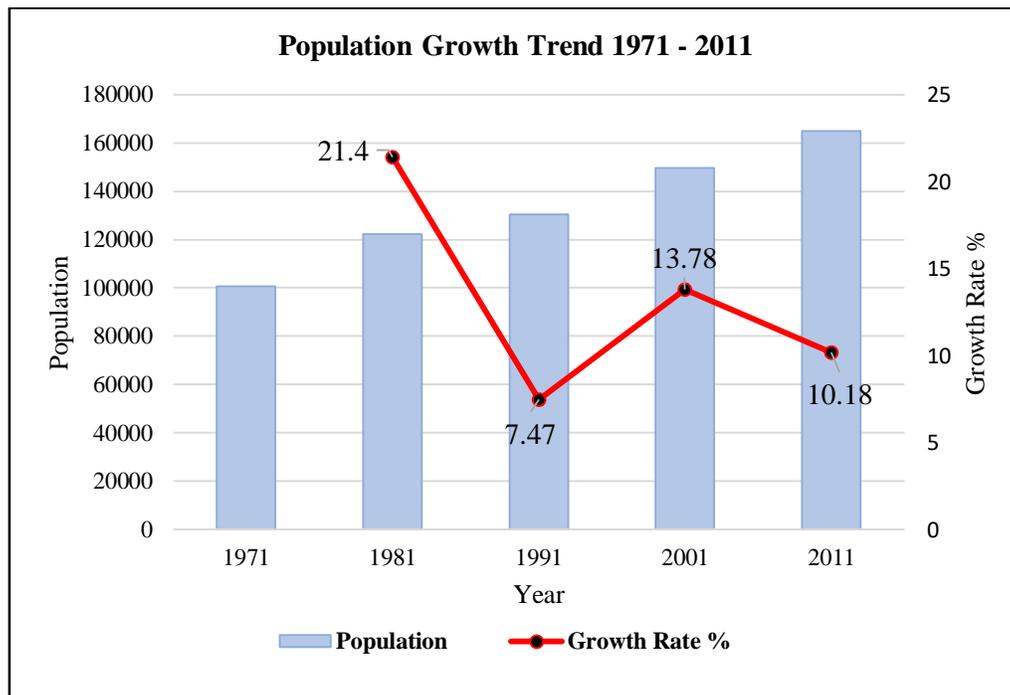


Figure 11.1: Population Growth Trend in Nagapattinam LPA

Table 11.1: Village/Town wise Growth Trend of the LPA

S.No.	Description	Name of Villages/Towns	Population			Decadal Growth rate %	
			1991	2001	2011	1991-2001	2001-2011
1	Urban	Nagapattinam (M)	86489	93148	102905	7.70	10.47
2		Velankanni (TP)	6155	10151	11108	64.92	9.43
3	Rural	Nagore (Kottagam) (Muttam & Thethi)	1597	2269	3564	42.08	57.07
4		Palaiyur	1277	1296	1291	1.49	-0.39
5		Ivanalur (Sellur)	1878	2225	4921	18.48	121.17
6		Anthanapettai (Manjakollai)	4500	6454	7349	43.42	13.87
7		Vadaku Poigainallur (Akkarapettai)	13041	15566	10826	19.36	-30.45
8		Therkku Poigainallur	4304	4368	4731	1.49	8.31
9		Poravacheri	3606	4115	4422	14.12	7.46
10		Sikkal	4823	5164	5652	7.07	9.45
11		Pappakoil	2752	3623	4915	31.65	35.66
12		Karuvelankadai	1051	1212	1201	15.32	-0.91
13		Nagapattinam	0	0	1939		
		Total	131473	149591	164824	13.78	10.18

(Source: Census of India)

Reduction in Agricultural Labourers

The share of cultivators and agricultural labourers in the total working population is decreasing over the past few decades. Though Nagapattinam LPA comprises 39.8 % of agricultural land use, the working population in the primary sector will become negligible if the existing growth trend continues (Figure 11.2). The development of the agricultural sector is important to promote sustainable urbanization and enhance the food security of the place.

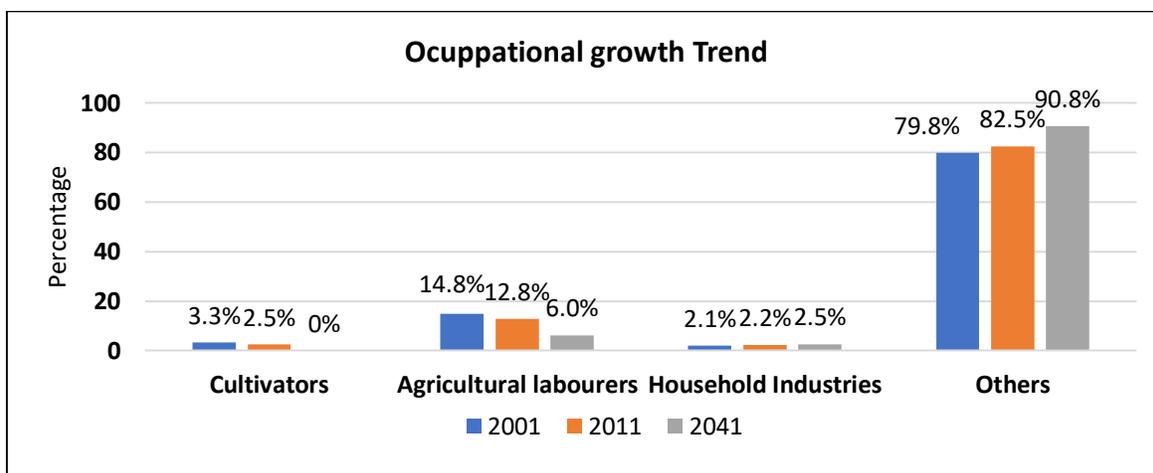


Figure 11.2: Occupational Growth Trend in Nagapattinam

Higher Concentration of Slums

As per Census 2011, the slum population in Nagapattinam Municipality is about 32707 i.e., 31.8% of the total Municipality Population and 7867 households (Table 11.2). The concentration of the slum population is slightly higher in Nagapattinam Municipality. PMAY scheme has provided 569 housing units within Nagapattinam (Table 11.3). Though having a higher Concentration of Slums PMAY has provided housing only for 7.2% of the total slum households.

Table 11.2: Slum Population in Nagapattinam Municipality and Velankanni

S. No.	Description	Nagapattinam	Velankanni
1	Total Population	102905	11108
2	Total Households	24518	2753
3	Total Slum Population	32707	1439
5	%Share of Slum Population	31.8	12.9
4	Total slum household	7867	343
6	%Share of Slum households	32.1	12.5

(Source:Census of India)

Velankanni has a slum population of about 1439 i.e., 12.9% of the total population in Velankanni. Under PMAY Velankanni has about only 35 beneficiaries. As Velankanni is a famous Tourist place presence of more slums will degrade the image of the town so slum redevelopment in Velankanni will enhance the image of the town. So PMAY and JNNURM Schemes need to be implemented effectively to provide new housing and infrastructure facilities to upgrade existing slums.

Table 11.3: PMAY (Urban) Beneficiaries in Nagapattinam and Cuddalore

Name of the Urban area	Houses Sanctioned	Houses Grounded	Houses Completed
Nagapattinam Municipality	705	700	569
Velankanni	108	106	35

(Source: <https://pmaymis.gov.in/>)

Sewage Treatment facilities

The existing sewage treatment plant in Nagapattinam Municipality has a capacity of 12.6 MLD and it is not adequate for the Projected Population in 2041. The projected sewage generated in the municipal area in 2041 is about 13.7 MLD. So, the capacity of the existing STP needs to be increased from 12.6 to 13.7 MLD. At the Village level, there are no sewage treatment facilities so DEWATS can be proposed at a community level. The projected sewage generation for Villages in 2041 is 3 MLD (Table 11.4). To treat 3MLD of Sewage generated in the Villages in the LPA, (Decentralized wastewater treatment plant) DEWATS is to be provided in all the Villages. The total area required for the provision of the DEWATS plant in all the Villages is 18 hectares.

Table 11.4: Projected requirement for Sewage Treatment facilities

Description	Projected Water Supply (MLD)	Projected Sewage Generation (MLD)	Existing Capacity of STPs (MLD)	Additional capacity required (MLD)
Nagapattinam Municipality	17.1	13.7	12.6	1.1
Velankanni Town Panchayat	2.6	2.1	2.3	0.2 excess
Villages	3.8	3	No STP	DEWATS can be proposed

Dump yard in Velankanni

The existing dump yard in Velankanni has a capacity of about 2.3 TPD (Tonnes per day). The projected solid waste generation in 2041 for Velankanni is about 5TPD. To cater to this requirement, a new dump yard of 2.7 TPD capacity needs to be proposed. As per the Manual on municipal solid waste management report, for a new composting yard of 2.5 TPD capacity, the land requirement is 0.1 ha (Table 11.5).

Table 11.5: Projected requirement for Solid Waste disposal system

S. No.	Local Body	Population 2041	NEERI Standards (kg/capita/day)	Projected Quantity of waste generated (TPD)	Existing Capacity of Compost yard/land fill site (TPD)	Additional Capacity required in 2041
1	Nagapattinam Municipality	126644	0.5	63	350 & 5	Nil
2	Velankanni Town Panchayat	18719	0.2	3.7	2.5	2.5
3	Floating Population (Per day)	6600	0.2	1.3		
4	Villages	69348	0.2	13.8	Nil	Community waste disposal system needs to be proposed

Coverage of Storm Water drainage Network

In Nagapattinam Municipality the coverage of the Stormwater drainage Network is about 70% of the total road length in the Municipal area. As Nagapattinam is highly prone to natural disasters coverage of stormwater drain needs to be 100%. Therefore, it is proposed to cover the remaining unattended areas with the stormwater network.

Prone to Natural Hazards

Nagapattinam being a coastal town is highly prone to natural hazards such as tsunami and cyclones. During the 2004 Tsunami, Nagapattinam is the worst affected district in Tamil Nadu with more than 6000 human losses (Table 11.6). It is also worse affected during Cyclones such as THANE-2011 and GAJA-2018. During these natural hazards, people living in the seashore areas and low-lying areas are accommodated in the nearby educational institutions and Community halls. Exclusive Multi-Purpose Cyclone Shelters are to be proposed to accommodate the people living in the flood-prone areas and minimize human loss during natural disasters (Table 11.7).

Table 11.6: Damages caused by Tsunami 2004 in Nagapattinam district

S. No	Damages caused by Tsunami 2004	No's
1	No. of Coastal Villages affected	38
2	Human Los	6065
3	Cattle loss	12821
4	Houses fully damaged	17461

(Source: Science of Tsunami Hazards Report)

Table 11.7: Relief centres in Nagapattinam district during GAJA Cyclone, 2018

Description	No. of Relief Centres identified other than Multi-Purpose Evacuation Shelters (MPES)				No. of Multi-Purpose Evacuation Shelters (MPES)
	Schools	Colleges	Community halls	Other buildings	
Nagapattinam District	283	21	177	21	9

(Source: Study Report on GAJA Cyclone)

Lack of Recreational Space

In Nagapattinam LPA, recreational spaces such as parks & playgrounds are spread over an area of about 0.17 Sq.Km. According to NBC rules, 3 Sq. m/person is the minimum norm for open space in a built-up area. Based on this rule, the recreational open space in Nagapattinam LPA is not satisfactory and the development proposals must focus on creating more recreational spaces. Investment in the development of parks, open spaces, and recreational spaces will promote social integration and provide a healthy lifestyle in Nagapattinam.

Issues Related to Parking

Issues related to parking seem to be a major concern at the CBD in Nagapattinam, Velankanni, Nagore and tourism zones in the planning area, especially during the festival seasons (Table 11.8). Inadequacy in parking spaces is noticed in most of the surveyed locations and the provision of an additional parking area is required. The spillover parking problems create road congestion. Decentralizing the CBD and identifying opportunities to make greater use of remote parking locations near CBD and tourist areas will reduce congestion. Providing shuttle services will lower the parking issues in the below-identified areas.

Table 11.8: Peak parking Ratio

S. No.	Name of the Road	Peak Parking Hour	Peak Parking Accumulation	Average Parking Accumulation	Peak Parking Ratio
1	Syed Pillai Street	4.00 - 5.00 pm	58	39	1.49
2	Manara North Street	3.00 - 4.00 pm	39	27.5	1.42
3	Kalmatu Street	12.00 - 1.00 pm	24	14	1.71
4	Neela East Street	11.00 - 12.00 am	90	69	1.3
5	Neela South Street	10.00 - 11.00 am	132	101	1.31

Lack of Commercial and Industrial developments

As per the land use survey conducted, the existing land use of Nagapattinam LPA reveals the share of Commercial and Industrial use is about 0.75 % and 0.37 % of the total planning area. As per URDPFI guidelines, Nagapattinam LPA falls under a medium-sized town. URDPFI guidelines suggest the share of Commercial and Industrial use as 4-6 % and 7-9 % for medium-size towns. Nagapattinam district is one of the backward districts in Tamil Nadu. To promote the economy and growth of the town commercial and industrial land use needs to be increased.

Concentration of Commercial areas in the LPA

Commercial areas in the planning area are concentrated in the core area of the Municipality, around Nagore Dargah and Velankanni Church. As Velankanni and Nagore have tourism potential, the concentration of commercial areas around these destinations will result in Congestion and disfigure the image of the Town. So commercial areas need to be decentralized to other parts of the LPA to enhance the visual quality of the town.

11.2 POTENTIALS OF NAGAPATTINAM LPA***District Head Quarter***

Nagapattinam is the district headquarter for the Nagapattinam district. Being a district quarter, it has a higher potential to attract more commercial and industrial investments. District head quarter will attract more Institutional developments such as Education, Health, and Public Institutions. Nagapattinam as a district headquarters has a high potential for urban development.

Pilgrimage Sites

The Planning area attracts many pilgrims since numerous temples like Kayarohanaswami Temple, Nellukkadai Mariamman Temple, Soundararaja Perumal Temple, etc., are located here. Besides the temple, it also houses the ancient Nagore Dargah and the famous Church, 'The Basilica of Our Lady of Good Health' at Velankanni. Therefore, it is apparent that tourism is a major economic driver in Nagapattinam LPA. Nagapattinam is also a place of religious harmony because it exemplifies the unity of three major religions Hinduism, Islam, and Christianity.

The important tourist centres in Nagapattinam LPA are situated in Nagapattinam Municipality, Nagore, Velankanni, and Sikkal (Figure 11.3). Tourism plays a key economic role in Nagapattinam.



Figure 11.3: Pilgrimage sites in Nagapattinam LPA

Velankanni and Nagore are the major attractions for tourists in Nagapattinam LPA. Other tourist spots are majorly attracted by local tourists and some of the seasonal tourists only. According to the department of tourism, Velankanni and Nagore attract tourists throughout the year. However, Velankanni attracts a huge crowd mostly during the annual feast and Nagore attracts a huge crowd during the Kandhuri festival (Table 11.9).

Providing Tourism Infrastructure facilities such as accommodation, transportation and other services will attract more tourists. There is a high potential for economic development through tourism.

Table 11.9: Year-wise tourist footfall of Velankanni and Nagore

Tourist Place	Year	Domestic	Foreign	Total
Velankanni	2006	5,50,432	7185	5,57,617
	2007	6,79,117	9565	6,88,682
	2008	9,60,000	10815	9,70,815
	2009	12,68,973	9164	12,78,137
	2010	21,81,314	10231	21,91,545
	2011	30,30,519	64141	30,94,660
	2012	40,58,824	67848	41,26,672
	2013	58,98,353	77338	59,75,691
	2014	74,35,350	69825	75,05,175
	2015	69,06,293	61883	69,68,176
2017	64,55,329	58555	65,13,884	
Nagore	2006	4,30,912	1598	4,32,510
	2007	3,40,124	4214	3,44,338
	2008	5,58,289	5617	5,63,906
	2009	10,18,811	3389	10,22,200
	2010	24,80,365	9776	24,90,141
	2011	27,69,317	12825	27,82,142
	2012	36,90,610	15900	37,06,510

Tourist Place	Year	Domestic	Foreign	Total
Nagore	2013	49,48,828	18113	49,66,941
	2014	58,67,411	17885	58,85,296
	2015	50,02,413	16218	50,18,631
	2017	47,76,174	8317	47,84,491

(Source: District Diagnostic Study Nagapattinam)

Coastal Town

Nagapattinam is one of the Coastal Towns in Tamil Nadu. Fishing plays a major role in the economy of Nagapattinam. The marine fish catch largely comprises leognathics, sharks, flying fish, chank, catfish, prawns, silver bellies, crabs, rays, and other miscellaneous varieties. The special fish varieties of Nagapattinam are Kanavai (squid), Red Prawn, and Kola fish (flying fish). There are around 7 fishing Villages in Nagapattinam LPA, with a total fishermen population of about 20,953. As many as 708 mechanizing fishing craft and 125 non-mechanized boats are there in Nagapattinam LPA for fishing activity. So, there is a high potential for fishing-related infrastructures such as ice plants, Cold Storage units, fishnet mending shops, boat manufacturing, fish markets, etc.

Coastal aquaculture is also considered an important tool for the economic growth in Nagapattinam LPA. In Nagapattinam LPA, aquaculture is practiced over an area of about 5.38 Sq.km. Nearly 6.72 % of the total area of the LPA is utilized for aquaculture production. Aquaculture is largely practiced along the Kaduvaiyar River in Vadakku Poigainallur village. So, there is tremendous scope to improve the local economy through sustainable aquaculture practice in Nagapattinam. Overall, there is a high Potential for the Blue economy which is nothing but Sustainable use of ocean resources for economic growth and improved livelihood.

Blessed with Beaches

Nagapattinam LPA is enriched by three Beaches namely Nagapattinam New Beach, Nagore Beach, and Velankanni Beach. Beaches in Nagapattinam LPA, are not exploited to promote tourism. Due to the presence of these beaches, there is a high potential for Eco-Tourism developments and Water Sports activities.

Proximity to Karaikal Port

Nagapattinam is located 11 km away from Karaikal Port. Karaikal Port is the largest port spread over an area of 600 acres. The port has handled diverse cargo such as Coal, Sugar, Cement, Fertilizers, Project cargo, Agro commodities etc. In the next few years, Karaikal port private limited (KPPL) is expected to increase the cargo handling capacity to over 125 MMT by 2025. Being located near this Port, Nagapattinam LPA has a high potential for Trade and Commerce.

Extensive agricultural land

Nagapattinam LPA has 31.87 Sq.km of agricultural land which is 39.80 % of the total LPA area. Tamil Nadu government has recently declared Nagapattinam District under “protected agricultural zone”. The main objective of this zone is to increase agricultural productivity and enhance food security. The act has the provision to facilitate the promotion of Agro-based and allied industries in the protected agricultural zone and the preservation of agricultural land. So, the Planning area has a high potential for Agro-based and allied industries.

11.3 SUMMARY

The major issues identified in the planning area are less growth rate (both in terms of population and development) and natural hazards. The overall growth in Nagapattinam town is slow when compared with other similar-sized towns. The decline in the growth rate is due to a lack of employment opportunities. This growth rate can be enhanced through various project proposals in Nagapattinam LPA, to create more employment opportunities. Nagapattinam LPA is prone to natural disasters as it is located along the coastal stretch. During the 2004 Tsunami, Nagapattinam was the worst affected district in Tamil Nadu. It was also worse affected during Cyclones such as THANE-2011 and GAJA-2018. Exclusive multipurpose cyclone shelters can be Proposed to accommodate the people living in flood-prone areas and minimize human loss during natural disasters. Nagapattinam LPA lacks commercial and industrial development. It is to be promoted by creating opportunities for commercial and industrial developments.

The major potentials of Nagapattinam are tourism, fishing and agriculture. The location of major pilgrimage sites such as the ancient Nagore Dargah and the famous Church ‘The Basilica of Our Lady of Good Health’ at Velankanni increases the tourism prospects of Nagapattinam LPA. The promotion of tourism-related activities will enhance the economy of the town. The presence of beaches and extensive agricultural land will also act as a major strength for Nagapattinam LPA. The LPA constitutes about 41.8% of the total planning area under agriculture use. Therefore, agricultural activities can be promoted by proposing projects like Agro-based industries.

The issues and potentials identified in this chapter are to be used as a guideline for evolving the concept plan and preparation of the proposed land use plan for Nagapattinam LPA.

12.LAND SUITABILITY ANALYSIS

Identification of suitable land for urban development is more important for preparing the proposed land use plan. Land Suitability Analysis is worked out by the weighted index method. Land Suitability analysis helps in the identification of suitable land for urban development and reduces the impact on Urban Environment.

12.1 PARAMETERS CONSIDERED FOR SUITABILITY

For land Suitability analysis the following 5 parameters have been taken into considerations

- Existing land use
- Coastal Regulation Zone
- Elevation
- Distance to Roads
- Distance from Water Body

Weightages are given to five physical parameters by comparing the relative importance of each parameter with respect to other parameters.

12.1.1 Existing land use

Land use plays an important role in suitability analysis as it comprises many classes out of which we analyze the priority of the most suitable and the least suitable class. While giving the weightage preference water body and built up are considered as not suitable classes while vacant land and agricultural land are considered as highly suitable classes for urban development.

12.1.2 Coastal Regulation Zone

The coastal regulation Zone is very significant for the Nagapattinam Planning area. As per CZMP the coastal regulation Zones have been demarcated and based on the regulations in CRZ notification 2019, No development Zone has been identified and considered as not suitable for urban development.

12.1.3 Elevation

The elevation is considered an important element in land suitability. From the elevation map, a low-lying area has been identified and considered as not suitable and other areas as highly suitable for urban development to prevent waterlogging.

12.1.4 Distance to Roads

Proximity to roads is also an important parameter in urban development. The area nearest to the roads is considered highly suitable for urban development. The priority descends as the distance between the road and plot increases.

12.1.5 Distance from Water Body

To improve Biodiversity Water Bodies should be protected from urban development. So, the areas nearest to the water bodies are to be conserved hence considered least suitable for urban development. 50 m buffer Zone has been maintained and this buffer zone is considered to be not suitable for urban development.

12.2 WEIGHTAGE INDEX FOR SUITABILITY

Weightage index is given to the above themes and classes for suitability analysis. In this land suitability model (Map 12.1) high priority is given to existing land use, CRZ, and Distance to roads, to find out the land suitable based on these factors (Table 12.1 & 12.2).

