1 INTRODUCTION

1.1 Introduction:

Vaikom, also known as 'Thekkan Kasi' (Southern Kasi) is famous all over India because of the "Vaikom Sathyagraha" conducted as part of the struggle for independence of the nation. This town situated on the shore of Vembanad Lake was once the capital of Vadakkumkur Rajas and was later annexed to Travancore by King Marthanda Varma. The prominence of Vaikom is due to the presence of the Mahadeva temple. The name 'Vaikom' was derived from Vyakhrapadapuram. The "Ashtami" festival of the temple held twice a year is very important and attracts a large number of pilgrims from all over Kerala and neighbouring states. The temple is an example of typical Kerala style of architecture.



Vaikom is one of the four municipalities of Kottayam district and is one of the first 8 municipalities of Kerala and at present Vaikom is the head quarters of Vaikom taluk. It is a 3rd grade Municipality with an area of 8.73 Sqkm and a population of 22,641 as per 2001 census. It is an administrative-cum-commercial -cum -pilgrim town.

1.2 Regional Setting

Vaikom is the headquarters of Vaikom taluk in Kottayam district and is a town with low intensity of development. The municipal area is comprised within Vaikom village, Naduvila and Vadakkemuri village. Vaikom town is 40 km. north of Kottayam town, the district headquarters and just about 30km from the fastly growing Metro City of Kochi.

This town is well connected to other urban centres namely Ernakulam, Kottayam, Alappuzha and Cherthala by roads and navigation canals. The town is also connected to the centres in the east like Pala, Moovattupuzha, Koothattukulam, Piravom and News Print Nagar by road. The town has economic linkages with Kochi, Kottayam and Cherthala. Ettumanoor – Ernakulam road and Vaikom – Vechoor road are the major links of the town with other areas. The town is not included in railway

network and Vaikom road is the nearest Railway station, which is about 8km away form the town. The regional setting of the town is shown in map 1.1

1.3 Location

Vaikom is situated on the North West Side of Kottayam district near to Ernakulam district boundary and by the side of Vembanad Lake. Ettumanoor – Ernakulam State Highway (SH 15) passes through Vaikom town. It is bounded by Udayanapuram Grama panchayat on the north and east, Thalayazham and TV Puram Grama panchayat on south and Vembanad Lake on the west.

1.4 Historical Background

It is believed that the idol of Mahadeva temple was consecrated by Rakshasa King 'Khara' which was presented to him by Lord Siva at Chidambaram. Some believe that the idol was consecrated by a sage named Vyakhrapada and the name Vaikom was evolved from Vyakhrapadapuram. Another version is that Parasuraman found the idol submerged in Vembanad Lake and consecrated in the temple.

In the later stage of history, Vaikom region was part of Vembalanad, which consisted of two divisions viz. Vadakkumkore and Thekkumkore. Vaikom was part of Vadakkumkore kingdom, till it was annexed to Travancore by King Marthandavarma in 1742.

1.5 Development of the town

Vaikom is a temple town. Development of the town has taken place with the temple as the focal point. It is classified as a census town in 1891 census. A committee was constituted in 1911 for the planning of the town. Certain elements of planned development can be seen in the town. All major roads in the town are starting from the four main gates of the town. A ring road is there, connecting the above four roads surrounding the temple compound wall. The major establishments of the town are located by the side of these four roads especially in the west nada road. Other parts of the town are predominantly residential and certain parts of the town are still rural in character.

1.6 Vaikom Sathyagraha

In 1924 - 25 an agitation primarily aimed for permitting entry of lower castes in temples and also against the practice of untouchability was held at Vaikom which later began to be known as Vaikom

Sathyagraha. Leaders like T.K. Madhavan, K.P. Kesava Menon, Mannathu Padmanabhan, Changanassery Parameswaran Pillai, K.Kelappan & C.V. Kunjuraman were associated with this agitation. One of the highlights of the sathyagraha was the Savarna Jatha (a procession by the upper castes) organized under the leadership of Mannath Padmanabhan. The members of the jatha submitted a memorandum on the temple entry issue to the Regent Sethu Lakshmi Bai. The Vaikom Sathyagraha and Savarna Jatha helped to create public opinion in the state in favour of temple entry.



The sathyagraha lasted for 20 months and ended in 1925, with the intervention of Mahatma Gandhi and the Temples were formally declared open to all Hindus, irrespective of caste. It was for the first time in Travancore, that such a declaration was made. With the successful termination of Vaikom Sathyagraha, similar agitation were held in places like Ambalappuzha, Thriuvarppu, Suchidram etc and in 1928 all temples in Travancore were opened to all Hindus, irrespective of their caste. In fact, the Vaikom Sathyagraha even influenced the famous temple entry proclamation of 1936, by Sri Chithira Thirunal Balarama Varma.

1.7 Topography

Being located on the banks of Vembanad lake and in the delta of Moovattupuzha river the topography of the town is fairly level. The town is blessed with a network of rivers and canals that include rivers like Valiyanapuzha, Ithipuzha, Kariar, Puthenthodu, Kaniyanthodu, Perumchila thodu, Anthakaranthodu and a number of other small canals. In addition to that there are six major public ponds of more than 0.02 Ha. of area and hundreds of private ponds. Kalkkulam, Perumassery, Vazhuthanakkattukulam, Chalakkulam, Mookambikulam are a few among such ponds.

1.8 Soil condition

Among the town sectors mentioned earlier, in two sectors on the eastern side sandy soil is predominant, while in the other two sectors in western part sandy – clayey soil is found. The soil on the bank of Vembanad Lake has more water retention capacity.

1.9 Climate

Like other parts of the state, Vaikom is also getting rain