Table 12.1: Weightage Index for land suitability analysis

Theme	Weightage	Class	Rank Weight
Existing Land Use	30	Vacant	5
		Agriculture	3
		Built-up and Water	0
Coastal Regulation Zone	20	CRZ and NDZ	0
Elevation	10	More than 0 m	5
		Less than 0 m	0
Distance to road	30	0-500 m	5
		500-1000	4
		1000-1500 m	3
		1500-2000 m	2
		More than 2000 m	1
Distance from Water Body	10	Above 50m	5
		0-50 m	0

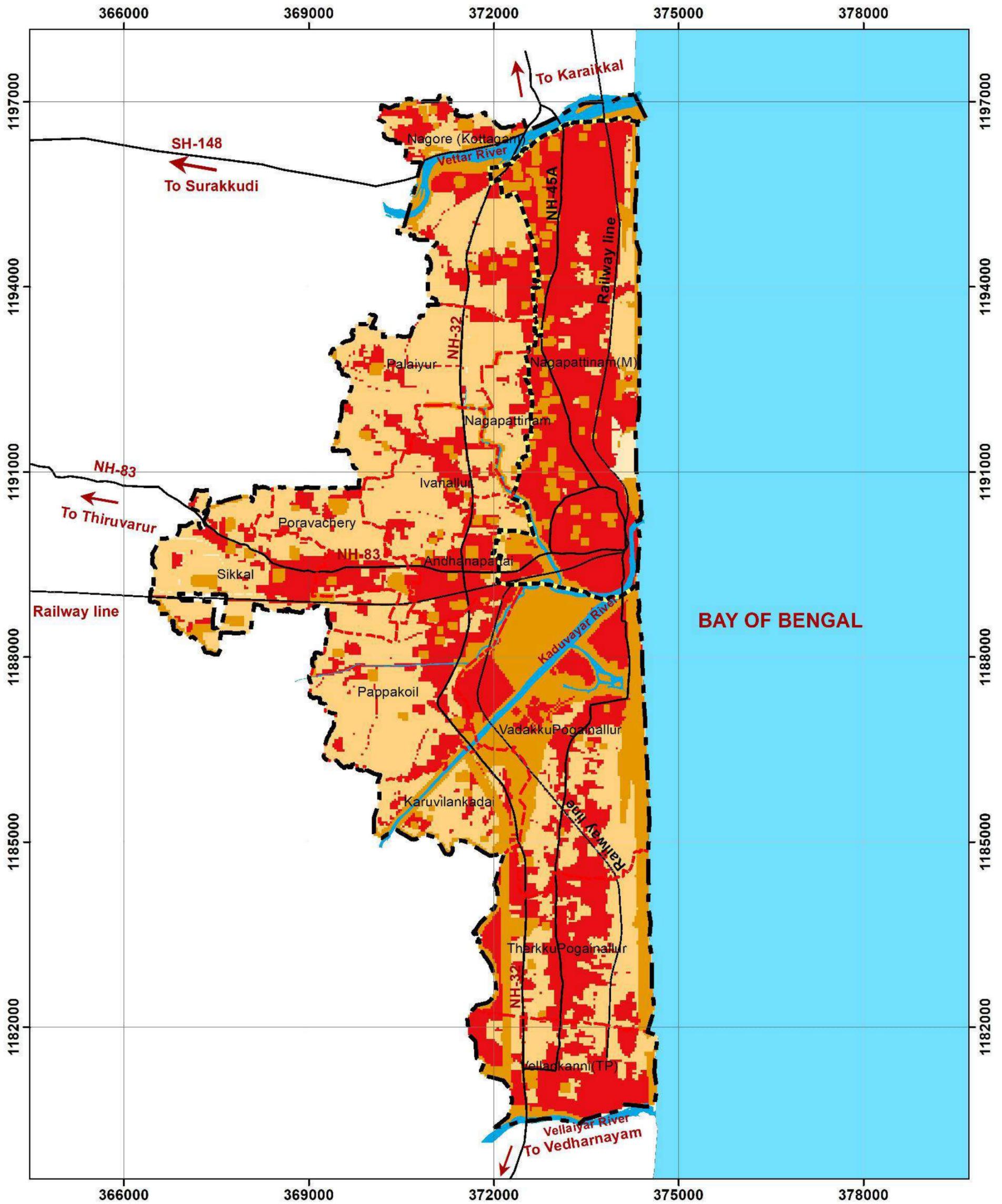
Table 12.2: Categorization of parameters

S.No.	Parameters	Highly Suitable	Moderately suitable	Less suitable
1	Existing land use	Vaccant	Agriculture	All Other uses
2	CRZ	Doesn't apply	Doesn't apply	CRZ andNDZ
3	Elevation	More than 0 m	Doesn't apply	Less than 0 m
4	Distance to road	0-500 m	500-1500 m	More than 1500 m
5	Distance from Water Body	More than 50m	Doesn't apply	0-50m

The same procedure with different parameters is followed for the identification of suitable land for different uses such as residential, commercial, industry and recreational.

12.3 SUMMARY

Land Suitability analysis is carried out before proposing any kind of development in Nagapattinam LPA. The potential of the land is important for any land-use proposal. Land suitability analysis categorizes, the total planning area into three categories i.e., highly suitable, Moderately Suitable, and less suitable areas. For proposing land use categories, five parameters such as existing land use, elevation, distance to road, distance to the water body and CRZ were used and weightage is given to all the categories to identify the highly suitable areas for urban development. Land-use suitability analysis was carried out for the residential, commercial, industry and recreational uses before assigning proposed land use.



LEGEND

- Highly Suitable
- LPA Boundary
- Roads
- Moderately Suitable
- Municipal Boundary
- Railway line
- Less Suitable
- Village Boundary
- Sea

LAND SUITABILITY ANALYSIS

GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU

<small>PROJECTION SYSTEM : UTM DATUM : WGS84 SPHEROID : WGS84 ZONE : 44</small>	
SCALE: 1:58,000	
MAP.NO:12.1	DATE: FEBRUARY 2022
<small>CLIENT: Commissioner of Town and Country Planning Directorate of Town and Country Planning Government of Tamil Nadu</small>	
<small>CONSULTANTS: Department of Planning,SAP Campus Anna University Chennai</small>	

13.PLANNING PROPOSALS AND IMPLEMENTATION

The vision of Nagapattinam master Plan 2041 is to improve the socio-economic standard of living of the people and to enhance their quality of life by the generation of employment opportunities, social facilities, basic amenities, transport infrastructure and services and others. This chapter deals with the land use planning strategies adopted to meet the objectives of the master plan. Future requirements and growth prospects are considered and a concept Plan is evolved to minimize the existing issues found in Nagapattinam. Various project proposals have been identified to improve the economy and quality of life in Nagapattinam LPA. To regulate the growth of the planning area in an orderly manner and also to ensure its economic viability, and social stability for the present and the foreseeable future, the master plan with zoning is prepared.

13.1 LAND USE PLANNING STRATEGIES

- The land use zoning to be provided is to be as per the provisions of the Tamil Nadu Combined Development and Building Rules, 2019.
- The commercial areas, industrial areas, and amenity areas have been spatially distributed across different areas, along major transport corridors and potential areas for balancing the growth at the LPA Level.
- Commercial centres have been proposed to decentralize the commercial centre in Nagapattinam core town.
- The development constraints such as regulations related to eco-sensitive zones and coastal regulation zones have to be given due cognizance while formulating the land-use proposals.
- Except for the developments proposed along the major transport corridors the agricultural belt admeasuring nearly 24.7 Sq.km (31.1%) has to be retained in the entire LPA.
- Based on the past and present trends residential use has to be proposed along the north and west parts of the LPA.
- The road hierarchy has to be given special attention by way of identifying major activities and the importance of the area concerning the envisaged density patterns.
- Using the grid of roads concept missing links are to be identified in the LPA and proposals are to be given.
- The land for public and semi-public and the public utilities has to be earmarked across different parts of the LPA to cater to the district level requirements.

- Efforts are to be made in such a way that the land for Public and Semi-public and the public utilities are proposed in the Government lands, to the extent possible.
- Excepting already developed areas, Coastal regulation Zones and No Development Zones are to be earmarked as Agricultural use in the proposed land use map to restrict development in these zones.

13.2 CONCEPT PLAN

A concept plan has been prepared for Nagapattinam LPA based on the issues and their potential. The major potential of the Planning Area is a higher concentration of agricultural land, Coastal area, and Pilgrimage Centre. The major potentials of the planning area can be utilized to arrive at various proposals to spur the existing growth and economy of the town. 65.7 % of the total population is under the non-worker category. It is proposed to increase the workforce participation from 34.3 % to 36.5% gradually over the years, by creating additional employment opportunities for approximately about 14000. To enhance the employment opportunities in the Nagapattinam LPA, project proposals like Industries, Beachfront Development, Waterfront Development, and fishing harbour are proposed.

Though the planning area has a higher concentration of agricultural land (39.9%), Agro-based activities are decreasing at a rapid pace. To conserve and promote agriculture-related activities and encourage agriculture workers, Agro-based industries are proposed as they will enhance food security.

Tuticorin leads in salt production at about 5.78 lakh tonnes followed by Nagapattinam at 4.57 lakh tonnes. In that context, Salt-based Chemical Industries are proposed to improve employment in Nagapattinam Local Planning Area.

Chennai Petroleum Corporation Ltd. (CPCL) has kick-started project activities for the construction of the 9 million metric tonnes per annum (MMTPA) refinery in Nagapattinam, at an estimated investment of ₹31,580 crores. This new refinery will produce petrol, diesel and polypropylene as a value-added product, for ₹31,580 crores. Therefore, using the by-product petroleum refinery-based Industries is proposed in the LPA.

The area proposed for Industrial use is 2.8 Square Kilometers. Out of 2.8 Square Kilometers, 50% of the area will be used for constructing Industries. As per URDPFI guidelines, 100 Industrial Employments can be created in one hectare. Through the proposed Industrial area, the employment that can be generated in the Nagapattinam Planning Area will meet the requirements as projected above.

The planning area falls under the Coastal area having a linear stretch of 16.7 Kilometers, which is 8.9% of the Nagapattinam District coastal stretch. The present fish catch at Nagapattinam Fishing Harbour is estimated to be 18,600 TPA whereas in Thoothukudi the

average fish catch is 23000 TPA. About 15% of the total working population is from fisheries. Therefore, fisheries form a major part of the economy in the Nagapattinam Local Planning Area.

As the town has a higher potential for fisheries, marine-based industries are proposed to improve employment opportunities.

Velankanni and Nagore are famous Pilgrimage centres in Tamil Nadu having a total share of 3.2% of the total tourist footfall in Tamil Nādu. To support tourist footfall in Nagapattinam Local Planning are, Recreational activities and Commercial activities are proposed. The Proposed activities will improve the employment prospects and image of the town.

The existing commercial area (28.6% of the overall Commercial Area) is concentrated in the core town of Nagapattinam LPA. It creates congestion in the core area. In that context, it needs to be decentralized to other parts of the LPA to have balanced growth. New Commercial centres are proposed near the tourism sites and along the Transport corridors in a spatially balanced distributed manner to reduce congestion and create employment.

Nagapattinam, Nagore, and Velankanni are enriched with beaches. Available recreational space is only 0.3% of the total planning area. In that context providing more recreational spaces in the form of beachfront development in Nagapattinam and riverfront development along Vettar River in Nagore, will enhance the quality of the town, attract more tourist population and create employment. Beachfront development and Riverfront development proposed, will act as a lung space for the town and acts as a gathering space for the people of the town and the Tourists.

Nagapattinam falls under the Coastal regulation zone, having a share of 15.5% of the Total Planning Area. 58.9 % of the Coastal Regulation Zone falls under the No Development Zone. In the No Development Zone, activities such as Waterfront Development, Agriculture, Horticulture, Parks, Playfields, fishing relating activities such as Auction halls, drying yards and Boat Building yards are permissible.

Therefore, No Development Zone is utilized for providing recreational spaces, Beachfront Development, Waterfront Development and Boat Building yard.

To support the above facilities and the projected population growth, the additional residential requirement for the year 2041 will be 4.5 Square Kilometers. The existing trend of the residential areas is getting developed along the north (Nagapattinam-Nagore) and west (Nagapattinam-Sikkal) part of the core town. Following the existing trend and looking into land suitability maps prepared, residential use is proposed for future requirements. (Figure 13.1)

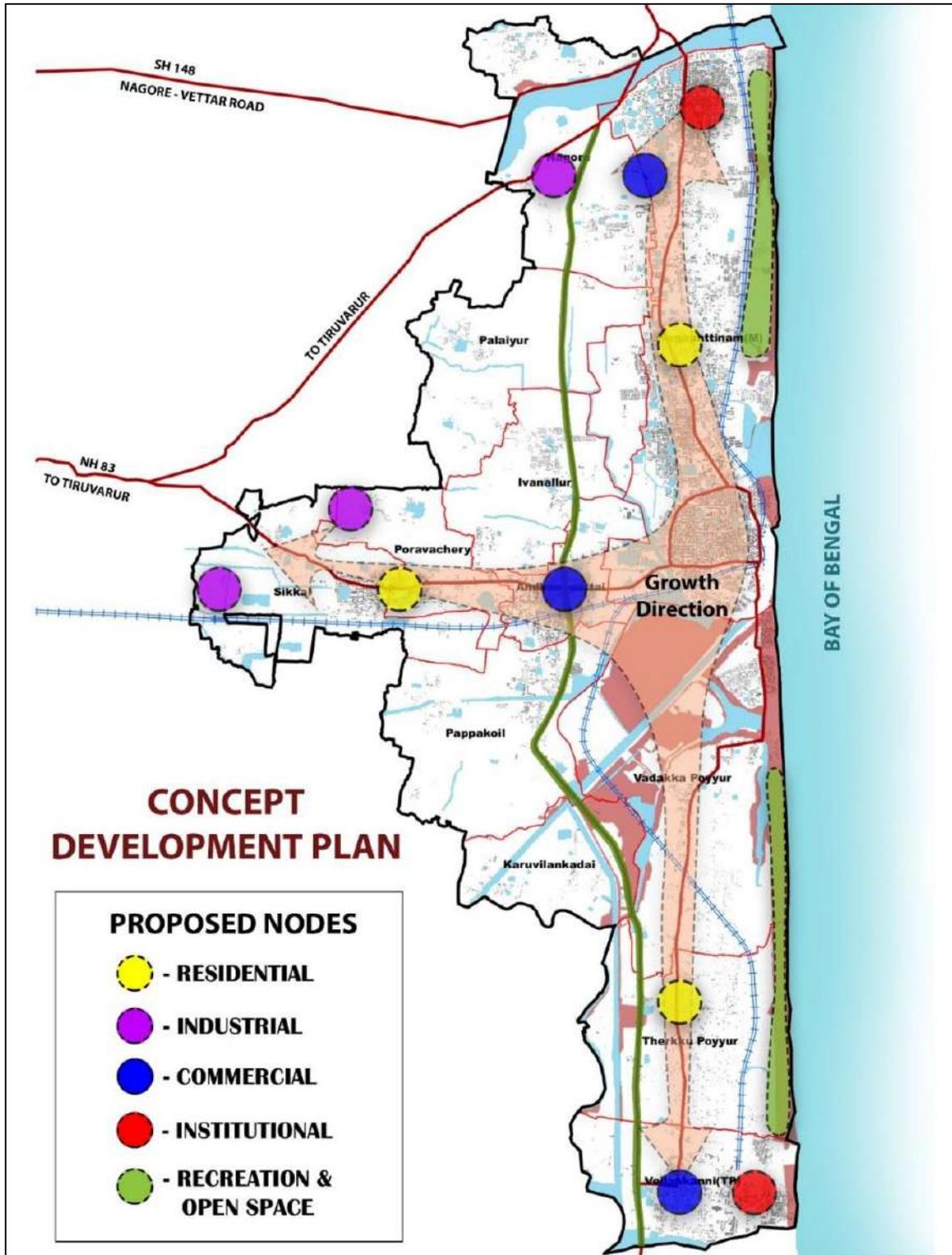


Figure 13.1: Concept Plan for Nagapattinam LPA

13.3 PROJECT PROPOSALS

The Master Plan for Nagapattinam LPA 2041 has identified various project proposals considering the different components of infrastructure and urban development and evolved a spatial plan to support it. The responsibility for the implementation of projects across different sectors along with the phasing plan and the agencies responsible for the implementation of these projects has been illustrated in this section.

Identified Projects, implementing agencies, schedules and approximate costing shall help concerned departments to visualize long-term requirements and prioritize their actions in their budgets and financial resources taking into account the projects identified by the master plan. Project proposals would also help in better coordination among various line agencies and concerned stakeholders. The following projects are identified in each sector in the master plan for implementation.

SIDCO (Food Park)

Trichy-Nagapattinam transport corridor is declared as an Agro-Industrial corridor by the micro small and medium enterprises department to encourage the formation of new Agro and food processing units in the region and initiatives such as the formation of new industrial estates are planned. MSME also suggest that the Nagapattinam block has good scope for marine-based industries also. By considering the above prospects an Industrial estate comprising Agro-based Industries and Marine based Industries is proposed along NH-83 in Sikkal Village. The components comprised in Agro-based and Marine based industries are discussed below.

Agro based Industries

Nagapattinam block is rich in Paddy cultivation. Nagapattinam block has an average yield of about 2182 kg/ha in Paddy cultivation. The total Paddy production in the Nagapattinam block is about 35933 Tonnes/year. Among all the other blocks in the Nagapattinam district, the Nagapattinam block has a higher quantity of Paddy production (Table 13.1). So, by providing Paddy based industries in the district headquarters Nagapattinam will help in processing the Paddy and export to other parts of the country which will improve the economy and as well create employment opportunities. Rice bran is the most important source of edible oil among the unconventional source. Though the planning area has higher productivity of Paddy there are no Oil extraction mills in Nagapattinam Taluk. So, Oil mills can be proposed through which rice bran oils can be extracted from rice husk.

Nagapattinam Taluk also has Mango cultivation for about 128 ha. In the LPA Vadakku Poigainallur Village has Mango Cultivation and the nearby Kilvelur and Vedaranyam Taluks have

higher mango productivity (Table 13.1). Taking note of this, the mango pulp processing industry is proposed in Sikkal which has greater accessibility to nearby taluks and districts.

Nagapattinam Taluk has 160 ha of land under Coconut Cultivation which produces about 13 lakh nuts per year and the nearby taluks namely Kilvelur and Vedaranyam also have higher coconut productivity (Table 13.1). Utilizing the above potentials, Coconut based processing units to produce plain coconut oil, packaged tender coconut water and coconut milk cream can be proposed. Coconut oil extraction and coir manufacturing industries are also Proposed.

Paddy is the major crop both in terms of area under cultivation as well as production. So, MSME has identified that Paddy based Straw Board can be manufactured through Straw board manufacturing Industries. It can be exploited as an income generation activity.

Agriculture is practiced in nearly 40 % of the Total Planning Area. Therefore, the Agro-based industry will become at the Centre stage of the economic development of the district. In that context, Agro-based industries are Proposed for an extent of about 15 acres.

Table 13.1: Taluk wise agricultural productivity in Nagapattinam District

Name of the Taluk	Paddy		Mango		Coconut	
	Area (in ha)	Total Production (in Tonnes)	Area (in ha)	Total Production (in Kg)	Area (in ha)	Total Production (No. of Nuts)
Nagapattinam	16,467.96	35933	128	666	161.79	13 lakhs
Kilvelur	15001.00	32732	523	2,720	522.14	42.6 lakhs
Vedaranyam	16149.00	35237	1929	10,031	1548.42	126 lakhs
Thirukkuvalai	10665.60	23272	6	31	37.16	3 lakhs

(Source: District Diagnostic Study Nagapattinam)

Project Components

- Rice Mills
- Rice Bran oil extraction mills
- Straw board manufacturing mills
- Mango Pulp processing industry
- Coir manufacturing industry

Marine based industries

As per the MSME techno-economic survey report of Nagapattinam district, Nagapattinam Block has good scope for marine-based industries such as fish processing, PVC net floats, repairing and servicing of a motorboat engine. The present fish catch at Nagapattinam fishing

harbour is estimated to be 18,600 TPA whereas in Thoothukudi the average fish catch is 23000 TPA. Though the fish catch in Nagapattinam is nearly 3/4th of the fish catch in Thoothukudi, Nagapattinam lacks fish processing and storage facilities. Among the other Taluks in Nagapattinam district, Nagapattinam block has a higher quantity of fish Catch. Tharangambadi fishing harbour has 8500 TPA whereas Nagapattinam fishing harbour has fish catch of about 18600 LPA. Nagapattinam Taluk has a higher concentration of fishermen Population (20953) and a population involved in fishing-related activities (8459) in the entire district (Table 13.2). The above statements show the potential for marine-based industries in Nagapattinam. So marine-based industries such as fish processing units, Ice plants and fish oil extraction mills can be proposed to increase the potential for fisheries export and promote the economy of the Fishermen population and provide employment opportunities for the fishermen population. The area proposed for marine-based industries is about 10 acres. Among the two harbours in Nagapattinam district, Nagapattinam LPA has a higher number of fishing Crafts (including Trawlers, Mechanized and Non-mechanized boats) of about 1468. The capacity of the existing boat building yard in Nagapattinam is 20 Boats. so, new land for the boat building yard is proposed to repair and build new boats in Nagapattinam. This will increase the fish catch potential and create employment opportunities for the fishermen population.

Table 13.2: Taluk wise contribution in fisheries sector

Description	Nagapattinam	Tarangambadi	Vedaranyam	Kilvelur
Fisher men Population	20953	13161	17,656	5574
Population involved in fishing related activities	8459	4580	7,867	3,032
Fish catch (in Tonnes per annum)	18600	8500	-	-
Craft owned by Fisherfolk	833	584	1172	543

(Source:Tamil Nadu Marine fisheries Census,2010)

Project Components

- Fish processing units
- Ice plants
- Fish oil extraction mills
- Boat building yard

Salt based Chemical Industry

Thoothukudi is the major salt producer in Tamil Nadu with Vedaranyam following close on its heels. Tuticorin leads in salt production at about 5.78 lakh tonnes followed by Nagapattinam at 4.57 lakh tonnes. MSME has identified fish, Prawn and Industrial Salt as major exportable Items in Nagapattinam. Being a large salt producer, the Salt-based industry can be Proposed in the district headquarter of Nagapattinam to process the salt and increase the export to other parts of the country which will create more employment opportunities, and enhance the local economy.

Petroleum refinery Industry

The petrochemical industry has carved itself a niche and emerged as the most vibrant segment of our industrial structure. Chennai Petroleum Corporation Ltd. (CPCL) has kick-started project activities for the construction of the 9 million metric tonnes per annum (MMTPA) refinery in Nagapattinam, at an estimated investment of ₹31,580 crores. This new refinery will produce petrol, diesel and polypropylene as a value-added product, for ₹31,580 crores. Polypropylene can be used in plastic manufacturing. So, there is a potential for Plastic manufacturing and Chemical based Industries in Nagapattinam LPA.

Project Components

- Plastic manufacturing and Packaging Industries
- Chemical based Industries

Mini power plant based on paddy husk

Paddy husk, which is available in plenty in the planning area can be utilized for power generation. Paddy husk which has a caloric value of 3000 kCal/kg, is capable of high-efficiency combustion. Therefore, it can serve as the fuel for mini power plants of 1 to 2 MW capacity that can be set up in rural areas. Considering the paddy production of around 35933 tonnes/annum in Nagapattinam Taluk, the paddy husk availability is around 7186 tonnes.

As per the MSME Survey report, 104700 Tonnes of paddy husk can support 22 Mini power plants So, the paddy husk generated from Nagapattinam Taluk can support 2 No's of Mini power plants in Nagapattinam Taluk. Mini Power Plant (2 No's) based on Paddy husk is proposed in the planning area to generate electricity for rural areas.

New fishing harbour at Nambiyar Nagar in Nagapattinam

The existing fishing harbour in Nagapattinam has become congested. So, the Department of Fisheries has proposed a fishing harbour of 10.8 acres area at a cost of 34.3 crores at Nambiyar

Nagar in Nagapattinam Municipality. The project location has more than 10,000 traditional boat fishing communities. The proposed fish handling capacity of the new harbour is about 25,000 Metric Tonne per annum. The Mini Fishing Harbour Project at Nambiyar Nagar will facilitate holding 66 mechanized boats and 252 fishing boats and will also help more than 5,000 fishermen for whom fishing is the main source of livelihood. The fishermen get a fish catch of 180 Tonnes in a year valuing about INR 100 lakhs for a vessel. The proposed development of a fishing harbour at Nambiar Nagar will generate more employment opportunities for the local unemployed people and the fishermen community.

Project Components

- Jetty
- Administrative building
- Fish handling halls,
- Auction hall,
- Ice Plant – I
- Ice Plant - II
- Cold storage units,
- Net mending shed
- Fueling station,
- Wastewater treatment plant
- Fish drying Platform
- Parking area
- Parking area-Trucks
- Power-back up centres and
- Public rest room

Redevelopment of existing fishing harbour in Nagapattinam and fish landing centre in Nagore village

The existing harbour in Nagapattinam has become congested and lacks ancillary facilities such as Cold storage units, ice plants etc. So, the department of fisheries has proposed for redevelopment of the existing harbour in Nagapattinam. The fish landing centre in Nagore village also needs to be strengthened to encourage fisheries in Nagapattinam LPA.

Project Components

- Auction hall – 3nos
- Net mending Shed - 2nos
- Gear Locker Shed
- Admin Building
- UG Sump Fresh Water
- UG Sump Saline Water
- Gen Set Room
- Security Cabin
- Toilets - 2 no's
- Drainage Network
- Solid Waste Management
- Sewage Treatment Plant
- Road & lightings
- Parking area.

Beachfront development at Nagapattinam

The seaside town Nagapattinam has a coastal stretch of about 16.7 km. Due to this, the planning area is enriched with beaches. The new beach at Nagapattinam is the major entertainment spot for the residents as well as tourists. The area surrounding these sea coasts is a crucial spot as it acts as a transitional zone between land and water. Therefore, converting these zones into active and appealing public spaces helps to develop connectivity between the stiffness of the built environment and the fluidity of water. Developing the beachfront trails also provides residents to access new recreational opportunities, develop tourism, generate employment, support the local economy, and stimulate growth. So, the coastal area of a 1.5 km stretch of New Beach in Nagapattinam Municipality (Figure 13.2) is proposed for beachfront development.

The objective of this project are as follows,

- Creating a coherent, visually pleasing order to the water's edge,
- Protecting existing natural areas from development.
- Revenue generation
- Tourism potential can be improved by offering a variety of attractions like water sports, entertainment arenas, and parks.

Project Components

- Green Roadways
- Parking
- Cycling track
- Food Courts
- Retail spaces
- Water sports
- Sit outs
- Promenades
- Meditation spaces
- Toilets
- Landscapes



Figure 13.2: Conceptual design of Beach Front development (for reference only)

Riverfront development at Nagore

The riverfront development provides a unique opportunity to enhance the image of the town. Three rivers namely Kaduvaiyar, Vettar, Vellaiyar running through the planning area offer an interesting track of natural space. Unplanned developments in Nagapattinam LPA resulted to lack of recreational spaces in the core areas. Therefore, the development of Riverfront is a better idea for transforming underutilized space into a vibrant & active centre for leisure, tourism, culture and business activities. Promoting riverfront development also improves the image of the town, enhance the environment, protect the river ecosystem meanwhile providing a place for people to relish.

Being the largest river in the LPA Vettar River is taken for riverfront development. Hence, a riverfront of 1.5 km length along Vettar river in Nagore has been proposed for riverfront development (Figure 13.3).

Project Components

- Riparian Buffer
- Park
- Children's play area
- Promenades
- Cycling track
- Food Courts
- Petty shops
- Sit outs
- Parking
- Toilets



Figure 13.3: Conceptual design of River front development (for reference only)

Ecotourism at Velankanni

Mangrove forests provide many significant functions for land and sea. They stabilize the shoreline, prevent erosion, provide habitation for many species, function as pollutant absorbents, and offer many other benefits. One of the social functions of the mangrove ecosystem is tourism attraction. Developing these areas not only boosts tourism activity but also enhances the well-being of coastal communities.

Vast mangrove vegetation is seen along the Vellaiyar and Kaduvaiyar rivers in Nagapattinam. Nagapattinam district administration has an idea to develop ecotourism along these mangroves. The promotion of Mangrove ecotourism not only preserves these natural resources but also generates employment for the local community, provides more recreational opportunities for the tourists, and conserves the natural resource. So, the mangrove forests along Vedaranyam Canal (Vellaiyar River) at Velankanni have been chosen for the development of ecotourism (Figure 13.4).

In the Sindhudurg district in Maharashtra, a Self-Help Group protects its mangroves through ecotourism. The Mangrove Safari Programme organized by this group has been recognized as a model for community-led conservation through ecotourism. The Maharashtra Forest Department has decided to replicate this model in other parts of the state. Similar types of initiatives can be thought of for Nagapattinam to empower women in rural areas. The project components listed below is proposed to be located at Survey No 106 of Velankanni Village.

Project Components

- Mangrove Safari
- Bamboo Pathways
- Observatory Platforms
- Jetty
- Parking
- Food Court
- Visitor's Centre
- Children's Park



Figure 13.4: Conceptual design for Eco-Tourism (for reference only)

Central Park at Nagapattinam

Nagapattinam acts as a district headquarter for Nagapattinam District. Being a district headquarter, it does not have any large public gathering space/Community Park. Green /Open spaces are the most vital element in urban living. Rapid urban development and increasing population put open spaces under pressure. Nagapattinam does not have any central park kind of space which can even act as a landmark for the town. So, a central park of 12 acres is proposed (Figure 13.5) in Nagapattinam Municipality to enhance the image of the town and quality of life.

Project Components

- Children's play area
- Parking
- Toilets
- Pedestrian path
- Benches and seating area
- Fitness area
- Fountain plaza
- Iconic Tower
- Edible Landscapes / Lawns



Figure 13.5: Conceptual design for Central Park (for reference only)

Ulavar Sandhai in Nagore and Velankanni

Nagapattinam block has more production on following crops namely Brinjal, Ladies finger, Coconut and Tamarind. Nagapattinam (52.6 ha) and Kilvelur (266 ha) Taluks have a higher concentration of land under Horticulture crops. Nagapattinam block has only one regulated market in Nagapattinam Core town. The %age of procurement of produce in the existing regulated market is only 30%. Wholesale market kind of facilities is not available in Nagore and

Velankanni. So, providing two markets in the form of Ulavar Sandhai in Nagore and Velankanni will cater for the farmers in the nearby Kilvelur Taluk.

This proposal will contribute to the income generation of the farmers and promote agriculture. Ulavar Sandhai of 2.5 acres each is proposed in Nagore and Velankanni.

Cyclone Shelters

The primary use of the cyclone shelter is for protecting people from the vagaries of nature such as floods, cyclones and tsunamis. It also acts as a relief camp during other disasters. Nagapattinam is highly prone to natural disasters. So, Cyclone shelters play a major role to protect people from damage. As shown in Table 13.3 Nagapattinam Municipal area has 2 cyclone shelters of 300 Capacity each and another Cyclone shelter in Velankanni of 500 Capacity and 10 Community halls in different Villages in the LPA with a total capacity of 1430 are used as relief centres.

Table 13.3: Cyclone shelters in Nagapattinam LPA

S. No	Name of the Town	No. of Cyclone shelter	Capacity
1	Nagapattinam Town	2	600
2	Velankanni Town Panchayat	1	500
3	Community halls used as relief centres	10	1430

(Source: Disaster Management Plan for Nagapattinam District)

Nagapattinam LPA also has several relief centres in the form of Schools, Colleges and Marriage/Community halls. The municipal area, Velankanni, Vadakku Poigainallur and Therku Poigainallur are located along with the coastal areas. The existing capacity of Cyclone shelters in Nagapattinam LPA is about 2530 which can accommodate only 7.6% of the total population in vulnerable areas coastal areas. Relief Centres such as schools, colleges and community halls serve the remaining people during the disaster period.

The district administration has a proposal for a new Multipurpose Community Hall in Nambiyar Nagar of Nagapattinam. The Nambiyar Nagar shelter got completely dilapidated and demolished in 2021. It was catering to 5000 people living in Nambiyar Nagar, Maraimalai Nagar, Elancheran Nagar and Cooks Road. Hence it is proposed to build a multi-purpose evacuation shelter to function as a community hall during the non-monsoon season and as an evacuation shelter during the monsoon season.

New bus stand in Nagapattinam

The present New Bus stand was constructed in 1988 at Nagapattinam. The existing bus stand in Nagapattinam Municipality is located in the core area which is creating congestion and

traffic issues. To ease the traffic movement within the urban area and being administrative headquarter, the existing bus stand needs to be relocated to the outskirts of the city along the East Coast Road (NH-32). Proposing a new bus stand on the outskirt will increase the accessibility to other parts of the district and Pondicherry state and the core area will be free from heavy traffic movement.

Project Components

- Terminal building with adequate bus bays
- Public amenities such as drinking water facilities, shops, Toilets etc.
- Passenger waiting halls
- Pedestrian Corridors
- Ticketing facilities
- Parking facilities

New bus stand in Velankanni

The existing bus stand in the Velankanni town is located along Velankanni main road. The tourist footfall will be high along this road during festival times and the weekends. The location of the bus stand on this road makes the road congested and the bus stand is inadequate to cater for the needs of the floating population. The bus stand gets highly congested during peak festival time. For this purpose, shifting of bus stand has been proposed from the city core to nearby east coast road. In that context, a new bus stand is proposed along the NH-32. Through this proposal, the image and the heritage value of the town can be retained. The New Bus stand in Velankanni is proposed to an extent of 4 acres along NH-32.

Project Components

- Terminal building with adequate bus bays
- Public amenities such as drinking water facilities, shops, Toilets etc.
- Passenger waiting halls
- Pedestrian Corridors
- Ticketing facilities
- Parking facilities

Multi-level parking in Nagapattinam and Nagore

Issues related to parking seem to be a major concern in the tourism zones in the planning area, especially during the festival seasons. Inadequacy in parking spaces is noticed in most of

the surveyed locations in Nagapattinam Town and Nagore. Table 13.4 reveals that maximum parking is observed in Neela South Street with 4799 vehicles parked from 9.00 am to 8.00 pm. and the least amount of parking is observed in Kalmatu Street (467 vehicles) among the surveyed locations.

However, during festival seasons inadequacy in parking spaces is observed on Syed Palli Street, Manara North Street, and Kalmatu Street. Multi-level car parking systems can help maximize parking capacity. Providing Multilevel parking in Nagapattinam and Nagore will relieve the roads of unlawfully parked vehicles, increasing the rate of traffic flow. The proposed multi-level parking facilities in Nagore will decongest the roads around the dargah and improve the quality of the space.

Table 13.4: On-Street Parking details in Nagapattinam Municipality

S. No.	Name of the Road	No. of vehicles parked (12 Hrs)								
		Car	Two-Wheeler	Auto	Cycle	Rickshaw	Tempo	Truck	LGV	Total
1	Syed Palli Street	143	944	113	72	0	7	1	0	1280
2	Manara North Street	185	443	58	56	0	0	0	0	742
3	Kalmatu Street	54	338	49	25	0	0	0	1	467
4	Neela East Street	255	1733	53	155	26	20	9	4	2255
5	Neela South Street	80	3891	51	736	25	5	1	10	4799

Food court with Aquarium

The pilgrims, who visit Velankanni church, certainly visit the nearby beach. Keeping in this mind proposals to create recreational space in the form of a food court combined with an aquarium have been proposed in Velankanni which will enhance the image of the town and also act as a source of employment generation. Food Court with Aquarium is proposed to an extent of about 2 acres.

Hotels in Nagore and Velankanni

Nagore and Velankanni are famous Pilgrimage sites in the Planning area. The tourist footfall in these places is high. The tourist footfall in Velankanni and Nagore is about 65 and 47 lakhs per year. According to the survey conducted by NSSO on Domestic Tourism in India, 21% of

households reported at least one overnight stay Based on these statistics the demand for accommodation facilities for the present and projected tourist population has been estimated.

Velankanni Basilica's Trust has its accommodation facilities with 5000 beds which makes tourist accommodation easier. Nagore has hotels with 200 beds and homestays. To increase the tourist footfall in Nagore and enhance the quality of stay, new accommodation facilities need to be proposed in Nagore. To accommodate the Projected tourist population in Nagore and Velankanni, Tamil Nadu Tourism Development Corporation has a Proposal for hotels of 5 acres area in Nagore and Velankanni.

Rejuvenation of Panangudi lake

The water body is an important feature of the urban landscape. Water bodies serve many environmental functions including flood and soil erosion control and are useful for irrigation, drinking water supply and groundwater recharge. The scarce and costly land resources stress the water bodies ultimately. Panangudi lake in Nagapattinam is the largest lake of 176 acres. By rejuvenating this lake, the water source from this lake can be used for drinking as well as agricultural purposes in Nagapattinam Local Planning Area.

Storm water drainage channel improvement

Being in a Coastal line, the area is Vulnerable to frequent cyclonic storms. Agastheeswarar Swami Thirukulam (Sivan Koil Kulam) located in Ward No.16 of Nagapattinam Municipality always overflows during the North-East monsoon and the excess water runs into streets and nearby houses causing heavy damage to local inhabitants. Hence the district administration has the proposal to desilt the tank and rebuild the revetment wall, besides making a necessary channel for the overflowing water to reach the Vettar river located at a distance of 300 m away from the tank.

Deepening of Devanathi channel in Nagapattinam Municipality

Devanathi Channel is located at the mouth of the Bay of Bengal. Although desilted by Nagapattinam Municipality every year, it gets flooded during every monsoon period. Besides flood, the backwater from the sea is creating trouble for localities of wards 12,15,16,20 and 28 of Nagapattinam Municipality, thereby affecting 3500-4000 residents along with Cattle Population. The cause for such devastation is found to be because of low channel depth and no proper revetment wall. Hence the district administration proposed to construct a revetment wall and deepen the Channel. It will protect the locality from inundation.

Proposal for creation of Bio-shield along the coastal stretch

The Coastal Stretch in Nagapattinam LPA is about 16.8 Sq.km. Casuarina plantations are acting as shelterbelts. But most of the plantations mainly from the Nagore to Velankanni belt got

severely damaged during Gaja Cyclone. Hence, the district administration has a proposal for raising new Casuarina shelterbelt plantations along the coastline, which will act as a Bio-shield. This will ensure the benefit of coastal protection through shelterbelt plantation, Carbon Sequestration and revenue generation through the supply of mature pulpwood to the paper industry.

Sea water protection weir proposal in Vadakku Poigainallur

During Cyclones, Sea Water Intrusion takes place through river mouths in Vadakku Poigainallur. This seawater intrusion led to increased salinity in the groundwater which results in a reduction in agricultural production and fertility of the soil. So, to stop the seawater from entering the developed areas Protection weirs of 1m height wall with 1m shutters are proposed in Vadakku Poigainallur Village to avoid the intrusion of Sea Water. The Check Dam proposed will act as a water storage system, thereby improving groundwater quality and also act as a barrier to seawater intrusion.

Heritage Plan for Nagore

Nagore Dargah is a famous Pilgrimage centre in the Planning area. To restore, revive and strengthen the soul and heritage of Nagore town Heritage plan needs to be prepared. The Heritage Plan should focus on the development of civic infrastructure development projects around heritage sites, leading to the revitalization of the city as a heritage and cultural destination. The project proposal, land requirement, Project cost and implementing agency for the projects listed above are given the Table 13.5.

Table 13.5: Project Proposals for Nagapattinam LPA-2041

S. No	Name of the Project	Land requirement (in acres)	Approximate Cost (in Crore)	Implementing agency
1	SIPCOT (Food Park)	20	25.0	TANSIDCO/ PPP
Agro based Industries		15	20.0	
Marine based Industries		10	10.0	
2	Salt based Chemical Industry	5	15.0	Tamil Nādu Industrial Development Corporation limited
3	Petroleum refinery Industry	3	10.0	
4	Mini Power Plant based on Paddy husk	2 No's	3.0	Tamil Nadu Energy Development Agency (TEDA)
5	New fishing harbour at Nambiyar Nagar in Nagapattinam	10.8	34.3	Department of Fisheries
6	Redevelopment of existing fishing harbour in Nagapattinam	-	6.0	
7	Beach front development at Nagapattinam	1.5 km Stretch	55.0	Nagapattinam Municipality
8	River front development of Vettar River in Nagore	1.5 km Stretch	120.0	Nagapattinam Municipality
9	Eco-Tourism at Velankanni	-	-	Velankanni Town Panchayat and Nagapattinam District administration
10	Central Park at Nagapattinam	12 Acres	5.0	Nagapattinam Municipality

S. No	Name of the Project	Land requirement (in acres)	Approximate Cost (in Crore)	Implementing agency
7	Ulavar Sandhai in Nagore and Velankanni	2	2.0	Tamil Nadu Agricultural Marketing Department
8	Cyclone Shelters in Nambiyar Nagar, Nagapattinam	1	5.3	Tamil Nadu State Disaster Management Authority
9	New Bus Stand in Nagapattinam	10	15.0	Nagapattinam Municipality
10	New Bus Stand in Velankanni	4	6.0	Velankanni Town Panchayat
11	Multi-level parking in Nagapattinam and Nagore	500 Vehicles (100 Cars)	35.0	Nagapattinam Municipality
12	Food Court with Aquarium in Velankanni	1	1.5	Velankanni Town Panchayat
13	Hotels in Nagore and Velankanni	5	2.0	Tamil Nadu Tourism development Corporation
14	Rejuvenation of Panangudi lake	176	2.5	Water resources department
15	Deepening of Devanathi channel in Nagapattinam Municipality	-	7.0	Water resources department
16	Proposal for creation of Bio-Shield along the Coastal Stretch	16.7 km stretch	0.5	Department of forestry
17	Sea Water Protection Weir in Vadakku Poigainallur Village	1 m height wall with 1m height shutter	1.2	Water resources department
18	Heritage Plan for Nagore	-	25.0	Ministry of Urban development

13.4 PROPOSED LAND USE 2041

To regulate the growth of the local Planning in an orderly manner and also to ensure its economic viability, social stability, and sound management for the present and the foreseeable future, the Master Plan with zoning and development regulation is necessary. The idea of zoning is that the segregation of certain uses from others reduces the effect of negative externalities, that some uses have on others. Based on the Project Proposals Proposed land use Plan is prepared for Nagapattinam LPA. Table 13.6 shows the Proposed Land structure for Nagapattinam LPA.

Table 13.6: Proposed land use area split up for Nagapattinam LPA

Type of Use	Proposed land use 2041 (in Sq.km)	% Share
Residential	20.99	26.22
Commercial	2.52	3.15
Institutional	9.48	11.83
Industrial	3.00	3.74
Agricultural	24.80	30.97
Water Bodies	6.51	8.13
Road	7.40	9.25
Non-Urban (Aquaculture)	5.38	6.71

The overall objective of this proposed land use is to improve the economy and cater future population of the town with its potential. Proposed land use zoning for Nagapattinam LPA is done based on TNCDBR, 2019. In the proposed land use 2041 of Nagapattinam LPA land use zones are classified as residential, commercial, institutional (Public and semi-public, service and utilities, transportation and communication), Industrial and Agricultural uses. The proposed land use of Nagapattinam LPA has residential use of about 26.22 % of the total area (20.99 Sq.km). Residential use has been proposed based on the residential area requirement calculated based on the projected density.

Residential areas are proposed along with the north and west directions of the Municipality because the natural growth in Nagapattinam LPA takes place along these two directions only. As Nagapattinam lacks economic development Commercial and Industrial activities are encouraged to boost the economy of the town. Commercial use is proposed for about 3.15 % i.e.) 2.52 Sq.km. Three commercial centres identified along the major transport corridors, will reduce the congestion in the Core town and also improve the economy of the town. Nagore and Velankanni which are located within the Planning area have tourism potential. Taking

note of this, commercial activities are provided in those areas to cater the future tourism growth (Map 13.1 & 13.2).

The Planning area has a higher concentration of agricultural land and coastal activities. Industrial developments to suit the above activity are proposed to enhance the economy and provide opportunities for the future population. In the proposed land use, industrial use has been proposed for an area of about 3.0 Sq.km (3.74 %). Agricultural share in the planning area has higher potential. Therefore, while proposing developments, agricultural land has been retained to the maximum extent. Retaining Agricultural land to the maximum extent possible will help in maintaining the ecological balance and food security. The share of agricultural land in the proposed land use is about 30.97 % which is 24.80 Sq.km. Water bodies are kept undisturbed which has an area of about 6.51 Sq.km (8.13%). Aquaculture plays a prominent role in Nagapattinam LPA. 5.38 Sq.km of the area in LPA falls under Aquaculture use which is 6.71% of the total LPA area. Aquaculture is classified under non-Urban use in the Proposed land use (Map 13.1 & 13.2). In the proposed land use plan for Nagapattinam LPA, Commercial, Industrial and Recreational activities are given higher priority so that more opportunities can be created to improve the economy of the town.

Table 13.7: Comparison of Existing and proposed land use share in Nagapattinam LPA

Type of Use	Existing land use-2021 (in Sq.km)	% Share	Proposed land use-2041 (in Sq.km)	% Share
Residential	13.32	16.63	20.99	26.22
Commercial	0.60	0.75	2.52	3.15
Institutional	6.31	7.88	9.48	11.83
Industrial	0.30	0.37	3.00	3.74
Agricultural	31.87	39.80	24.80	30.97
Water Bodies	6.51	8.13	6.51	8.13
Road	5.59	6.98	7.40	9.25
Aquaculture	5.38	6.72	5.38	6.71

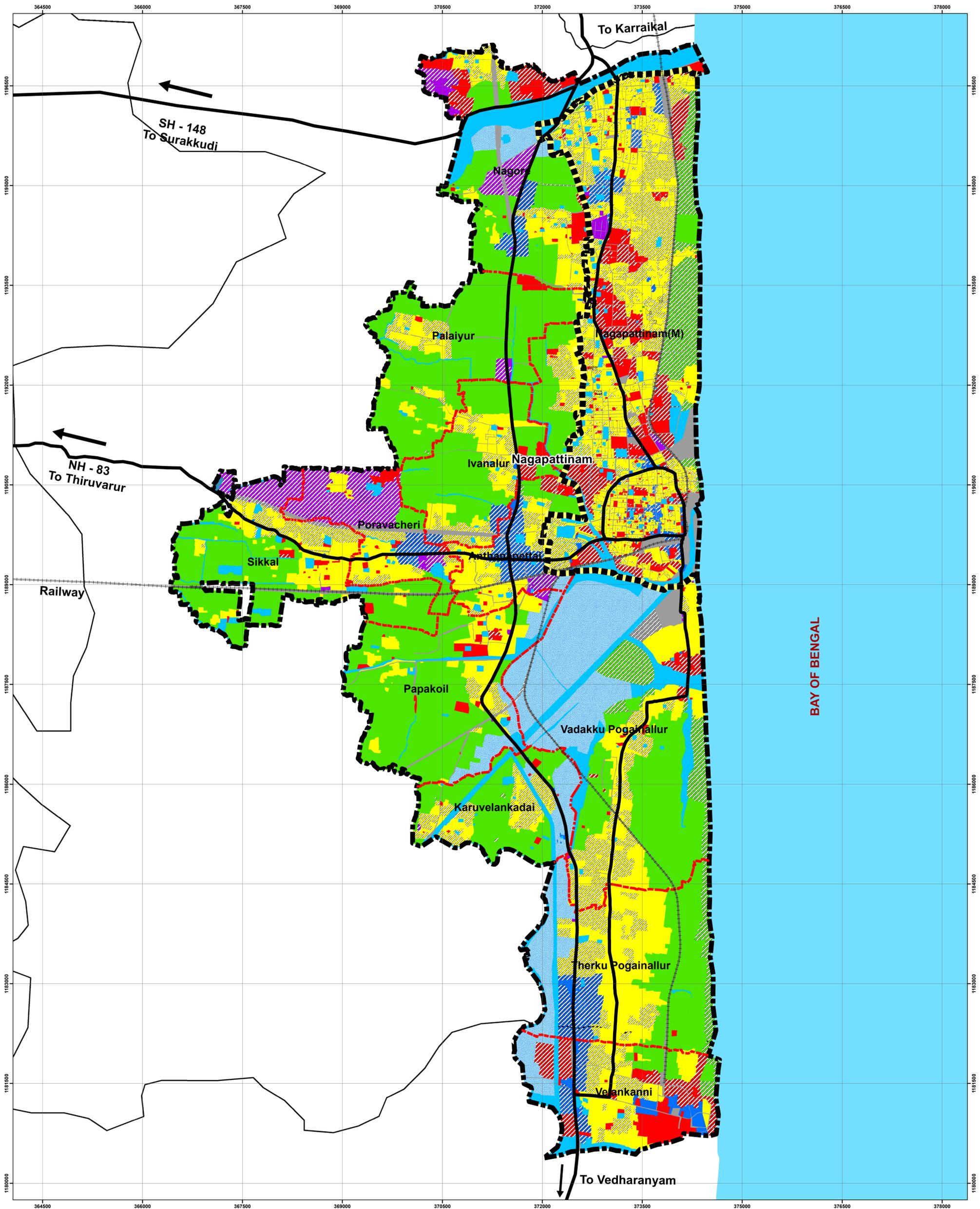
13.5 SUMMARY

The growth of Nagapattinam town is promoted by inducing developments in a sustainable manner. To stimulate the growth prospects and regulate the growth of the urban area in an orderly manner and also to ensure economic viability and social stability for the present and the future, a proposed land use plan has been prepared for Nagapattinam LPA. The proposed land

use and the project proposals had been arrived at using the inputs arrived from the analysis of the existing growth trend, suitable areas for development and potential sectors of the town.

Major proposals which will stimulate the economic activity in Nagapattinam are Agro-based, marine-based industries, salt and petroleum-based industries. Adequate land has been proposed for the major proposals in the proposed land use plan. The proposed projects will invigorate employment opportunities in the Nagapattinam LPA. Fishing plays a major role in Nagapattinam. A new fishing harbour is proposed to increase fishing activities and improve the livelihood of fishermen.

As Nagapattinam is bestowed with beaches and rivers, recreational facilities are proposed along the Nagapattinam Beach and Vettar river in Nagore, in the form of beachfront and riverfront development projects. These proposals will enhance employment opportunities and improve the quality of life of the people. Nagapattinam, due to its location, is prone to natural hazards, so cyclone shelters are proposed to accommodate people during disasters. To cater for the future tourist population in Nagapattinam and Nagore accommodation facilities are proposed. To improve the tourism potential in Nagapattinam, a new bus stand along with commercial areas are proposed in Nagapattinam and Nagore. To protect the coastal environment and prevent seawater intrusion projects such as the creation of Bio-Shield and seawater protection weirs are proposed in the planning area. All the project proposals embedded in the proposed land use for Nagapattinam LPA 2041, will ensure the creation of employment opportunities and enhance the quality of life of the people.



LEGEND

	Residential	Commercial	Institutional	Industrial	Agriculture	Aquaculture	Water Bodies	Transportation
EXISTING								
PROPOSED								

0 1000 200 400 600 800 1,000 1,200 1,400 Meters

PROJECTION SYSTEM : UTM
 DATUM : WGS84
 SPHEROID : WGS84
 ZONE : 44

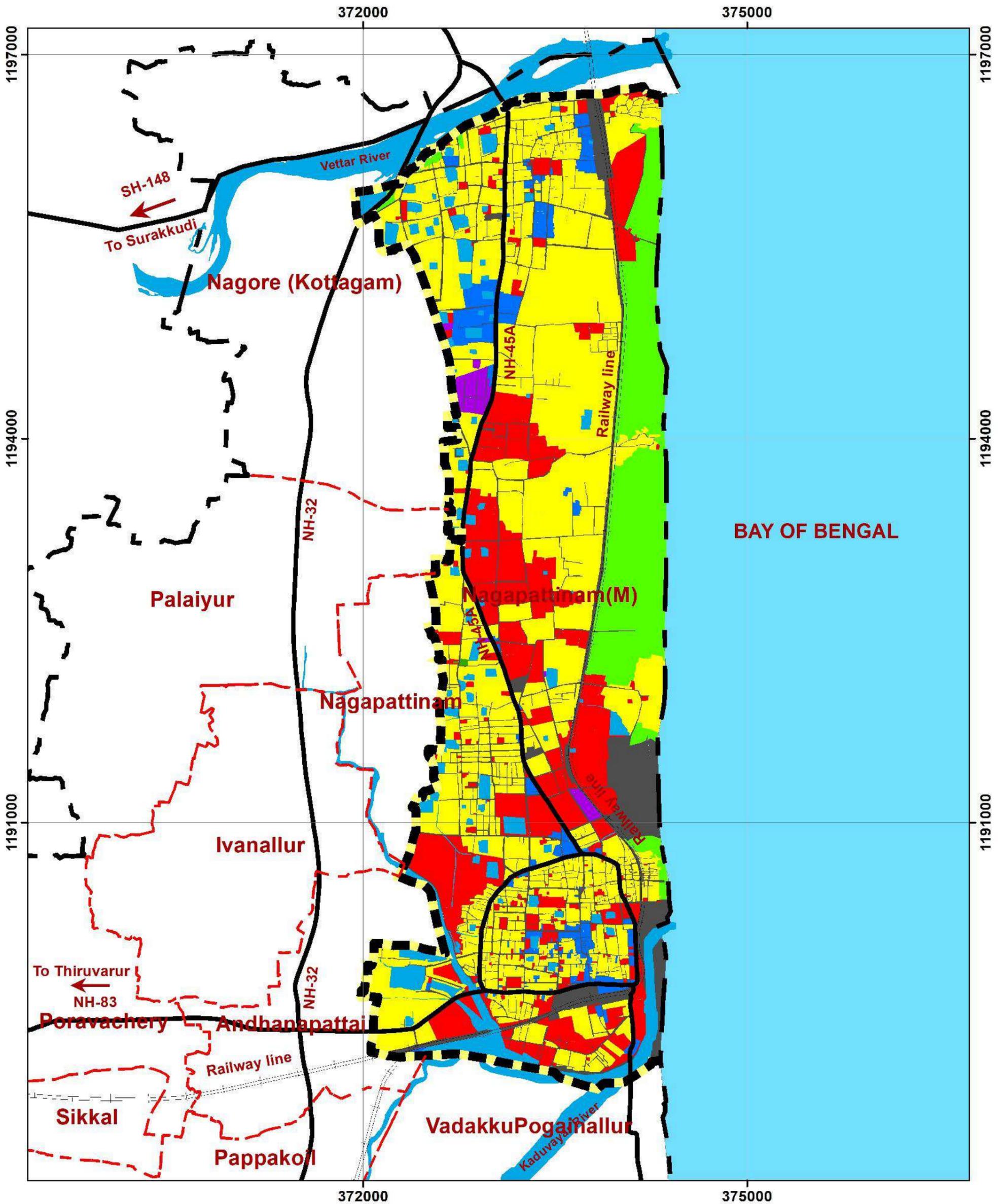
SCALE: 1:25,852.13

MAP. NO: 13.1 DATE: APRIL 2022

CLIENT :
 Directorate of Town and Country Planning
 Government of Tamil Nadu

CONSULTANT :
 Department of Planning, SAP Campus,
 Anna University Chennai

PROPOSED LAND USE 2041 - NAGAPATTINAM WITH VELANKANNI
GIS BASED MASTER PLAN FOR NAGAPATTINAM LOCAL PLANNING AREA



Residential	Agriculture	LPA Boundary	Roads
Commercial	Aquaculture	Municipal Boundary	Railway line
Industrial	Transportation	Village Boundary	Sea
Institutional	Water Bodies		

0 0.25 0.5 1 1.5 Kilometers

PROJECTION SYSTEM : UTM
 DATUM : WGS84
 SPHEROID : WGS84
 ZONE : 44

SCALE: 1:28,000

MAP.NO: 13.2 DATE: FEBRUARY 2022

CLIENT:
 Commissioner of Town and Country Planning
 Directorate of Town and Country Planning
 Government of Tamil Nadu

CONSULTANTS:
 Department of Planning, SAP Campus
 Anna University Chennai

PROPOSED LAND USE 2041-NAGAPATTINAM MUNICIPALITY
GIS BASED MASTER PLAN FORMULATION FOR AMRUT CITIES IN TAMILNADU

14.LAND USE SCHEDULE

Table 14.1: Residential use zone of ward-1 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
1	1	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 44, 45, 46, 47, 48, 50, 51, 52, 53, 54 part, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64 part, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81
	2	117, 118, 119 Part, 120 Part, 121 Part
	3	134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, & 148
	4	149, 150, 151, 152, 153, 154 Part, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 206, 207, 208, 213, 214 Part, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 247 part, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271 Part, 272 Part, 273, 274, 275, 276, 277, 278, 279, 280, 282, 283, 284, 285, 286, 287, 288 Part, 289, 290, 291, 292, 293, 294, 295, 298, 299, 300, 301, 302, 303, 304 Part, 305, 306 Part, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330 Part, 331, 332, 333, 334, 335, 336, 339, 340, 341, 342, 343, 344, 345, 346 Part, 347 Part, 348, 349, 350, 351, 352, 353, 354, 355, 356
	5	361 Part, 362, 363, 364, 365, 366, 368, 369, 370, 371, 372, 373, 374, 375 Part, 376 Part, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392 Part, 395 Part, 396, 397, 398, 399, 401 Part, 402, 403, 404 Part, 408 Part
	6	419, 420, 421, 422, 423, 424, 425, 426 Part, 427 Part, 428 Part
	7	439, 440, 441, 442, 444, 446, 447, 448, 449, 450, 451, 452 Part, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 473, 476, 477, 478, 479, 481, 482, 484, 485, 486, 487, 488, 489 Part, 490, 491, 492, 493, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 526, 527, 528, 529, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545 Part, 546, 547, 548, 549, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582
	8	587, 588, 589, 590, 591, 592, 593, 594, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 623, 624, 625, 626, 627, 628, 629, 630, 631,

		632, 633, 634, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 654, 655, 656, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 677, 678, 679, 680, 681, 684, 685, 686, 687, 688, 689, 690, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 703, 705, 706, 707, 708, 709, 710, 711, 712, 714, 715, 716, 717, 718, 719, 721, 722, 723, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 739, 740, 741, 742, 743, 744, 745 Part
	9	749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 768, 770, 771, 772, 773, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822 Part, 823 Part
	10	824 Part, 825, 826, 827, 828, 829, 830, 831, 832 Part, 833, 834, 835, 836, 837, 838, 840, 841, 842, 843, 846, 847 Part
	11	851, 852, 853, 854, 855 Part, 856, 858, 859, 860, 861, 862, 863, 864, 865, 866, 868 Part, 869, 870, 871, 872, 873, 874, 875, 876, 877, 879, 880, 881, 882, 883, 884, 885, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 904 Part, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 949, 950, 951, 952, 953, 954, 956 Part, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 982, 983, 984, 985
	12	987, 988, 989, 990, 993, 994, 995, 996, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1038, 1039, 1040, 1042, & 1043
	13	1047, 1048, 1049, 1050, 1051, 1052 Part, 1053, 1054, 1055 Part, 1056, 1057 Part, 1058 Part, 1062, 1063, 1064 Part, 1065, 1066, 1067, 1068 Part, 1069, 1070 Part, 1071 Part, 1072, 1073 Part, 1074, 1075, 1077, 1078, 1079, 1080, 1081, 1082 Part, 1083, 1084, 1085, 1089, 1090, 1091, 1092 Part, 1093 Part, 1094, 1096 Part, 1097, 1099, 1100, 1101, 1102, 1103, 1104, 1105, 1106 Part, 1107 Part, 1108 Part, 1109 Part, 1110 Part, 1112, 1113 Part, 1114, 1115, 1116, 1117, 1118, 1119 Part, 1120 Part, 1121, 1122 Part, 1123, 1124, 1125, 1126, 1127, 1128, 1129, 1130, 1133, 1134, 1135, 1136, 1137, 1138, 1139, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1150, 1151, 1152, 1153, 1154, 1155, 1156, 1157, 1158, 1159, 1160, 1161, 1162, 1163,

		1164, 1165, 1167, 1168, 1169, 1170, 1171 Part, 1172, 1175, 1176, 1177, 1178, 1179, 1180, 1182, 1183, 1184, 1185
	14	1187 Part, 1188 Part, 1189 Part, 1190 Part, 1191, 1192, 1193, 1194, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223
	15	1226, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, & 1273
	16	1586, 1591, 1592, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1610, 1611, 1612, 1613, 1614, 1615, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678, 1679, 1683, 1684, 1685, 1686, 1687, 1688, 1689, 1690, 1692, 1693, 1694, 1695, 1696, 1697, 1698, 1699, 1700, 1701, 1702, 1703, 1704, 1705, 1706, 1707, 1708, 1709, 1710, 1711, 1712, 1713, 1714, 1715, 1716, 1717, 1718, 1719, 1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1740
	17	1744, 1745, 1746, 1747, 1748, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1771, 1772, 1773, 1774, 1775 Part, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1785, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833,
	18	Nil
	19	1876, 1877, 1878, 1879, 1880, 1881, 1882, 1886, 1887, 1888, 1891, 1892, 1893, 1894, 1895 Part, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935 Part, 1936, 1937, 1938, 1939, 1940, 1941, 1942 Part, 1943 Part, 1944 Part, 1946 Part, 1947 Part
	20	1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1960, 1961, 1962, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019 Part, 2020, 2021 Part, 2022, 2023, 2024, 2025, 2026 Part, 2027 Part, 2028, 2029, 2030, 2031, 2032

	21	2067, 2068, 2069, 2070 Part, 2071 Part, 2073 Part, 2074 Part, 2076, 2077, 2078, 2079, 2081, 2082, 2083 Part, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2105, 2106, 2107, 2112 Part, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2180, 2185, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2202 Part, 2205
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Table 14.2: Residential use zone of ward-2 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
2	1	Nil
	2	18 Part,24 Part
	3	25 Part, 26 Part, 28, 29 Part, 30, 31, 32, 33 Part, 34, 35, 36 Part, 37 Part, 38, 39, 40, 41, 42, 43 Part, 44, 45, 46, 47, 48, 49 Part, 50 Part, 51 Part, 52, 53, 54, 55 Part, 60 Part
	4	62 Part, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119
	7	167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 186 Part, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237 Part
	8	239, 240, 241, 242, 243, 244, 245, 246, 248, 249, 251, 271, 272, 273, 274, 275, 276 Part, 277, 278, 279, 280, 281, 282, 283, 286, 287, 288, 289, 290, 291, 292 Part, 293, 294 Part, 295, 296, 297, 298, 299, 300 Part, 301, 302, 303 Part, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323
	9	325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367part, 368, 369, 370, 371, 372, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 394, 395, 396, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431,

		432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512
	10	514 Part, 515, 518, 522, 523, 524, 525, 526, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561
	11	566 Part
	12	600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 641, 642, 643, 644, 645, 646, 647, 648, 649, 654, 655, 679, 680, 681, 682, 684, 685, 686, 687, 688, 689, 690, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, & 702
	13	706 Part, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 720, 721, 722, 724, 725, 726, 727, 728, 729, 731, 732, 733, 734 Part, 739 Part, 762, 763, 764, 765, 766, 767, 771, 773, 774, 775, 776, 777, 778, 779, 787, 788, 789, 790, 791, 792, 793, 802, 803
	14	805, 806, 807, 808, 813, 814, 815, 816, 819, 820, 821, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836 Part, 837, 838, 839, 840, 841, 842 Part, 843, 844, 845, 846, 849, 850, 851, 852, 853, 854, 856 Part, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871 Part, 872, 873, 874, 876, 877, 878, 879 Part, 880, 881, 882, 883, 884, 885 Part, 886 Part, 887, 893, 894, 895, 898, 899, 900, 903, 904, 905, 906, 907, 908, 909, 910, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 929, 930, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941 Part, 942, 943, 944, 945, 946, 947, 948, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 975 Part, 976, 977
	15	980, 981, 982, 983, 984, 985, 986, 988, 990, 991 Part, 992, 993, 994, 995 Part, 996 Part, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1040, 1041, 1043, 1044, 1045, 1047, 1048
	16	1050, 1051, 1052, 1054, 1056, 1059, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1080, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094, 1095 Part, 1096, 1097, 1098, 1099, 1100, 1101, 1102, 110 3, 1104, 1106, 1107, 1108, 1110 Part, 1111, 1112, 1113, 1114, 1115, 1116, 1117, 1118, 1119, 1120, 1121, 1122, 1123, 1124, 1125, 1126, 1128, 1129

17	1132, 1133, 1134, 1135, 1136, 1137, 1138, 1139, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1150, 1151, 1152, 1153, 1154, 1155, 1156, 1157, 1158, 1159, 1160, 1161, 1162, 1163, 1164, 1165, 1166, 1167, 1168, 1169, 1170, 1171, 1172part, 1173, 1174, 1175, 1176, 1177, 1178, 1179, 1180, 1181, 1182, 1186, 1187, 1188, 1189, 1190, 1191, 1192, 1193part, 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211part, 1212, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1223, 1224, 1225, 1226, 1227, 1228, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1236, 1237, 1238, 1239
18	1242, 1243, 1244, 1245, 1246, 1247, 1248, 1249, 1250, 1251, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1266, 1267, 1268, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1278, 1279, 1280, 281, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292, 1294, 1295, 1296, 1297, 1298, 1299, 1301, 1302, 1303, 1304, 1305, 1306, 1307, & 1308
19	1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319 Part, 1321, 1322, 1323, 1324, 1325 Part, 1326, 1327, 1328, 1329, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340, 1341, 1342, 1343, 1344, 1345, 1347, 1348, 1349, 1350, 1351, 1352, 1353, 1354, 1355, 1356, 1357, 1358, 1359, 1361, 1362, 1363, 1364, 1365, 1366, 1367, 1368, 1369, 1370, 1371, 1372, 1375, 1376, 1377, 1378, 1379, 1380, 1381, 1382, 1383, 1384, 1385, 1386, 1387, 1388, 1389, 1390, 1391, 1392, 1393, 1395, 1396, 1397, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416 Part, 1417, 1418, 1419
20	1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1435, 1436, 1437, 1438, 1439, 1440, 1442, 1443part, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1457, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505
21	1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1534, & 1535
22	1549 Part, 1550, 1551, 1552, 1553 Part, 1554, 1556, 1558 Part, 1560 Part, 1563 Part, 1564, 1566 Part, 1568 Part, 1570 Part, 1571 Part
23	1572 Part, 1573, 1574, 1575, 1576, 1577 Part, 1579 Part, 1581, 1583, 1586, 1588, 1595, 1596, 1597, 1598 Part, 1599 Part, 1601, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1610, 1611, 1612, 1613, 1614, 1615, 1618, 1619, 1620, 1621, 1623, 1624 Part

	24	1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1635, 1637, 1638, 1639, 1641, 1642, 1643, 1644, 1645, 1646, 1647, & 1648
	25	1649 Part, 1650 Part, 1651 Part, 1652 Part, 1653 Part, 1654 Part, 1655 Part, 1656 Part, 1657, 1658, 1659 Part
	26	1660, 1661, 1662, 1663, 1664, 1666, 1667, 1668, 1669, 1670 Part, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678, 1680, 1681, 1682, 1684, 1685, 1686, 1687, 1688, 1689, 1690, 1691, 1692
	27	1693 Part, 1694, 1695, 1696, 1697, 1698, 1699, 1700, 1701, 1703, 1704, 1705, 1706, 1707
	29	1711 Part

Table 14.3: Residential use zone of ward-3 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
3	1	1, 2, 4, 5, 6 Part, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 41, 44, 45 Part
	2	46 Part, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 71, 72, 73, 74, 75, 76, 77, 79, 80 Part, 81 Part, 82, 83, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 Part
	3	105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150 Part, 151, 152, 153, 154, 155 Part, 157, 158
	4	164 Part, 165, 166, 167, 168, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 231, 232, 233, 234, 235, 236, 237, 238, 239, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258
	5	264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 291, 293, 294, 295, 296, 297, 298, 302, 303, 305, 306, 307, 308, 309, 310, 311, 312, 313 Part, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 330, 331, 332, 333, 334, 335, 336, 337, 338, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 353, 354, 355, 356, 357, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 383 Part, 393 Part, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404
	6	407, 408, 409, 410, 411, 415, 416, 430, 431, 432, 433, 434, 436 Part, 439 Part, 440 Part, 441, 442 Part, 443, 444, 445, 446 Part, 447 Part, 448 Part, 449 Part, 450 Part, 451, 452 Part, 453 Part, 454 Part, 455, 456, 457, 458, 459
	7	461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 484, 485, 486, 487, 488, 489,

		490, 491, 492, 493, 494, 495, 496, 498 Part, 499, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 526, 527, 528, 529, 530, 531, 533, 534, 535, 537, 538, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 561, 562, 563, 564, 565, 566, 568, 569, 570, 571, 572, 573, 574, 575 Part, 576, 577 Part, 579, 580, 581, 582, 583, 584, 585
	8	587, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 654, 655, 656, 658, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, & 691
	9	706, 707, 709 Part, 710, 711, 712, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729 Part, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753
	10	756 Part, 757 Part, 758 Part, 759, 760, 761, 762, 763, 764, 765 Part, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 804 Part, 805, 806, 807, 808, 811, 812, 813, 816, 817, 818, 820, 822, 823, 825, 826, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858
	11	862, 863, 864, 865, 866, 867, 870, 871, 872, 873, 874, 875, 876, 877, 879 Part, 880, 881, 882, 884, 885, 886 Part, 888, 889, 890, 891, 892, 893, 895, 896, 897, 898, 900, 901, 902, 903, 904, 905, 906, 907, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 924, 925 Part, 929, 930, 931, 932, 935 Part, 936, 937, 938, 939, 940, 941, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973 Part
	12	974 Part, 977 Part, 978 Part, 981, 982, 983 Part, 984 Part, 987 Part, 988, 9 90 Part, 992 Part, 993 Part, 994, 995, 996 Part, 997 Part, 998, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013
	13	1015, 1016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094, 1095,

		1096, 1097, 1098, 1099, 1100, 1101, 1102, 1104, 1105, 1107, 1108, 1109, 1110, 1111, 1112, 1113, 1114, 1115, 1116, 1117, 1118, 1119, 1120, 1121, 1122, 1123, 1124, 11 25, 1126, 1127, 1128, 1129, 1130, 1131, 1132, 1133, 1134, 1135, & 1136
	14	1139, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1150, 1154, 1155, 1156, 1157, 1158, 1159, 1160, 1161, 1162, 1163, 1164, 1165, 1166, 1167, 1168, 1169, 1170, 1171 Part, 1172 Part, 1173 Part, 1174 Part, 1175, 1176, 1178, 1180, 1181, 1182, 1183, 1184, 1185, 1186, 1187, 1188, 1189
	15	1191, 1192, 1193, 1194, 1195, 1196, 1197, 1198, 1199, 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1224, 1225, 1226, 1227, 1228, 1229, 1230, 1231, 1233, 1234, 1235, 1236, 1237, 1238, 1239, 1240, 1241, 1242, 1243, 1244, 1246, 1247, 1248, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1266, 1267, 1268, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1278, 1279, 1280, 1281, 1282, 1283, 1284, 1285, 1286, 1287, 1288, & 1289
	16	1296, 1297, 1298, 1299, 1300, 1301, 1302, 1303, 1304, 1305, 1306, 1307, 1308, 1309, 1310, 1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 1321, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340, 1341, 1342, 1343, 1344, 1345, 1346, 1347, 1348, 1349, 1351, 1352, 1354, 1355, 1356, 1357, 1358, 1364, 1365, 1366, 1367, 1368, 1369, 1370, 1371, 1372, 1373, 1374, 1375, 1376, 1377, 1378, 1379, 1380, 1381, 1382, 1383, 1384, 1385, 1386, 1387, 1389, 1390, 1391, 1392, 1393, 1396, 1397, 1399, 1400 Part, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1416, 1417
	17	1442, 1443, 1444, 1445, 1446, 1447 Part, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1460, 1461, 1462, 1463, 1464 Part, 1467, 1468, 1469, 1470, 1477, 1478, 1479, 1521 Part
	18	1583, 1584, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1592, 1593, 1594, & 1595
	19	1597, 1598, 1599, 1600, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1610, 1611, 1612, 1615, 1617 Part, 1618, 1619, 1620, 1622, 1623, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1636, 1637, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1654, 1655, 1656, 1657, 1658, 1677, 1678, 1679, 1680, 1681, 1682, 1683, 1684, 1685, 1686, 1687, 1688, 1689, 1690, 1691, 1692, 1693, 1694, 1696, 1697, 1698, 1699, 1700, 1701, 1702, 1703, 1704, 1705, 1706, 1707, 1709, 1710, 1712, 1713, 1714, 1715, 1716 Part, 1717, 1718, 1719, 1720, 1721, 1722, 1723, 1724, 1725

	20	1729, 1730, 1731, 1732, 1733, 1734, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1749, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1775, 1776, 1777, 1784, 1785, 1786, 1787, 1790, 1791, 1795, 1796, & 1797
	21	1820, 1824, 1825, 1826, 1827 Part, 1830, 1831, 1833, 1834, 1835, 1849, 1853, 1854, 1855, 1858, 1859, 1866, 1867, 1868, 1869, 1870, 1871, 1874 Part, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905

Table 14.4: Residential use zone of ward-4 in Nagapattinam Municipality

Ward No.	Block No.	T.S. Nos.
4	1	1 Part, 2 Part, 3 Part, 4, 5 Part, 10 Part
	2	12 Part, 12 Part, 13, 14, 15, 16 Part, 16 Part, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 2, 7, 28 Part, 28 Part, 29 Part, 29 Part, 30, 31, 32, 33, 34 Part, 34 Part, 35, 36, 37, 38, 3, 9, 40, 41, 42, 43, 44 Part, 44 Part, 45, 46, 47, 48, 49, 50, 51, 52, 53 Part, 53 Part, 54 Part
	3	56, 57, 58, 59, 60, 61, 62 Part, 63, 64, 65, 66, 67, 68, 69 Part, 70, 71, 72, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 Part, 91 Part, 92 Part, 93 Part, 9, 4, 95, 96, 97, 98, 99, 100
	4	101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 1, 17, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, & 128
	5	134 Part
	6	138 Part, 141 Part, 142, 143, 144, 145 Part, 146, 147 Part, 148, 149, 150 Part, 15, 1, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170 Part, 171, 172, 173, 174, 175, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 190, 191, 192, 193, 194, 195, 196, 198
	7	199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 214 Part, 238 Part, 239, 240, 241, 242, 243 Part, 244
	8	246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, & 283
	9	285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 309, 310 Part, 311, 312, 313, 314, 315, 316, 317 Part
	10	327
	11	340 Part, 341, 342, 345 Part, 346, 347 Part, 348, 349, 350, 351, 352, 353, 354, 35, 5, 357, 358, 359, 360, 361, 362, 363 Part
	12	366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394,

	395, 396, 397, 401, 40, 2, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 425 Part, 426 Part
13	428, 429, 430 Part, 433 Part, 436, 437, 438, 439, 440, 441, 442, 443, 444, 447, 450
14	452
15	Nil
16	482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 498, 499, 500, 501, 502, 503, 504, 505, 506 Part, 507, 513 Part, 514
17	516, 517, 518, 520, 521, 522, 523, 525, 526, 527, 528, 529, 530, 531, 532, 533, 5, 34, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 55, 0, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 564, 565, 569, 572, 573, 574, 575, 577, 578, 579, 580, 582, 583, 584, 585, 586, 587, 588, 589, 590, 5, 91, 592, 593, 594, 596, 597, 598, & 599
18	611, 612 Part, 613 Part
19	622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637 Part, 638 Part, 639 Part, 640, 641 Part, 642, 643 Part
20	644, 647 Part, 648, 649 Part, 650, 651, 652
21	684 Part, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698part, 698 Part, 699 Part, 699 Part, 700 Part, 700 Part, 701, 702, 703
22	704, 705, 706, 707, 710, 711, 712, 713, 714, 716, 717, 718, 719, 720, 721, 722, & 723
23	749, 750 Part, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 7, 69, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 78, 5, 786, 787, 788, 795, 796, 799, 800, 802, 803 Part, 806 Part
24	807 Part, 808, 809, 810, 812, 813, 814, 815, 816, 820, 821 Part, 824 Part, 826 Part, 827, 828 Part, 829 Part, 830 Part, 831, 832 Part, 833 Part, 834 Part, 835, 836 Part, 837 Part, 838 Part, 839, 840, 841, 863 Part
25	864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 8, 80, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 89, 6, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, & 977
26	978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015,

	1016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1067, 1068, 1069, 1070, 1071 Part, 1074 Part, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098, 1099, 1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1108, 1109, 1110, 1111, 1112, 1113, 1114, 1115, 1116, 1117, 1118, 1119, 1120, 1121, 1122, 1123, 1124, 1125, 1126, 1127, 1128, 1129, 1130, 1131, 1132, 1133, 1134, 1135, 1136, 1137, 1138, 1139, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1150, 1151, 1152, 1153, 1154, 1155
27	1156, 1157, 1158, 1159, 1160, 1161, 1162, 1163, 1164, 1165, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174 Part, 1174 Part, 1175 Part, 1175 Part, 1175 Part, 1176, 1177, 1178, 1179, 1180, 1181, 1182 Part, 1182 Part, 1183, 1184 Part, 1184 Part, 1185, 1186, 1187 Part, 1187 Part, 1187 Part, 1188 Part, 1188p art, 1189 Part, 1189 Part
28	1222 Part, 1223, 1224, 1225, 1226, 1227 Part, 1228 Part, 1229 Part, 1230 Part, 1231 Part, 1232 Part, 1233, 1237, 1238, 1239, 1240
29	1245 Part, 1247 Part, 1248, 1249, 1250, 1252, 1253, 1255, 1256, 1257, 1258, 1259, 1260, 1265 Part
30	Nil
31	1276 Part, 1277, 1278, 1280, 1282, 1283, 1284 Part, 1287, 1288
32	1291 Part, 1292 Part, 1293 Part, 1294 Part, 1295 Part, 1297, 1298 Part, 1299, 1300 Part
33	1302, 1307, 1314 Part, 1315, 1316 Part, 1318, 1319, 1320, 1321, 1322, 1323, 1324 Part, 1325, 1328, 1329
34	1333, 1334 Part, 1335, 1339, 1340, 1341, 1342, 1343, 1344, 1345, 1346, 1347, 1348, 1349, 1350, 1351, 1352, 1353, 1354, 1355, 1356, 1357, 1358, 1359, 1360, 1361, 1362, 1363, 1364, 1365, 1366, 1367, 1368, 1369, 1370, 1371, 1372, 1373, 1374, 1375, 1376, 1377, 1378, 1379, 1380, 1381, 1382, 1383, 1384, 1385, 1386, 1387, 1391, 1392, 1393, 1394, 1395, 1396, 1397, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1429, 1431 Part, 1432 Part, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452
35	1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1496, 1497, 1499, 1500, 1502 Part, 1503, 1504, 1505, 1506, 1507, 1508 Part, 1509 Part, 1511, 1512, 1513, 1514, 1515, 1516, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540,

	1541, 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1553, 1554, 1555, 1556, 1557, 1558, 1559, 1560, 1561, 1562, 1563, 1564, 1565, 1566, 1567, 1568, 1569, 1570, 1571, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1592, 1593, 1594, 1595, 1596, 1597, 1598, 1599, 1600, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1610, 1611, 1612, 1613, 1614, 1615, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1623, 1624, 1625, 1629, 1630, 1631, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654
36	1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1670, 1671, 1672, 1673, 1674, & 1675
37	1677 Part, 1679, 1680 Part, 1681 Part, 1682 Part, 1683, 1685, 1686 Part, 1687, 1688, 1689 Part, 1690 Part, 1693, 1694, 1695
38	1697, 1698, 1699, 1703, 1704, 1705, 1706, 1707, 1708, 1709, 1711, 1712, 1713, 1714, 1717, 1718, 1719, 1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, & 1732
39	1736, 1737, 1738, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746, 1748, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1761, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1774, 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1784, 1785, 1786, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1794, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, & 1847
40	1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1940, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997
41	1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033,

	2034, 2035, 2036, 2037, 2038, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2088, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, &2105
42	2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2133, 2134, 2135, 2136, 2137, 2139, 2140, 2141, 2142, 2143, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2169, 2170, 2171, 2172, 2173, 2174, 2175 Part, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219
43	2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2235, 2236, 2237 Part, 2239
44	2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302 Part, 2303, 2307, 2308, 2309, 2310, 2311, 2312, 2314, 2315, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2341 Part
45	2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2368pa rt, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2 383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2403, 2404, 2405, 2406, 2407, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2417, 2418 Part, 2419, 2420, 2421, 2422, 2423, 2424, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2444, 2445, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2499, 2500, 2501, 2502, 2508

	46	2511 Part, 2512, 2513, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2524, 2526, 2529 Part, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542
	47	2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2575, 2576, 2577, 2578, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, & 2597
	48	2598, 2599 Part, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2617, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640
	49	2642, 2643, 2644, 2645, 2646, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2666 Part, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 2681, 2682, 2683, 2684
	50	2686, 2687, 2688, 2689, 2690, 2691, 2692, 2693, 2694, 2695, 2696, 2697, 2698, 2699, 2700, 2701, 2702, 2703, 2704, 2705, 2706, 2707, 2708, 2709, 2710, 2711, 2712, 2713, 2716, 2717, 2718, 2719, 2720, 2722, 2723, 2724, 2726, 2727, 2728, 2729, 2730, 2731, 2732, 2733, 2734, 2735, 2736, 2737, 2738, 2739, 2740, 2741, 2742, 2743, 2744, 2745, 2746, 2748, 2749, 2750, 2751, 2752, 2753, 2754, 2755, 2756, 2757, 2758, 2759, 2760, 2761, 2762, 2763, 2764, 2765, 2766, 2767, 2768, 2769, 2770, 2771, 2772, 2773, 2774, 2775, & 2776
	51	2782, 2783, 2784, 2785, 2786, 2787, 2788, 2789, 2790, 2791, 2792, 2793, 2794, 2795, 2796, 2797, 2798, 2799, 2800, 2801, 2802, 2803, 2806 Part
	52	Nil
	53	Nil
	54	2883 Part, 2891 Part, 2892, 2893 Part, 2894 Part
	55	2899, 2900 Part, 2902, 2903 Part
	56	2933 Part
	57	2934 Part, 2935 Part, 2936 Part, 2937 Part, 2938 Part, 2941 Part, 2942, 2943 Part, 2944, 2945, 2946, 2947 Part

Table 14.5: Residential use zone of ward-5 in Nagapattinam Municipality

Ward No	Block No	T.S. Nos.
5	1	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 75 Part, 76, 77, 78 Part, 79 Part,

	80 Part, 81 Part, 82 Part, 83, 85, 86 Part, 87 Part, 88 Part, 89 Part, 90, 91, 92, 93
2	99 Part, 100, 101 Part, 102 Part, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 134 Part, 135 Part, 136 Part, 137 Part, 138 Part
3	140, 141, 142, 143, 144, 145 Part, 146, 147, 149, 150, 151, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 175, 176, 177, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 219, 220, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 39, 240
4	243, 244, 245, 246, 247, 249, 250, 251, 252, 253, 254, 255, 256, 257 Part, 258, 259, 260, 261, 262, 263, 264, 266 Part, 267, 268, 269, 270, 271 Part, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323
5	326, 327, 328, 329, 330, 331, 332, 333, 334, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 376, 377, 378, 379, 380, 381, 382, 383, 384, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, & 402
6	404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, & 536
7	561, 562, 563, 564, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 612, 613, 614, 615, 616, 619, 620, 621, 622, 623, 625, 626, 627, 628, 629, 630, 631, 632, 633, 635, 636, 637, 638, 639, 640, 641, 645, 646, 647, 648, 649, 650, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 688, 689, 690, 691, 692, 693, 694, 695, & 696

8	698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 713, 714, 715, 716, 717, 718, 719, 720, 722, 723, 724, 725, 727, 728, 729, 730, 731, 732, 733, 734, 735, 737, 738, 739, 740, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 779, 780, 782, 783, 784, 786, 787, 788, 789, 791, 793, 794, 795, 796, 797, 798, 799, 801, 802, 803, 804, 805, 806, 807, 808, 809, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 827, 828, 829, 830, 831, 832, 833, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 885, 886, 888, 889, 890, 891, 892, 893, 895, 896, 897, 898, 899, 900, 901, & 902
9	Nil
10	962, 964, 965 Part, 968, 969, 970, 973
11	976, 977, 978, 979, 980, 982, 984, 986, 987, 988, 989, 990, 991, 992 Part, 993, 994, 995 Part, 996, 997, 998, 999, 1000, 1001, 1002, 1003 Part, 1004, 1005 Part
12	1006, 1007 Part, 1008 Part, 1009, 1010, 1011 Part, 1012, 1013 Part, 1014, 1015, 1016, 1017, 1018, 1019, 1020 Part, 1021, 1022, 1023, 1024, 1025, 1026, 1027 Part, 1028 Part, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038 Part, 1039 Part, 1040 Part, 1041 Part, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1053 Part, 1054 Part, 1055 Part, 1056 Part, 1058, 1059 Part, 1060 Part, 1061, 1062 Part, 1064, 1065, 1066 Part, 1067, 1068, 1069, 1070 Part, 1071 Part, 1072 Part, 1073, 1074, 1075, 1076, 1077, 1078, 1079 Part, 1080 Part
13	1082 Part
14	1087 Part, 1088, 1089, 1090, 1093, 1094, 1095, 1096, 1097, 1098, 1099, 1100, 1101
15	1105, 1106, 1107, 1108, 1109, 1110, 1111, 1112, 1113, 1114, 1116, 1117, 1118, 1119, 1120, 1121, 1122, 1123, 1124, 1125, 1126, 1127, 1128, 1129, 1130, 1131, 1132, 1133, 1134, 1135, 1136, 1137, 1139, 1140, 1141, 1142, 1144, 1145, 1146, 1147, 1148, 1149, 1150, 1151, 1152, 1153, 1154, 1155, 1156, 1157, 1158, 1159, 1166 Part
16	1177, 1178, 1179, 1180, 1181, 1182, 1183, 1184, 1185, 1186, 1187, 1188, 1189, 1190, 1191, 1192, 1193, 1194, 1195, 1196, 1198, 1199, 1200, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, & 1213
17	1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1224, 1225, 1226, 1227, 1228, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1237, 1238,

		1239, 1241, 1242, 1243, 1244, 1245, 1246, 1247, 1248, 1250, 1251, 1252, 1253, 1254, 1256, 1257, 1258, 1259, 1261, 1262, 1263, 1264, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1278, 1279, 1280, 1281, 1282, 1288, 1289, 1290, 1291, 1292, 1293, 1294, 1295, 1296, 1297, 1299, 1300, 1301, 1302, 1303, 1304, 1305, 1306, 1307, 1308, 1310, 1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1325, 1326, 1327, 1329, 1330, 1331, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340, 1341, 1343, 1345, 1346, 1347, 1348, 1349, 1350, 1352, 1353, 1354, 1355, 1357, 1358, 1359, 1360, 1366, 1367, 1368
	18	NIL
	19	1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1480, 1497, 1499, 1500, 1501, 1502, 1504, 1505, 1506, 1507, 1508, 1509, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1549, 1550, 1551, 1552, 1553, 1554, 1555, 1556, 1557, 1560, 1561, 1562, 1563, 1564, 1565, 1566, 1567, 1568, 1569, 1570, 1571, 1572, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1592, 1593, 1594, 1595, 1596, 1597, 1598, 1599, 1600, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1610, 1611, 1612, 1613, 1614, 1615, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1623, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, & 1642
	20	1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678, 1679, 1680, 1681, 1682, 1683, 1684, 1685, 1686, 1687, 1688, 1689, 1690, 1691, 1692, 1693, 1694, 1695, 1696, 1697, 1699, 1700, 1701, 1702, 1703, 1704, 1712, 1713, 1714, 1715, 1716, 1717, 1718, 1719, 1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1767, 1768, 1769, & 1770
	21	1775, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1784, 1786, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1836, 1838, 1839, 1840, 1841, 1842, 1843, 1844, & 1845
	22	1848, 1849, 1850 Part, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880,

	1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1897, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937
23	1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025
24	2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, & 2060
25	2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, & 2125
26	2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2172, 2173, 2174, 2175, 2176, & 2178
27	2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2189, 2190, 2192, 2193, 2200 Part, 2201, 2203, 2204, 2205, 2207, 2208, 2209
28	2210, 2211, 2212, 2230, 2231, 2232, 2233, 2234, 2235, 2236, & 2237
29	2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, & 2260
30	2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, & 2274
31	2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, & 2365
32	2366, 2367, 2369, 2374, 2375 Part
33	2382, 2383, 2385, 2386, 2387, 2389, 2390, 2391, 2393, & 2394
34	2395 Part

Table 14.6: Residential use zone of ward-6 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
6	1	Nil
	2	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29
	3	32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 96 Part, 101 Part, 102 Part, 103 Part, 104 Part, 105 Part, 106 Part, 108 Part, 109, 110, 111, 112, 113
	4	162 Part, 163, 165, 166, 167, 168, 169, 170, 171, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 184 Part, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195
	5	227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 242, 243, 244, 245, 246, 247, 248, 249, 251, 253, 254, 255, 256, 257, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 286, 287, 288, 289, 292 Part
	6	295, 296, 297, 298, 299, 300, 302 Part, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351
	7	353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, & 408
	8	410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423 Part, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 450, 453
	9	468, 469, 470, 471, 472, 473, 474, 477 Part, 483, 484, 485, 486, 487, 488, 489
	10	497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 520, 521, 522, 524, 525, 526, 527, 528, 529, 531, 532, 535, & 536
	11	540, 541, 542, 543, 544, 545, 546, 547, 549, 550, 551, 552, 553, 554, 555, 556, 559, 560, 561, & 562
	12	566, 569, 570, 573, 574, 583, 585, 586, 587, 588, 589, 590, 591, 592, 593, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, & 658

13	661, 662, 663, 664, 665, 666, 667, 668, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 718 Part, 719 Part, 720 Part, 721, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, & 741
14	744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 810, 811, 812, 813, 818 Part, 819, 820, 821, 822, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847
15	849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, & 903
16	905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 975, 976, 977, 978, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026 Part, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1048, 1049, 1050, 1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073 Part
17	1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082, 1083 Part, 1084 Part, 1085 Part, 1086, 1087, 1088, 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098, 1099, 1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1108, 1109, 1110, 1111, 1112, 1113, 1114, 1115, 1117, 1118, 1119, 1120, 1121, 1133, 1134, 1135, 1136, 1137, 1138, 1139, 1140, 1141, 1142, 1143, 1146, 1147, 1148, 1149, 1150, 1151, 1152, 1153, 1154, 1155, 1156, 1157, 1158, 1159, 1160, 1161, 1162, 1163, 1164, 1165, 1166, 1167
18	1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1178, 1179, 1180, 1181, 1182, 1183, 1184, 1185, 1187, 1188, 1189, 1190, 1191, 1192, 1193, 1194, 1195, 1196, 1197, 1198, 1199, 1200, 1201, 1202, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1224, & 1225
19	1226 Part, 1227 Part, 1228, 1229 Part, 1230, 1231, 1232, 1233, 1234, 1235, 1236, 1237, 1239, 1240, 1241 Part, 1243, 1244, 1246, 1247,

		1248, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257 Part, 1258, 1259, 1260, 1261, 1262, 1263
	20	1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1278, 1279, 1280, 1281, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291 Part, 1292, 1293, 1294, 1295, 1296, 1297, 1298, 1299, 1300, 1301, 1302, 1303, 1304, 1305, 1306, 1307, 1308, 1309, 1310, 1311, 1312, 1313, 1314, 1315, 1316, 1317
	21	1318, 1321, 1322, 1323, 1324, 1326, 1327 Part, 1328, 1329, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1340, 1341, 1342, 1343, 1344, 1345, 1346, 1347, 1348, 1349, 1350, 1351
	22	1367, 1368, 1369, 1370, 1371, 1372 Part, 1373, 1374, 1375, 1376, 1377, 1378, 1379, 1380, 1381, 1382, 1383, 1384, 1385, 1387, 1388, 1389, 1390, 1391, 1392, 1393, 1394, 1395, 1396, 1397, 1398, 1400, 1401, 1403, 1404, 1405, 1406
	23	1408, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, & 1431
	24	1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1461, 1463, 1464, & 1465
	25	1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1482, 1483, 1484, 1485, 1486, 1488, 1489, 1490, 1492, 1493, 1496, & 1497
	26	1498 Part, 1499, 1501 Part, 1502 Part, 1503, 1504, 1505, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533
	27	1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1549, 1550, 1551, 1552, 1581, 1582, & 1583
	28	1586, 1587 Part, 1590

Table 14.7: Commercial use zone of ward-1 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
	1	84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 103, 104, 105, 106, 107, 108, 109, 110
	6	427 Part, 428 Part, 429, 430, 431, 432 Part
	7	472, 474, 475, & 480
	10	849
	11	878, 955, 956 Part
	12	991

1	16	1275, 1276, 1278 Part, 1280, 1281, 1282, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292, 1293, 1294, 1295, 1296, 1297, 1298, 1299, 1300, 1301, 1302, 1303, 1304, 1305, 1306, 1307, 1308, 1309, 1310, 1311, 1312, 1313, 1314, 1315, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340, 1341, 1342, 1343, 1344, 1345, 1346, 1347, 1348, 1349, 1350, 1351, 1352, 1353, 1354, 1355, 1357, 1358, 1359, 1360, 1361, 1362, 1363, 1364, 1365, 1366, 1367, 1368, 1369, 1370, 1371, 1372, 1373, 1374, 1375, 1376, 1377, 1378, 1379, 1380, 1381, 1382, 1383, 1384, 1386, 1387, 1388, 1389, 1390, 1391, 1392, 1393, 1394, 1395, 1396, 1397, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423 Part, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491 Part, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1553, 1554, 1555, 1556, 1557, 1558, 1559, 1560, 1561, 1562, 1563, 1565, 1566, 1567, 1568, 1569, 1570, 1571, 1572, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1587, 1588, 1589, 1590, 1593, 1594, 1595, 1596, 1597, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1623, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657
	18	1837, 1838 Part, 1840 Part, 1841, 1842, 1843, 1844, 1845, 1846, 1848 Part, 1849, 1850
	19	1864, 1865, 1868, 1869, 1870, 1871, 1872 Part, 1903
	20	1965, 1982, 1990, 1991, 1993, 1994, 1995, 1996, & 1997
	21	2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2071 Part, 2072 Part, 2074 Part, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2182, 2183, 2184, 2197, 2198, 2199, 2200, 2201, 2202 Part, 2203, 2204, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2218, 2219, 2220, 2221, 2222, 2223

Table 14.8: Commercial use zone of ward-2 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos
2	1	3, 4 Part
	2	9 Part, 11 Part, 12 Part, 13, 15 Part, 16 Part, 20, 21, 22, 23, 24 Part
	8	258, 259, 261, 262, 263, 264, 265, 266, 267, 268, & 269
	10	519, 520, & 521
	11	566 Part
	12	585 Part, 634, 652, 653, 656 Part, 657 Part, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 675, 676, 677, 678, 703
	13	723, 730, 734 Part, 735, 736, 737, 739 Part, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 755, 756, 757, 758, 761, 768, 769, 772, 780, 781, 782, 783, 784, 785, 786, 794, 795, 796, 797, 798, 799, 800, 801
	14	809, 810, 811, 812, 817, 818, 885 Part, 888, 889 Part, 892, 925, 926, 927, 928, 941 Part, 974, 975 Part
	15	995 Part, 996 Part, 1038, 1039, 1042
	16	1057, 1058, & 1105
	17	1172 Part, 1197
	19	1374
	20	1506, 1510 & 1511
	21	1532 & 1533
	22	1553 Part, 1560 Part
23	1598 Part	
28	1709 Part	
29	1711 Part	

Table 14.9: Commercial use zone of ward-3 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
3	3	102, 103, 104, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 136, 137, 138, & 139
	4	160, 161, 162, & 163
	5	289, 290, 299, 300, 373, 374, 375, 376, 377, 378, 379, 380, 382, 383 Part, 384, 385, 386, 387, 388, 389, 391, 392, 393 Part
	9	693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705 Part, 729 Part
	11	899, 908, & 909
	16	1361, 1362, 1388, 1415, 1420, 1421, & 1422

	17	1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435 Part, 1436, 1437, 1438, 1439, 1440, 1441, 1459, 1464 Part, 1465, 1466, 1472, 1473, 1474, 1475, 1476, 1480, 1481, 1483, 1484, 1505, 1506, 1507, 1513 Part, 1531, 1532, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1553, 1554, 1555, 1556
	19	1660, 1671, 1672, & 1673
	20	1778, 1780, 1781, 1782, 1783, 1788, 1789, 1792, 1793, 1794, 1798, 1799, & 1800
	21	1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1821, 1822, 1823, 1827part, 1828, 1829, 1832, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1845, 1846, 1847, 1848, 1850, 1851, 1856, 1857, 1863, 1864, 1865, 1872, 1873, 1874part, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952

Table 14.10: Commercial use zone of ward-4 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
4	1	3 Part, 8 Part, 9 Part, 10 Part
	11	343
	17	563, 566, 567, & 568
	31	1273, 1274 Part, 1276 Part
	33	1304 & 1305
	35	1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1627, & 1628
	48	2655
	51	2819 Part, 2820 Part, 2821, 2822, 2823, 2824, 2825, 2826, 2827, 2828, 2829 Part, 2830, 2831 Part, 2832 Part, 2833, 2837, 2838, 2839, 2840, 2841, 2842, 2844, 2845, 2846, 2847, 2848, 2849, 2850, 2851, 2852

Table 14.11: Commercial use zone of ward-5 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
5	1	84 Part
	3	218
	6	491, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546,547, 548, 549, 550, 551, 552, 553, & 554
	7	617
	8	777, & 778
	9	905, 906, 907, 908, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933part, 934, 935, 936, 937, 938, 939, 940, 941, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952
	10	955, 957, 958, 959, 960, & 966
	15	1160, 1161, 1162, 1163, 1164, 1165, 1166 Part,1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175
	17	1283, 1284, 1285, 1286, 1287, 1342, 1362, 1363, 1364, 1365, 1369, 1370, 1372, 1373, 1374, 1375, 1376, 1377, 1378, 1379, 1380, 1381, 1382, 1383, 1384, & 1386
	18	1390, 1391, 1392, 1393, 1394,
5	19	1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1498, 1558, & 1559
	20	1706, 1707, 1708, 1709, 1710, 1711, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1758, 1759, 1760, 1761, 1762, 1763, &1 764
	21	1832, 1833, 1834, 1835, & 1837
	24	2061, 2062, 2063, 2064, 2065, 2066, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, &2095
	25	2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, &2145
	26	2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, & 2158
	28	2213, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225,2226, 2227, & 2229
	32	2370, 2371, 2373, & 2376
	33	2380 & 2381

Table 14.12: Commercial use zone of ward-6 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
6	4	196, 197, 198, 199, 200, 201, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 218, 219, 220, 221, 222, 223, 224, & 225
	12	576, 577, 578, 579, 580, 584, 610, 611, 612, 613, & 614
	14	823
	15	880, 881, 882, & 883
	16	970, 971, 972, 973, & 974
	25	1494
	27	1553, 1554, 1555, 1556, 1557, 1558, 1559, 1560, 1561, 1562, 1563, 1564, 1565, 1566, 1567, 1568, 1569 Part, 1570, 1571, 1572, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580
	28	1592, 1593, 1595, 1598 Part

Table 14.13: Institutional use zone of ward-1 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
1	1	64 Part, 100, 101, 102, 111, 112, 113, 114, 115
	2	121 Part, 122
	4	209, 210, 211, 212, & 297
	5	392 Part, 393
	6	416 Part, 417, 433 Part, 434, 435, 436, 437
	7	445, 489 Part
	8	682
	10	844, 845, 847 Part
	11	855 Part, 948, 981
	13	1045, 1086, 1087, 1088, 1092 Part, 1093 Part, 1096 Part, 1106 Part, 1111 Part
	14	1195, 1196, 1198 Part, 1199, 1200 Part, 1201, 1202, 1204, 1205 Part, 1206, 1207, 1208, 1209, 1210 Part, 1211 Part, 1212 Part, 1213
	15	1227
	16	1600, 1681, & 1682
	17	1775 Part
	18	1847 Part
19	1863 Part, 1866, 1867, 1874, 1875, 1885	
20	1963, 1983, 1984, 1985, 1986, 1987, & 1988	
21	2101, 2102, 2103, 2104, 2108, 2109, 2110, 2111, 2112 Part, 2181	

Table 14.14: Institutional use zone of ward-2 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
2	2	11 Part, 12 Part, 14, 15 Part,16 Part,17 Part,18 Part, 24 Part
	3	27,29 Part,51 Part, 57, 58, 59 Part, 60 Part
	4	61 Part, 62 Part, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132 Part, 133, 134, 135 Part
	5	137 Part
	6	138 Part, 139, 140, 141, 143, 144, 145, 146, 147, 148, 149 Part, 150 Part, 151, 152
	7	154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 186 Part, 222 Part, 237 Part
	8	252, 253, 254, 255, 256 Part, 284, 285
	9	392, 393, 397, 398, 399, 419, 420, & 482
	10	514 Part, 516, 517, 527, 528, 529, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 562 Part
	11	563, 564 & 565
	12	586, 587, 589, 590, 591, 592, 593, 594, 595, 596, 598, 599, 631, 632, 633, 635, 636, 637, 638, 639, 640, 656 Part, 657 Part
	13	706 Part
	14	848, 875, 885 Part, 889 Part, 891, 901, 902, 931, 949, 950
	15	991 Part
	16	1053, 1083, 1095 Part, 1109, 1110 Part
	17	1185, 1193 part, 1194, 1195, 1196, 1198, 1199, 1211 part, 1213, 1222
	18	1282 & 1300
	20	1443 Part, 1507, 1508, 1509, 1512, 1513, 1514, 1515, 1516, 1517
	21	1537 Part, 1538 Part, 1539 Part, 1540 Part, 1541 Part, 1544 Part, 1545 Part
22	1560 Part, 1562 Part, 1563 Part, 1568 Part	
23	1589, 1590, 1591, 1592, 1593, 1594, 1598 Part	
29	1711 Part, 1712 Part	

Table 14.15: Institutional use zone of ward-3 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
	1	3 Part, 26 Part, 27, 28, 30, 31, 32, 33, 34, 35, 36, 37, 38, 40 Part, 42 Part
	3	150part
	6	406, 412, 413, 414, 417, 418, 419, 420, 422, 423, 425, 426, 428, 435, 436 Part, 438, 439 Part, 440 Part, 442 Part, 446 Part, 447 Part, 448 Part, 449 Part, 450 Part, 452 Part, 453 Part, 454 Part
	7	500, 501, 502, 503, 525, & 539

3	8	588
	9	705 Part, 709 Part, 713
	10	756 Part, 757 Part, 758 Part, 765 Part, 766, 767, 803, 804 Part, 809, 810, 814, 815, 819, 821, 824
	11	878, 879 Part, 973 Part
	12	974 Part, 975, 977 Part, 983 Part, 986, 987 Part, 990 Part, 990 Part, 990 Part, 990 Part, 993 Part
	14	1152, 1153, 1171 Part, 1172 Part, 1173 Part, 1174 Part
	15	1232, 1291, 1292, & 1293
	16	1353,1359,1360,1394,1395,1418, & 1419
	17	1435 Part, 1447 Part, 1471, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495 Part, 1495 Part, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1508, 1509, 1510, 1511, 1512 Part, 1512 Part, 1513 Part, 1514, 1516, 1517, 1518, 1520, 1521 Part, 1524, 1525, 1526, 1527, 1528, 1529, 1530
	18	1558, 1559, 1560, 1561, 1562, 1563, 1564, 1565, 1566, 1567, 1568, 1569, 1570, 1571, 1572, 1573, 1574, 1575, 1576, 1578, 1579, 1580, &1581
	19	1635, 1638, 1639, 1640, 1641, 1643, 1653, 1659, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1670, 1674, 1675, 1676, 1708, 1716 Part
	20	1735, 1736, 1737, 1738, 1739, & 1740
21	1860, 1861, & 1862	
22	1954 Part, 1955, 1956, 1957, 1959, 1960, 1961 Part, 1962 Part, 1963 Part	

Table 14.16: Institutional use zone of ward-4 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
4	2	31, 32, 33, 34 Part
	5	134 Part
	7	209, 211, 212, 213, 214 Part, 215, 216, 217, 218, 219, 220, 221 Part,
	10	318 Part, 319, 320, 321, 322, 323, 324, 325, 326, 328, 329 Part, 330
	11	363 Part
	12	425 Part, 426 Part
	13	430 Part, 431, 432, 433 Part, 434, 435
	15	456, 457, 459, 460, 461, 462, 463, 464, 465, 466 Part, 467, 468, 469, 470, 471, 472, 473, 474, 475, 477, 478, 479, 480
	16	506 Part, 508, 509, 511, 513 Part
	19	639 Part, 643 Part

20	645, 646, 647 Part, 649 Part, 653, 655, 656, 659, 660, 661, 662, 663,
21	666 Part, 667, 669 Part, 669 Part, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 689, 690, 691
22	715, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 738, 739, 740, 741, 742, 743, 744, 745, 746, & 747
23	750 Part, 751, 752, 753, 754, 790, 791, 792, 793, 803 Part, 804, 805
24	807 Part, 817, 818, 822 Part, 823, 824 Part, 825
26	1072, 1073, 1074 Part
27	1175 Part, 1184 Part, 1187 Part, 1188 Part
28	1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209 Part, 1210 Part, 1212, 213, 1214, 1215, 1216 Part, 1217, 1218, 1219, 1222 Part, 1241
29	1242, 1243, 1244, 1245 Part, 1246 Part, 1247 Part, 1263, 1264, 1265
30	1266, 1267 & 1271
31	1290, 1291 Part, 1294 Part, 1298 Part
32	1306, 1308, 1309, 1310, 1311, 1312, 1314 Part, 1317
33	1332, 1337, 1389, 1453, 1454, 1455, & 1456
34	1495, 1498, 1501, 1502 Part, 1508 Part, 1509 Part, 1632
35	1686 Part, 1690 Part
37	1700, & 1715
38	1941, 1942, 1943, 1944, 1945, 1946, & 1947
40	1941, 1942, 1943, 1944, 1945, 1946, 1947 & 2039
43	2290, 2304, 2305, 2306, 2313, 2341 Part
44	2382, 2418 Part, 2498, 2503, 2504, 2505, 2506, 2507
45	2510, 2511 Part
46	2571, 2572, 2573, & 2574
47	2618
48	2666 Part
50	2779 Part, 2780, 2805
51	2808, 2810, 2811 Part, 2812, 2813 Part, 2814, 2815, 2816 Part, 2817
52	2854, 2855 Part, 2855 Part, 2856, 2857 Part
53	2859 Part, 2861 Part, 2865, 2867, 2868
54	2869, 2870, 2871 Part, 2874, 2875, 2876, 2877, 2879, 2882, 2883 Part, 2884, 2887, 2888, 2889 Part, 2890 Part, 2891 Part
56	2904, 2905, 2906, 2907, 2908, 2909, 2910, 2911, 2912, 2913, 2914,
57	2935 Part, 2938 Part, 2941 Part, 2943 Part, 2947 Part, 2948, 2949

Table 14.17: Institutional use zone of ward-5 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
5	3	174
	7	557, 558 & 559
	8	785 & 790
	10	965 Part, 967 Part, 972, 975
	13	1081 Part, 1082 Part
	14	1083 Part, 1084 Part
	17	1277
	18	1389, 1395, 1396, 1398, 1399, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, & 1417
	19	1419
	20	1766
	22	1850 Part, 1898 Part
	23	2026
	27	2195 Part, 2196 Part, 2198
	32	2375 Part
34	2395 Part	

Table 14.18: Institutional use zone of ward-6 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
6	3	88
	5	292 Part
	9	465, 466, & 467
	10	530, 533, & 534
	12	581, & 582
	13	704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718 Part, 719 Part, 720 Part, 722, & 723
	14	786, 787, 788, 814, 815, 816, 817, 818 Part
	16	937
	17	1126, 1127, 1128, 1129, 1130, 1131, & 1132
	20	1265
	21	1352, 1353, 1355, 1356, 1357, 1358, 1359, 1360, 1361, 1362, 1363, 1364, & 1365
	22	1372 Part
	26	1502 Part
	28	1587 Part, 1591 Part

Table 14.19: Industrial use zone of ward-2 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
2	28	1709 Part

Table 14.20: Industrial use zone of ward-4 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
4	1	3 Part,6,7 and 8 Part
	29	1261
	31	1284 Part
	53	2863

Table 14.21: Industrial use zone of ward-5 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
5	1	94, 95, 96 & 97 Part
	2	99 Part & 101 Part
	10	967 Part

Table 14.22: Industrial use zone of ward-6 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
6	28	1591 Part

Table 14.23: Agriculture use zone of ward-1 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
1	2	127 Part,128, 129 Part
	3	130, 131 & 147
	4	154 Part, 357, 358, 359
	5	405, 406, 407, 408 Part, 409 Part

Table 14.24: Agriculture use zone of ward-4 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
4	4	132 & 133
	5	134 Part
	6	138 Part
	18	603, 604, 605, 606, 607, 608, 609, 610, 612 Part, 613 Part, 614, 615, 616, 617, 618
	24	845 Part, 846, 847, 848 Part, 849 Part, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862 Part, 863 Part

	27	1171, 1189 Part, 1190
	28	1191, 1192, 1193, 1194, 1195, 1196, 1197, 1198, 1199, 1200, 1201, 1209 Part
	54	2871 Part, 2891 Part, 2894 Part

Table 14.25: Agriculture use zone of ward-5 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
5	13	1081 Part, 1082 Part
	14	1083 Part, 1084 Part
	27	2195 Part, 2196 Part, 2197 Part
	34	2397 & 2398

Table 14.26: Agriculture use zone of ward-6 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
6	1	1 Part, 5 Part
	3	89, 90, 91, 92, 93, 94, 95, 96 Part, 97, 98, 99, 100, 101 Part, 102 Part, 103 Part, 104 Part, 105 Part, 106 Part, 107, 108 Part, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140
	4	141 Part, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162 Part, 164
	8	449, 451, 452, 454, 455, 456, 457, 458, 459, & 460
	9	463 ,464, 477 Part, 478, 479, 480, 481, 482, 490, 491

Table 14.27: Water Bodies of ward-1 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
1	1	64 Part, 83
	2	121 Part
	14	1211 Part
	15	1232
	17	1784

Table 14.28: Water Bodies of ward-2 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
2	2	24 Part
	5	137 Part
	6	138 Part
	14	871 Part, 886 Part
	20	1443 Part
	21	1542 Part, 1543 Part, 1544 Part, 1545 Part, 1545 Part, 1546 Part
	22	1555 Part, 1558 Part, 1560 Part, 1560 Part, 1561 Part, 1566 Part, 1571 Part
	23	1572 Part, 1577 Part, 1578, 1579 Part, 1580, 1582, 1624 Part
	24	1640

Table 14.29: Water Bodies of ward-3 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
3	1	6 Part, 23, 25, 26 Part, 29
	2	70 Part, 78
	3	140 & 156
	6	424
	11	886 Part
	12	985, 989, 990 Part, 991, 992 Part
	17	1522, 1523, & 1533
	19	1711
	22	1954 Part, 1961 Part, 1962 Part, 1963 Part

Table 14.30: Water Bodies of ward-4 in Nagapattinam Municipality

Ward	Block No	T.S.Nos.
4	1	3 Part, 5 Part
	2	34 Part
	6	189 & 197
	11	340 Part, 345 Part, 347 Part, 356
	13	445, 446 & 449
	15	454, 455, 466 Part, 476

	21	666 Part, 684 Part, 701
	22	708 & 737
	24	819
	28	1216 Part
	29	1251
	31	1289
	32	1293 Part, 1294 Part, 1296
	34	1334 Part
	37	1677 Part, 1680 Part, 1681 Part, 1682 Part, 1689 Part, 1692 Part
	39	1747
	42	2237 Part
	44	2487
	45	2511 Part, 2525
	46	2579
	47	2599 Part
	48	2647
	50	2779 Part
	54	2871 Part, 2873, 2878, 2889 Part, 2890 Part, 2891 Part
	55	2900 Part, 2903 Part
	57	2934 Part, 2936 Part, 2937 Part

Table 14.31: Water Bodies of ward-5 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
5	3	152
	4	257part
	9	933part
	20	1773

Table 14.32: Water Bodies of ward-6 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
6	1	1 Part, 2, 3, 4 Part
	4	184 Part
	5	252, 258 & 259
	9	492, 493 & 494
	10	496

11	558, 563 & 564
12	567, 568, 571, 572, & 575
16	938
17	1085 Part, 1124, 1125, 1145
19	1242
20	1291 Part
21	1319, 1327 Part
22	1399,& 1402
23	1409
24	1460,& 1462
25	1481,& 1495
26	1500, 1501 Part, 1502 Part, 1523
27	1548, 1569 Part
28	1588, 1591 Part, 1594, 1596, 1597

Table 14.33: Roads of ward-1 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
1	1	1 ,2 3, 25, 41, 42, 43, 49, 54 Part, 64 Part, 82 Part,116
	2	120 Part, 121 Part, 123 ,124, 125, 126, 127 Part, 129 Part
	3	132 &133
	4	173, 205, 214 Part, 225, 246, 247 Part, 258, 271 Part, 272 Part, 281, 288 Part 296, 304 Part, 306 Part, 317,330 Part, 337, 338, 346 Part, 347 Part, 360
	5	361 Part, 367, 375 Part, 376 Part, 377, 394, 395 Part, 400, 401 Part, 404 Part, 408 Part, 409 Part
	6	410, 411 Part, 412, 413, 414, 415, 418, 426 Part, 427 Part, 428 Part,
	7	438, 443 ,452 Part, 471, 483, 494, 495, 512 ,525, 530, 545 Part, 550, 572, 583, 584
	8	585, 586, 595, 607, 622, 635, 653, 657, 676, 683, 691, 702, 704, 713, 720, 724, 737, 738, 745 Part ,746
	9	747, 748, 767, 769, 774, 798, 822 Part, 823 Part
	10	824 Part, 832 Part, 839, 848
	11	850, 857, 867, 868 Part, 886, 903, 904 Part, 921, 933, 957
	12	986, 992, 1007, 1015, 1016 & 1037
	13	1044, 1046, 1052 Part, 1055 Part, 1057 Part, 1058 Part, 1059, 1060,1061, 1064 Part, 1068 Part, 1070 Part, 1071 Part, 1073 Part, 1076, 1082 Part, 1095, 1098, 1107 Part,1108 Part,1109 Part , 1110 Part, 1111 Part, 1113 Part 1119 Part, 1120 Part, 1122 Part, 1131, 1132, 1166 , 1171 Part, 1173, 1174, 1181
	14	1186, 1197, 1203, & 1224

	15	1232
	16	1274, 1277, 1278 Part, 1279, 1316, 1356, 1385, 1423 Part, 1452, 1491 Part, 1518, 1543, 1564, 1598, 1599, 1680, 1691, 1741, 1742, 1743
	17	1770 & 1786
	18	1836, 1838 Part, 1839, 1840 Part, 1847 Part, 1848 Part, 1851, 1852,
	19	1863 Part, 1872 Part, 1873, 1883, 1884, 1889, 1890, 1895 Part, 19
	20	1959, 1964, 1981, 1989, 1992, 1998, 2019 Part, 2021 Part, 2026 Part,
	21	2057, 2065, 2066, 2070 Part, 2071 Part, 2072 Part, 2073 Part, 2074 Part, 2075, 2080, 2083 Part, 2084, 2144, 2186, 2217, 2224, 2225

Table 14.34: Roads of ward-2 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
2	1	1, 2, 4 Part, 5, 6, 7
	2	8, 9 Part, 10, 15 Part, 16 Part, 17 Part, 18 Part, 19, 24 Part
	3	25 Part, 26 Part, 29 Part, 33 Part, 36 Part, 37 Part, 43 Part, 49 Part, 50 Part, 55 Part, 56, 59 Part, 60 Part
	4	61 Part, 62 Part, 63, 64, 120, 132 Part, 135 Part, 136
	6	138 Part, 142, 149 Part, 150 Part, 153
	7	166, 185, 186 Part, 221, 222 Part, 237 Part
	8	238, 247, 250, 256 Part, 257, 260, 270, 276 Part, 292 Part, 294 Part,
	9	324, 367 Part, 373, 374, 421, 454, 468, 483, 513
	10	530, 542, 562 Part
	11	566 Part, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583
	12	584, 585 Part, 588, 597, 612, 650, 651, 674, 683, 691, 704, 705
	13	719, 734 Part, 738, 739 Part, 754, 759, 760, 770
	14	804, 822, 836 Part, 842 Part, 855, 856 Part, 879 Part, 885 Part, 886 Part, 890, 896, 897, 911, 978
	15	987, 989 & 1046
	16	1049, 1055, 1081, 1082 & 1084
	17	1130, 1131, 1183 & 1184
	18	1240, 1252, 1269 & 1293
	19	1309, 1310, 1319 Part, 1320 ,1325 Part, 1346, 1360, 1373, 1394,
	20	1434, 1441, 1443 Part, 1456, 1458, 1467, 1488
	21	1518, 1536, 1537 Part, 1538 Part, 1539 Part, 1540 Part, 1541 Part,

	22	1547, 1548, 1549 part, 1557, 1559, 1561 Part, 1562 Part, 1563 Part, 1567,1569
	23	1584, 1585, 1587, 1599 Part, 1600, 1616, 1617, 1622, 1624 Part
	24	1634 & 1636
	26	1679 & 1683
	27	1693 Part, 1702, 1708
	28	1709 Part
	29	1711 Part, 1712 Part

Table 14.35: Roads of ward-3 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
3	1	3 Part, 39, 40 Part, 42 part, 43, 45 Part
	2	46 Part, 70 Part, 80 Part, 81 Part, 84, 100 Part
	3	101 ,135 ,155 Part ,159
	4	164 Part ,169, 190, 207, 230, 240, 259, 260, 261, 262
	5	263, 292, 301, 304, 313 Part, 329, 339, 352, 358, 359, 372, 381, 390, 405
	6	421, 427, 429 & 437
	7	460, 483, 497 ,498 Part, 524, 532, 536, 560, 567, 575 Part, 577 Part, 578
	8	586, 600, 601, 629, 653, 657, 659, & 692
	9	708, 731,& 732
	10	754, 755, 765 Part, 768, 791, 802, 827, 859, 860, 861
	11	868, 869, 879 Part, 883, 887, 894, 910, 911, 923, 925 Part, 926, 927, 928, 933, 934, 935 Part, 942, 957
	12	976, 977 Part, 978 Part, 979, 980, 983 Part, 984 Part, 987 Part, 990 Part, 992 Part, 993 Part, 996 Part, 997 Part, 999
	13	1014, 1027, 1053, 1079, 1080, 1103 & 1106
	14	1137,1138,1151,1177,& 1179
	15	1190,1223,1245,1269,1290,&1294
	16	1295, 1320, 1350, 1363, 1398, 1400 Part, 1423, 1424
	17	1425, 1482, 1515 & 1519
	18	1557, 1577, 1582 & 1596
	19	1613, 1614, 1616, 1617 Part, 1621, 1642, 1669, 1695, 1726, 1727
	20	1728, 1750, 1760, 1774, 1779 & 1801
	21	1811, 1844, 1852, 1897, 1906, 1934 & 1953
	22	1958, 1961 Part, 1962 Part, 1963 Part

Table 14.36: Roads of ward-4 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
4	1	1 Part , 2 Part, 3 Part, 8 Part,9 Part,10 Part
	2	11, 12 Part, 16 Part, 28 Part, 29 Part, 44 Part, 48, 53 Part , 54 Part, 55
	3	62 Part, 69 Part, 73, 90 Part, 91 Part, 92 Part ,93 Part
	4	129, 130 & 131
	5	134 Part
	6	138 Part, 139, 140, 141 Part, 145 Part, 147 Part, 150 Part, 170 Part, 176
	7	210, 221 Part, 222 Part, 232 Part, 233 Part ,245
	9	284, 308, 310 Part, 317 Part
	10	318 Part, 329 Part, 330 Part ,331 Part, 332 Part, 335 Part, 336 Part, 337 Part, 339
	11	344, 347 Part
	12	364, 365, 381, 398, 399, 400, 424, & 427
	13	448
	15	451, 453, 458 & 481
	16	497, 510, 512 & 515
	17	519, 524, 570, 571, 576, 581, 595, 600, 601 & 602
	19	619, 620, 621, 637 Part, 638 Part, 639 Part, 641Part
	20	657 & 658
	21	665, 668, 683, 698 Part, 699 Part, 700 Part, 702
	22	709, 724, 725 & 748
	23	750 Part, 755, 789, 794, 797, 798, 801, 803 Part, 805 Part, 806 Part
	24	807 Part, 811, 821 Part, 822 Part, 824 Part, 826 Part, 828 Part, 829 Part, 830 Part, 832 Part, 833 Part, 834 Part, 836 Part, 837 Part,838 Part, 842, 84 3, 844, 845 Part, 848 Part, 849 Part, 862 Part
	26	1071 Part, 1074 Part
	27	1175 Part, 1182 Part, 1187 Part, 1189 Part
	28	1210 Part, 1211, 1216 Part, 1220, 1221, 1222 Part, 1227 Part, 1228 Part, 1229 Part, 1230 Part, 1231 Part, 1232 Part, 1234, 1235, 1236
	29	1246 Part, 1247 Part, 1254, 1262, 1265 Part
	30	1268, 1269, 1270 & 1272
	31	1275, 1279, 1281, 1284 Part, 1285
	32	1291 Part, 1292 Part, 1295 Part, 1300 Part
	33	1301, 1303, 1313, 1316 Part, 1324 Part, 1326, 1327, 1330
	34	1331, 1336, 1338, 1388, 1390, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1430, 1431 Part, 1432 Part, 1433, 1457, 1458

	35	1459, 1510, 1517, 1572, & 1626
	36	1669 & 1676
	37	1677 Part, 1680 Part, 1681 Part, 1682 Part, 1689 Part, 1692 Part
	38	1701, 1702, 1710, 1716, 1733, & 1734
	39	1735, 1762, 1795, 182 & 1848
	40	1888, 1939, 1987, 1998, 2013, 2023, 2051, 2072, 2087 & 2089
	41	2106, 2132, 2138, 2144, 2153, 2168, 2175 Part, 2210, 2220
	42	2234, 2238 & 2240
	43	2241, 2259, 2269, 2288, 2289, 2291, 2302 Part, 2316, 2340, 2341 Part
	44	2342, 2367, 2368 part, 2381, 2391, 2402, 2416, 2425, 2426, 2427, 2443, 2446, 2473, 2497, 2509
	45	2514, 2515, 2523, 2527, 2528, 2529 Part, 2543
	46	2552, 2553, 2569 & 2570
	47	2615 & 2616
	48	2641, 2667 & 2685
	49	2714, 2715, 2721, 2725, 2747 & 2777
	50	2778, 2781, 2804, 2806 Part, 2807
	51	2811 Part, 2813 Part, 2816 Part, 2817 Part, 2829 Part, 2831 Part, 2832 Part, 2834, 2836 Part, 2843, 2853
	52	2855 Part, 2857 Part, 2858
	53	2859 Part, 2860, 2861 Part, 2862, 2864, 2866
	54	2871 Part, 2872, 2880, 2881, 2885, 2886, 2891 Part, 2893 Part
	55	2897, 2898 & 2901
	56	2916, 2933 Part
	57	2936 Part, 2937 Part, 2938 Part, 2939, 2940, 2941 Part, 2943 Part, 2947 Part

Table 14.37: Roads of ward-5 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
5	1	1, 30, 73, 74, 75 Part, 78 Part, 79 Part, 80 Part, 81 Part, 82 Part, 84 Part, 86 Part, 87 Part, 88 Part, 89 Part, 97 Part, 98
	2	99 Part, 101 Part, 102 Part, 103, 120, 132, 133, 134 Part, 135 Part, 136 Part, 137 Part, 138 Part
	3	139, 145 Part, 148, 163, 178, 194, 221, 241
	4	242, 248, 265, 266 Part, 271 Part, 289, 302, 324, 325
	5	335, 336, 353, 375, 385, 386 & 403
	6	434, 460, 516 & 555
	7	556, 560, 565, 583, 584, 585, 600, 611, 618, 624, 634, 642, 643, 644, 651, 675 & 687

8	697, 712, 721, 726, 736, 741, 755, 776, 781, 792 ,800, 810, 826, 834, 884, 887, 894 & 903
9	904, 909, 942 & 953
10	954, 956, 961, 963, 965 Part, 967 Part,971,974
11	981, 983, 985, 992 Part, 995 Part,1003 Part, 1005 Part
12	1007 Part, 1008 Part, 1011 Part, 1013 Part, 1020 Part, 1027 Part, 1028 Part, 1038 Part, 1039 Part, 1040 Part, 1041 Part, 1053 Part, 1054 Part, 1055 Part, 1056 Part, 1057, 1059 Part, 1060 Part, 1062 Part, 1063, 1066 Part, 1070 Part, 1071 Part, 1072 Part, 1079 Part, 1080 Part
13	1081 Part, 1082 Part
14	1083 Part,1084 Part, 1085, 1086, 1087 Part,1091,1092,1102
15	1103, 1104, 1115, 1138, 1143 & 1176
16	1197, 1201 & 1214
17	1223, 1236, 1240, 1249, 1255, 1260, 1276, 1298, 1309, 1324, 1328, 1332, 1344, 1351, 1356, 1361, 1371 & 1385
18	1387,1388,1397,1400, & 1418
19	1448, 1466, 1467, 1479, 1503, 1510, 1540, 1584, 1643, 1644 &1645
20	1646, 1698, 1705, 1757, 1765, 1771, 1772 ,& 1774
21	1785, 1794, 1809 & 1846
22	1847, 1864, 1896, 1907 & 1918
23	1938, 1991 & 1992
24	2058, 2059, 2067, & 2096
25	2097 & 2126
26	2146, 2171 & 2177
27	2188, 2191, 2194, 2195 Part, 2196 Part, 2197 Part, 2199, 2200 Part, 2202, 2206
28	2214, 2228, & 2238
29	2259
30	2275 & 2276
31	2290 & 2364
32	2368, 2372 & 2377
33	2378, 2379, 2384, 2388 & 2392
34	2395 Part

Table 14.38: Roads of ward-6 in Nagapattinam Municipality

Ward No	Block No	T.S.Nos.
	1	1 Part, 4 Part, 5 Part, 6
	2	7
	3	30, 31, 87
	4	141 Part, 172, 183, 202, 217, 226

6	5	240, 241, 250, 284, 285, 290, & 291
	6	293 ,301 ,302 Part, 324
	7	352, & 409
	8	423 Part, 424, 461
	9	462, 475, & 476
	10	495, 519, 523, 537 & 538
	11	539, 548, & 557
	12	565, 594, 625, & 659
	13	660, 669, 742, & 743
	14	756, 789, 809, 824 & 848
	15	864, 904
	16	936, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 979, 996, 1009, 1026 Part, 1027, 1047, 1073 Part
	17	1074, 1083 part, 1084 Part, 1085 part,1089, 1116, 1122, 1123, 1144
	18	1168, 1186 & 1203
	19	1226 Part, 1227 Part, 1229 Part, 1238, 1241 Part, 1245, 1257 Part, 1264
	20	1282
	21	1320, 1325, 1339, 1354 & 1366
	22	1386&1407
	23	1419
	24	1452
	25	1466, 1467, 1487 & 1491
	26	1498 Part, 1501 Part, 1502 Part, 1506
	28	1584, 1585, 1589, 1598 Part

Table 14.39: Land use schedule for Velankanni Town Panchayat

Uses	Survey Nos.
Residential	1 Part, 4 Part, 5 Part, 8 Part, 16 Part, 17 Part, 18 Part, 19, 20 Part, 21 Part, 22 Part, 24 Part, 25 Part, 29 Part, 30 Part, 31 Part, 32 Part, 33 Part, 34, 35 Part, 40 Part, 41 Part, 42 Part, 43 Part, 46 Part, 66 Part, 68 Part, 70, 71, 77, 78, 79, 81, 82, 83 Part, 84 Part, 85, 86, 87 Part, 88, 90, 100 Part, 107 Part, 109 Part, 110, 111, 112 Part, 117 Part
Commercial	9 Part, 12 Part, 13 Part, 14 Part, 15 Part, 44, 45, 46 Part, 47 Part, 48, 51 Part, 52p art, 62, 63, 68 Part, 69 Part, 72 Part, 73 Part, 92 Part, 93 Part, 98 Part, 99 Part, 116 Part
Institutional	1 Part, 5 Part, 6 Part, 7 Part, 8 Part, 9 Part, 10 Part, 11 Part, 12 Part, 13 Part, 14p art, 17 Part, 18 Part, 21 Part, 26 Part, 29 Part, 35 Part,

	46 Part, 49, 50, 51 Part, 53 Part, 54 Part, 56, 58 Part, 64, 65, 72 Part, 83 Part, 84 Part, 87 Part, 91, 92 Part, 93 Part, 94, 95, 96 Part, 97 Part, 99 Part, 100 Part, 107 Part, 112 Part, 113 Part, 114, 116 Part, 117 Part, 118 Part
Agricultural Use	3 Part, 4 Part, 26 Part, 27 Part, 28 Part, 29 Part, 30 Part, 100 Part, 109 Part, 117 Part
Aquaculture	54 Part, 58 Part, 59, 101, 102, 103, 104, 105 Part, 106 Part
Water bodies	53 Part, 60, 61, 66 Part, 69 Part, 73 Part, 74 Part, 84 Part, 89, 106 Part, 108
Road	3 Part, 4 Part, 6 Part, 7 Part, 7 Part, 8 Part, 8 Part, 9 Part, 9 Part, 10 Part, 11 Part, 12 Part, 13 Part, 13 Part, 14 Part, 15 Part, 16 Part, 17 Part, 17 Part, 18 Part, 20 Part, 21 Part, 22 Part, 24 Part, 25 Part, 27 Part, 28 Part, 31 Part, 32 Part, 33 Part, 40 Part, 41 Part, 42 Part, 43 Part, 46 Part, 47 Part, 52 Part, 53 Part, 58 Part, 74 Part, 96 Part, 96 Part, 97 Part, 98 Part, 99 Part, 100 Part, 105 Part, 113 Part, 115, 116 Part, 117 Part, 118 Part, 119, 120, 121, 122, 123

Table 14.40: Land use schedule for Nagore (Kottagam) Village

Uses	Survey Nos.
Residential	2, 6, 7 Part, 12, 13 Part, 14, 15 Part, 21 Part, 48 Part, 52, 53, 54 Part, 60, 61, 62, 63, 64 Part, 65 Part, 84 Part, 149 Part, 150 Part, 161, 163, 164 Part, 166 Part, 167, 173 Part, 178, 189, 190 Part, 198 Part, 288 Part, 289 Part, 298, 299 Part, 300 Part, 301 Part, 302 Part, 303 Part, 304 Part, 305 Part, 306, 307 Part, 308, 309 Part, 315, 332, 333, 336 Part
Commercial	148, 151 Part, 152 Part, 194 Part, 209 Part, 215 Part, 275, 276, 279, 280, 281 Part, 290 Part, 291, 311 Part, 312 Part, 313 Part, 314 Part
Institutional	16, 17, 18, 19, 21 Part, 25, 28 Part, 40, 43 Part, 44 Part, 45, 46, 64 Part, 65 Part, 67, 68, 69, 70, 71, 72, 73 Part, 75, 77, 78, 79, 81, 89 Part, 93 Part, 94 Part, 96 Part, 154 Part, 164 Part, 173 Part, 176 Part, 198 Part, 200 Part, 233 Part, 296 Part, 300 Part, 301 Part, 302 Part, 303 Part, 304 Part, 305 Part, 309 Part, 325 Part, 336 Part
Industrial	27, 28 Part, 32, 33, 35, 36, 37, 38, 39, 42, 43 Part, 99, 142, 147, 186 Part, 187 Part, 188, 191, 193, 194 Part, 207, 208, 209 Part, 210 Part, 212 Part,

	246, 247 Part, 248 Part, 249 Part, 250 Part, 269, 270 Part, 272 Part, 273 Part, 274 Part, 284 Part, 303 Part, 313 Part
Agricultural Use	82, 83 Part, 84 Part, 85 Part, 86 Part, 87, 88 Part, 90 Part, 91 Part, 93 Part, 149 Part, 150 Part, 172, 173 Part, 174, 175, 176 Part, 177, 187 Part, 190 Part, 192 Part, 195, 196, 197, 199 Part, 200 Part, 201, 202, 203, 204, 205, 206 Part, 209 Part, 210 Part, 211 Part, 212 Part, 213, 214, 215 Part, 216 Part, 217 Part, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229 Part, 230, 231 Part, 232 Part, 233 Part, 237, 238, 239, 240, 241, 242, 243, 244, 245, 254, 255, 256, 272 Part, 277, 278, 281 Part, 282, 283, 284 Part, 285 Part, 286, 287, 288 Part, 289 Part, 290 Part, 292, 293, 294, 295, 297 Part, 310 Part, 311 Part, 314 Part, 316, 317, 318, 319, 322 Part, 323, 325 Part, 328, 329, 330, 331, 334, 335, 339
Aquaculture	97, 168, 169, 170, 171, 185 Part, 186 Part, 234, 235 Part, 251, 252, 257 Part, 258 Part, 259, 260 Part, 261 Part, 262 Part, 264, 265, 266 Part, 268, 270 Part, 271
Water bodies	7 Part, 13 Part, 15 Part, 21 Part, 48 Part, 54 Part, 66, 73 Part, 94 Part, 96 Part, 152 Part, 162, 164 Part, 166 Part, 173 Part, 235 Part, 236, 263, 299 Part, 301 Part, 305 Part, 307 Part, 310 Part
Road	1, 43 Part, 44 Part, 83 Part, 85 Part, 86 Part, 88 Part, 89 Part, 90 Part, 91 Part, 93 Part, 96 Part, 98, 151 Part, 152 Part, 154 Part, 179, 180, 181, 182, 183, 184, 185 Part, 186 Part, 192 Part, 194 Part, 199 Part, 200 Part, 206 Part, 209 Part, 210 Part, 211 Part, 212 Part, 215 Part, 216 Part, 217 Part, 229 Part, 231 Part, 232 Part, 247 Part, 248 Part, 249 Part, 250 Part, 253, 257 Part, 258 Part, 260 Part, 261 Part, 262 Part, 266 Part, 270 Part, 273 Part, 274 Part, 281 Part, 285 Part, 290 Part, 296 Part, 297 Part, 312 Part, 313 Part, 314 Part, 320, 321, 322 Part, 324, 326, 327, 337, 338

Table 14.41: Land use schedule for Palaiyur Village

Uses	Survey Nos.
Residential	2, 4 Part, 6 Part, 10, 18 Part, 92 Part, 116 Part, 117, 118, 119, 120 Part, 121 Part, 12 5 Part, 128, 129, 130 Part, 131, 133 Part, 135 Part, 137 Part, 162, 163, 164, 16 5 Part, 168 Part, 169 Part, 170, 171, 175, 176 Part, 195 Part, 196 Part, 219 Part, 22 0 Part, 223 Part, 225 Part, 228, 236 Part, 237, 239

	Part, 241, 249 Part, 250 Part, 25 2 Part, 254 Part, 263, 275 Part, 276 Part, 284 Part, 291 Part, 294 Part, 295 Part, 296 Part, 297
Commercial	4 Part
Institutional	6 Part, 208 Part, 209 Part, 210 Part
Industrial	16, 18 Part, 19 Part, 125 Part, 135 Part, 229 Part, 250 Part, 254 Part, 276 Part, 296 Part
Agricultural Use	6 Part, 208 Part, 209 Part, 210 Part
Water bodies	3, 6 Part, 12 Part, 13, 14, 15, 17, 18 Part, 19 Part, 20 Part, 22 Part, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 39, 40, 41 Part, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 66, 67, 68, 70, 72, 73, 77 Part, 78 Part, 79 Part, 80, 81, 82, 84, 85, 86, 87, 88, 89, 90, 92 Part, 93, 94, 95, 97, 98, 100, 102, 103, 104, 105, 106, 107, 109, 110, 111, 112, 114, 127, 139, 140, 141, 142, 143, 144, 145, 146 Part, 147, 149, 150 Part, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 165 Part, 166, 167, 173, 174, 179, 180, 181, 183, 184, 186, 187, 188, 189, 191, 192, 193, 194, 196 Part, 197, 198 Part, 200, 201, 203, 204, 205, 206, 207, 212, 214, 215, 216, 217, 218, 219 Part, 220 Part, 221, 230, 231, 232, 233, 234, 236 Part, 244, 246, 247, 248 Part, 249 Part, 250 Part, 254 Part, 255, 258, 259 Part, 260 Part, 261, 262, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275 Part, 276 Part, 277, 278, 279, 280, 281, 282, 283, 284 Part, 285, 286, 287, 288, 290, 291 Part, 292, 294 Part, 295 Part, 296 Part
Road	71, 74, 76, 115, 120 Part, 135 Part, 177, 182, 190, 202 Part, 211, 213, 239 Part

Table 14.42: Land use schedule for Ivanalur Village

Uses	Survey Nos.
Residential	7 Part, 10 Part, 12 Part, 13 Part, 14 Part, 15 Part, 16, 17, 18 Part, 19, 20 Part, 26 Part, 28 Part, 29, 30, 31, 33, 34, 35 Part, 37 Part, 40, 41, 43, 44, 81 Part, 84 Part, 85, 86pa rt, 87 Part, 90 Part, 91 Part, 94 Part, 95 Part, 97 Part, 98 Part, 99, 110 Part, 112, 113 Part, 114 Part, 115 Part, 116 Part, 117 Part, 118, 119 Part, 120 Part, 121, 132, 152, 153 Part, 154 Part, 155 Part, 161 Part, 162 Part, 163 Part, 164 Part, 165 Part, 166 Part, 167, 168,

	169 Part, 170 Part, 171 Part, 181 Part, 182 Part, 183 Part, 184 Part, 185 Part, 186 Part, 187 Part, 188 Part
Commercial	8 Part, 13 Part, 88 Part, 89 Part, 122 Part, 123, 124, 125
Institutional	8 Part, 9, 10 Part, 11 Part, 12 Part, 14 Part, 89 Part, 163 Part, 189 Part, 190 Part, 192 Part, 193, 194
Industrial	73
Agricultural Use	3, 4, 5, 6, 18 Part, 20 Part, 21, 22, 24, 25, 26 Part, 27, 28 Part, 45, 46, 47, 48, 49, 50, 51, 52, 53, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 67, 69, 70, 71, 72, 74, 75, 76, 77, 78, 79, 80, 81 Part, 82, 83, 97 Part, 98 Part, 100, 103, 104, 105, 106, 107, 108, 109, 110 Part, 126, 127, 128, 129, 130, 131, 133, 134, 135, 136, 137, 138, 139, 140 Part, 14 1 Part, 142 Part, 143 Part, 144, 145 Part, 146, 147, 148, 149, 150, 151 Part, 156, 157, 158, 159, 160, 161 Part, 171 Part, 173, 174, 175 Part, 176, 177 Part, 178, 179, 180, 181 Part, 188 Part, 189 Part, 190 Part, 191
Water bodies	1, 15 Part, 35 Part, 37 Part, 68, 101, 102, 110 Part, 113 Part, 117 Part, 165 Part, 186 Part
Road	7 Part, 10 Part, 11 Part, 12 Part, 13 Part, 14 Part, 39, 42, 84 Part, 86 Part, 87 Part, 88 Part, 89 Part, 90 Part, 91 Part, 94 Part, 95 Part, 114 Part, 115 Part, 116 Part, 119 Part, 120 Part, 122 Part, 140 Part, 141 Part, 142 Part, 143 Part, 145 Part, 151 Part, 15 3 Part, 154 Part, 155 Part, 161 Part, 162 Part, 163 Part, 164 Part, 165 Part, 166 Part, 169 Part, 170 Part, 175 Part, 177 Part, 181 Part, 182 Part, 183 Part, 184 Part, 185 Part, 186 Part, 187 Part, 188 Part

Table 14.43: Land use schedule for Anthanapettai (Manjakollai) Village

Uses	Survey Nos.
Residential	1 Part, 2 Part, 3 Part, 4 Part, 5, 6 Part, 7, 8 Part, 11 Part, 12 Part, 13, 14 Part, 15, 16, 17 Part, 18, 19 Part, 23, 27 Part, 28, 30, 46 Part, 47, 48, 49, 50, 53 Part, 54, 55 Part, 56, 58, 59, 60, 61, 67, 69 Part, 70, 71 Part, 72 Part, 74 Part, 78 Part, 80 Part, 81, 82 Part, 84 Part, 89 Part, 95, 96, 97, 98

Commercial	3 Part, 4 Part, 9 Part, 10 Part, 11 Part, 12 Part, 20 Part, 21 Part, 22, 24 Part, 25 Part, 26 Part, 27 Part, 29, 33 Part, 34, 35, 36 Part, 37 Part, 38, 39 Part, 40 Part, 41 Part, 43 Part, 45 Part, 53 Part
Institutional	71 Part, 72 Part, 74 Part, 82 Part, 100, 101, 102, 103 Part, 104 Part, 105 Part, 106 Part, 107 Part, 108 Part
Industrial	1 Part, 84 Part, 88 Part, 90 Part, 91, 92 Part, 93 Part
Agricultural Use	1 Part, 2 Part, 66, 68, 69 Part, 99 Part, 109 Part, 110, 111 Part, 112, 113, 114, 115
Aquaculture	88 Part, 92 Part, 93 Part, 94
Water bodies	6 Part, 8 Part, 14 Part, 20 Part, 33 Part, 46 Part, 55 Part, 72 Part, 80 Part, 90 Part, 106 Part, 107 Part
Road	1 Part, 2 Part, 3 Part, 4 Part, 9 Part, 10 Part, 11 Part, 14 Part, 17 Part, 19 Part, 20 Part, 21 Part, 24 Part, 25 Part, 26 Part, 27 Part, 31, 32, 33 Part, 36 Part, 37 Part, 39 Part, 40 Part, 41 Part, 42, 43 Part, 44, 45 Part, 51, 52, 53 Part, 57, 62, 63, 64, 65, 72 Part, 73, 75, 76, 77, 78 Part, 79, 82 Part, 83, 84 Part, 85, 86, 87, 88 Part, 89 Part, 92 Part, 93 Part, 99 Part, 103 Part, 104 Part, 105 Part, 108 Part, 109 Part, 111 Part

Table 14.44: Land use schedule for Vadakku Poigainallur (Akkaraipettai) Village

Uses	Survey Nos.
Residential	1 Part, 5 Part, 8 Part, 10 Part, 11 Part, 13, 17 Part, 19, 20 Part, 25 Part, 28, 29, 81part, 82 Part, 87 Part, 88 Part, 90, 94, 98 Part, 99 Part, 102 Part, 105 Part, 108 Part, 109 Part, 111 Part, 113 Part, 125 Part, 127 Part, 131, 134 Part, 150, 151 Part, 170 Part, 171 Part, 172, 173 Part, 174 Part, 177 Part, 179, 181 Part, 183, 186 Part, 187 Part, 190 Part, 191, 193, 195 Part, 200, 208 Part, 210 Part, 213 Part, 216 Part, 217, 218 Part, 221, 225, 227 Part, 230, 232, 234, 235, 236, 237 Part, 239 Part, 241, 242, 244, 246 Part, 247, 248, 249, 253, 255, 257, 259, 260, 261, 262 Part, 266 Part, 283 Part
Commercial	20 Part
Institutional	1 Part, 8 Part, 9, 17 Part, 20 Part, 21 Part, 21 Part, 25 Part, 96, 98 Part, 109 Part, 111 Part, 127 Part, 190 Part, 195 Part, 195 Part, 203 Part, 207 Part, 210 Part, 213 Part, 218 Part, 283 Part

Industrial	1 Part, 227 Part, 283 Part, 283 Part
Agricultural Use	30, 81 Part, 82 Part, 83, 84, 88 Part, 99 Part, 102 Part, 108 Part, 109 Part, 113 Part, 114, 115, 116, 117, 118, 119, 120, 122, 123, 125 Part, 136, 137, 138 Part, 139, 140, 141, 142, 143, 144, 146, 147, 149, 151 Part, 155, 156, 157, 158, 160, 161, 162, 164, 165, 166, 167, 168, 169 Part, 170 Part, 171 Part, 181 Part, 186 Part, 187 Part, 189, 201, 202, 203 Part, 204 Part, 206, 207 Part, 210 Part, 216 Part, 218 Part, 223, 26 2 Part, 263 Part, 264 Part, 265, 266 Part, 267, 268 Part, 269, 270, 272, 273, 274, 292
Aquaculture	33 Part, 34 Part, 35 Part, 36, 37 Part, 38, 39 Part, 41 Part, 42 Part, 44, 45, 46, 48, 49, 51, 52 Part, 53 Part, 55, 56 Part, 57, 58, 60, 61, 62, 63, 64, 66, 67 Part, 68 Part, 69, 70, 71, 72 Part, 73, 74, 75, 76 Part, 77, 78, 79 Part, 80, 233 Part, 276 Part, 280, 295, 296, 297
Water bodies	24 Part, 25 Part, 32 Part, 65 Part, 72 Part, 76 Part, 79 Part, 105 Part, 110, 111 Part, 121, 127 Part, 134 Part, 138 Part, 174 Part, 190 Part, 195 Part, 224, 227 Part, 237 Part, 276 Part, 277, 278, 279, 281, 282, 286, 287 Part, 288, 289, 290 Part, 291, 293, 294, 298, 299, 300 Part, 301 Part
Road	1 Part, 5 Part, 8 Part, 10 Part, 11 Part, 20 Part, 21 Part, 24 Part, 32 Part, 33 Part, 34 Part, 35 Part, 37 Part, 39 Part, 41 Part, 41 Part, 42 Part, 42 Part, 52 Part, 52 Part, 53 Part, 56 Part, 65 Part, 67 Part, 68 Part, 76 Part, 85, 87 Part, 88 Part, 97, 98 Part, 111 Part, 130, 153, 169 Part, 170 Part, 171 Part, 173 Part, 174 Part, 177 Part, 182, 188, 192, 203 Part, 204 Part, 207 Part, 208 Part, 210 Part, 212, 213 Part, 214, 215, 226, 233 Part, 237 Part, 239 Part, 245, 246 Part, 251, 262 Part, 263 Part, 264 Part, 266 Part, 268 Part, 276 Part, 283 Part, 283 Part, 284, 285, 287 Part, 290 Part, 300 Part, 301 Part

Table 14.45: Land use schedule for Therku Poigainallur Village

Uses	Survey Nos.
Residential	8 Part, 15 Part, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26 Part, 27 Part, 28, 29, 31 Part, 32 Part, 33 Part, 35, 36 Part, 37, 38 Part, 46, 47 Part, 48 Part, 49 Part, 50, 51 Part, 52, 54, 55 Part, 76, 77 Part, 79 Part, 80, 81, 82, 83, 84 Part, 85, 86, 87 Part, 88, 89 Part, 94, 99, 104 Part, 105, 106, 107, 108, 109, 111, 112, 113, 114 Part, 115, 117 Part, 118, 119, 120 Part, 121, 122 Part, 129, 130, 131, 132 Part, 133, 135 Part, 136 Part, 156, 157 Part, 158, 159, 164 Part, 165 Part, 170 Part, 172, 173, 174, 175 Part, 176 Part, 177, 178, 179, 180 Part, 181, 182, 183 Part, 184, 185, 186, 187
Commercial	89 Part, 92, 93, 95, 96, 97, 98, 100, 101, 102 Part, 103, 104 Part, 124, 125, 126, 127, 128, 188, 189
Institutional	168 Part
Industrial	135 Part
Agricultural Use	1, 3, 4, 5, 6 Part, 7 Part, 8 Part, 9, 10, 11, 12, 13 Part, 15 Part, 36 Part, 38 Part, 39 Part, 41, 42, 43, 44 Part, 51 Part, 55 Part, 56 Part, 57 Part, 58 Part, 60 Part, 61, 62, 63, 64, 65, 66, 67, 68, 69 Part, 70, 71, 72, 73 Part, 74 Part, 75 Part, 77 Part, 78 Part, 79 Part, 160 Part, 161, 162, 163, 164 Part, 165 Part, 166 Part, 167 Part, 168 Part, 169 Part, 170 Part, 171 Part
Aquaculture	122 Part, 132 Part, 135 Part, 136 Part, 137, 138, 140, 141, 142, 143, 145, 146, 147, 148, 150, 151, 152, 153
Water bodies	59, 102 Part, 114 Part, 120 Part, 134, 139, 144, 154, 183 Part
Road	1, 3, 4, 5, 6 Part, 7 Part, 8 Part, 9, 10, 11, 12, 13 Part, 15 Part, 36 Part, 38 Part, 39 Part, 41, 42, 43, 44 Part, 51 Part, 55 Part, 56 Part, 57 Part, 58 Part, 60 Part, 61, 62, 63, 64, 65, 66, 67, 68, 69 Part, 70, 71, 72, 73 Part, 74 Part, 75 Part, 77 Part, 78 Part, 79 Part, 160 Part, 161, 162, 163, 164 Part, 165 Part, 166 Part, 167 Part, 168 Part, 169 Part, 170 Part, 171 Part

Table 14.46: Land use schedule for Poravachery Village

Uses	Survey Nos.
Residential	27 Part, 34 Part, 36, 39, 40, 42 Part, 43 Part, 56 Part, 57 Part, 58 Part, 67 Part, 70part, 73 Part, 74 Part, 75 Part, 76 Part, 77 Part, 78 Part, 90 Part, 91, 95 Part, 97, 99 Part, 100 Part, 101 Part, 103, 104, 105 Part, 106, 107, 110, 112 Part, 130, 131 Part, 132
Commercial	86 Part, 87, 88 Part, 100 Part, 114 Part, 116, 117, 119, 120 Part, 122 Part, 124, 127 Part
Institutional	1 Part, 34 Part, 43 Part, 93 Part, 99 Part, 100 Part, 101 Part, 102, 105 Part, 120 Part, 125, 131 Part
Industrial	1 Part, 2, 4, 5, 6, 7, 9, 10, 13, 14, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27 Part, 28, 29, 30, 31, 32, 34 Part, 42 Part, 43 Part, 47, 48, 49 Part, 50, 51, 52, 54, 56 Part, 57 Part, 58 Part, 59, 61, 62 Part, 63 Part, 64, 65, 66, 67 Part, 68, 69, 70 Part, 72, 73 Part, 74 Part, 75 Part, 76 Part, 77 Part, 78 Part, 114 Part, 115, 127 Part, 128, 131 Part
Agricultural Use	70 Part, 79, 80, 81, 82, 83, 84 Part, 85 Part, 89 Part, 112 Part, 135, 138, 139, 141, 142, 143, 144
Water bodies	11, 34 Part, 92, 93 Part, 95 Part, 99 Part, 100 Part, 101 Part, 133, 134
Road	49 Part, 56 Part, 57 Part, 58 Part, 62 Part, 63 Part, 67 Part, 70 Part, 73 Part, 74 Part, 75 Part, 76 Part, 77 Part, 78 Part, 84 Part, 85 Part, 86 Part, 88 Part, 89 Part, 90 Part, 118, 120 Part, 122 Part, 126, 140, 145, 146, 147, 148

Table 14.47: Land use schedule for Sikkal Village

Uses	Survey Nos.
Residential	24 Part, 25 Part, 26 Part, 27 Part, 28, 30 Part, 32 Part, 33 Part, 35 Part, 36, 37, 39, 40 Part, 42 Part, 43, 44, 45, 46, 47, 48, 51, 52, 54, 55 Part, 58, 60 Part, 62, 63, 67 Part, 69 Part, 70 Part, 72, 73, 76, 86 Part, 97, 99 Part, 118 Part, 119 Part, 123 Part, 129 Part, 131, 133 Part, 135 Part, 164 Part, 171 Part, 172 Part, 173 Part, 174, 175, 176 Part, 177 Part, 179 Part, 180 Part, 184 Part, 186 Part, 187, 188, 189 Part, 191, 192, 193, 194 Part, 195 Part, 198 Part, 200 Part, 201 Part, 202 Part, 204 Part, 207 Part, 209, 210, 217 Part, 218 Part, 220, 222, 224 Part, 227 Part, 229 Part, 250 Part, 254 Part, 258 Part, 259 Part, 271 Part, 295 Part, 298 Part, 300 Part, 301 Part, 304 Part, 309, 311
Commercial	55 Part, 198 Part, 200 Part
Institutional	60 Part, 64 Part, 123 Part, 133 Part, 171 Part, 173 Part, 177 Part, 189 Part, 195 Part, 201 part, 202 Part, 207 Part, 224 Part, 227 Part, 250 Part, 254 Part, 271 Part, 296, 315, 316
Industrial	1, 3, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16 Part, 18, 20, 21, 22 Part, 24 Part, 25 Part, 26 Part, 30 Part, 32 Part, 33 Part, 34, 40 Part, 41 Part, 184 Part, 186 Part, 217 Part
Agricultural Use	16 Part, 22 Part, 66, 67 Part, 68, 69 Part, 70 Part, 74, 77, 78, 79, 81, 83, 84, 85, 86 Part, 88, 89, 90, 91, 92, 94, 95, 96, 99 Part, 100, 101, 102, 103, 104, 105, 106, 107, 109, 111, 112, 113, 115, 118 Part, 119 Part, 120, 121, 122, 123 Part, 125, 126, 127, 128, 129 Part, 130, 138, 139, 140, 141, 142, 145, 146, 147, 148, 149, 150, 151, 152, 153, 155, 156, 157, 159, 160, 161, 162, 163, 164 Part, 165, 167, 170, 171 Part, 215, 218 Part, 219, 229 Part, 230, 232, 234, 235, 236, 237, 238, 240, 243, 244, 245, 246, 247, 248, 249, 250 Part, 253, 254 Part, 255, 256, 258 Part, 259 Part, 260, 261, 262, 263, 264, 265, 267, 268, 269, 270, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 287, 288, 289, 291, 294, 295 Part, 297, 298 Part, 300 Part, 301 Part, 302, 303, 304 Part, 305, 306, 307, 308, 310, 312, 313, 314
Water bodies	17, 29, 64 Part, 80, 82, 93, 108, 114, 116, 132, 135 Part, 143, 144, 154, 158, 166, 168, 169, 180 Part, 204 Part, 214, 231, 241, 290, 292, 293, 299
Road	16 Part, 22 Part, 24 Part, 25 Part, 26 Part, 27 Part, 30 Part, 32 Part, 33 Part, 35 Part, 40 Part, 41 Part, 42 Part, 50, 56, 110, 172 Part, 176 Part, 177 Part, 179 Part, 180 Part, 184 Part, 186 Part, 194 Part, 199, 208, 216, 217 Part, 218 Part, 233, 257, 266

Table 14.48: Land use schedule for Pappakoil Village

Uses	Survey Nos.
Residential	3, 4 Part, 10, 12, 15 Part, 16 Part, 17 Part, 19 Part, 22 Part, 24 Part, 25 Part, 26 Part, 33 Part, 35, 44 Part, 48 Part, 56 Part, 74 Part, 76 Part, 79 Part, 87 Part, 91, 92 Part, 94, 97, 101, 102, 104 Part, 106 Part, 107, 111 Part, 113 Part, 126 Part, 127 Part, 139 Part, 207, 208 Part, 226 Part, 228 Part, 230, 237 Part, 238 Part, 240 Part, 246 Part, 248, 249, 251, 254, 255, 256 Part, 258 Part, 263 Part, 264 Part, 266, 267 Part, 290 Part, 291
Institutional	4 Part, 16 Part, 19 Part, 26 Part, 33 Part, 44 Part, 45, 46 Part, 47 Part, 79 Part, 82, 111 Part, 150 Part, 215, 226 Part, 229 Part, 232 Part, 304
Industrial	1 Part, 2, 22 Part, 121 Part, 243 Part
Aquaculture	1 Part, 5 Part, 6, 8 Part, 9 Part, 103 Part, 104 Part, 113 Part, 114 Part, 119, 120, 129, 130, 131, 134 Part, 135, 243 Part, 244 Part
Agricultural Use	7, 8 Part, 22 Part, 23 Part, 24 Part, 34, 37, 38, 39, 41, 46 Part, 48 Part, 50, 51, 53, 54, 56 Part, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 72, 73, 74 Part, 75, 76 Part, 77, 80, 83 Part, 85, 87 Part, 88, 99 Part, 121 Part, 122 Part, 126 Part, 127 Part, 128, 133, 134 Part, 139 Part, 141, 143, 144, 146, 148, 149, 150 Part, 152 Part, 153 Part, 154 Part, 155, 156 Part, 157 Part, 158, 160 Part, 162, 164, 166, 167, 168, 169 Part, 171, 172, 173, 175 Part, 177 Part, 178 Part, 179 Part, 180, 181, 182 Part, 183 Part, 184 Part, 186, 187, 189, 190, 191, 194, 195, 196, 197, 198, 199, 201, 202, 203, 204, 206, 208 Part, 210, 212, 213, 216, 217, 218, 219, 220, 222, 223, 225, 226 Part, 227, 228 Part, 229 Part, 232 Part, 234, 235, 236, 237 Part, 238 Part, 240 Part, 241, 242, 247, 256 Part, 257, 258 Part, 262, 264 Part, 267 Part, 270, 272, 273, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290 Part, 291 Part, 292 Part, 293, 294, 295 Part, 296 Part, 297, 298, 299, 300, 301, 302, 303
Water bodies	13 Part, 14 Part, 25 Part, 33 Part, 44 Part, 47 Part, 55, 92 Part, 111 Part, 114 Part, 115, 118, 160 Part, 200, 211, 214, 237 Part, 245, 252, 253, 256 Part, 258 Part, 263 Part
Road	1 Part, 5 Part, 8 Part, 9 Part, 13 Part, 14 Part, 15 Part, 17 Part, 18, 23 Part, 24 Part, 32, 42, 44 Part, 52, 83 Part, 87 Part, 99 Part, 103 Part, 104 Part, 106 Part, 109, 117, 122 Part, 138, 152 Part, 153 Part, 154 Part, 156 Part, 157 Part, 169 Part, 175 Part, 177 Part, 178 Part, 179 Part, 182 Part, 183

	Part, 184 Part, 243 Part, 244 Part, 246 Part, 250, 259, 260, 261, 265, 268, 269, 271
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Table 14.49: Land use schedule for Karuvelankadai Village

Uses	Survey Nos.
Residential	6 Part, 14 Part, 23 Part, 26, 27, 43 Part, 46 Part, 49, 52, 54, 55, 56 Part, 58 Part, 59, 61, 63, 64, 65 Part, 66, 70, 108, 109 Part, 110, 112 Part, 113 Part, 114, 115, 116, 117, 118, 121, 122, 123 Part, 133 Part, 139, 141, 142, 146 Part
Commercial	3 Part, 6 Part, 14 Part, 21 Part
Institutional	2 Part, 3 Part, 14 Part, 32 Part, 40 Part, 113 Part, 113 Part, 123 Part, 123 Part, 146 Part
Industrial	19 Part
Agricultural Use	1, 2 Part, 3 Part, 6 Part, 7, 8, 9 Part, 33, 36, 37, 38, 39 Part, 40 Part, 41 Part, 43 Part, 44, 45, 46 Part, 47, 56 Part, 58 Part, 71, 73, 74, 75, 76, 77, 78, 79, 80, 82, 84, 88, 89, 90, 91, 92, 93, 94, 96, 97, 99, 100, 101, 102, 103, 104 Part, 105 Part, 107, 119, 123 Part, 124, 125, 126, 127, 129, 130, 133 Part, 134, 135, 136, 137, 145, 149
Aquaculture	9 Part, 10 Part, 11, 12, 13, 14 Part, 15, 17, 19 Part, 21 Part, 22, 23 Part, 32 Part
Water bodies	21 Part, 34, 35, 39 Part, 41 Part 65 Part, 72, 95, 98, 104 Part, 105part, 109 Part, 112 Part, 113 Part, 120 Part, 133 Part, 150, 151
Road	9 Part, 10 Part, 18, 30, 120 Part, 132, 152

Table 14.50: Land use schedule for Nagapattinam Village

Uses	Survey Nos.
Residential	14 Part, 15, 16 Part, 20, 21, 22, 23, 24, 25, 26 Part, 27 Part, 28, 29, 30, 37 Part, 38, 39, 40, 41, 44, 45, 46 Part, 47, 48, 49, 77 Part 14 Part, 15, 16 Part, 20, 21, 22, 23, 24, 25, 26 Part, 27 Part, 28, 29, 30, 37 Part, 38, 39, 40, 41, 44, 45, 46 Part, 47, 48, 49, 77 Part

Institutional	14 Part, 16 Part, 17 Part, 27 Part, 46 Part
Agricultural Use	1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 17 Part, 18, 19, 31, 32, 33, 34, 35, 36, 42, 43, 50, 52, 53, 54, 55, 57, 59, 60, 61, 62, 63, 64, 65, 66, 67, 69, 70, 71, 72 Part, 73 Part, 74 Part, 77 Part
Water bodies	6, 7, 13, 51, 56, 58, 68, 72 Part, 75 Part, 76
Road	26 Part, 27 Part, 37 Part, 73 Part , 74 Part, 75 Part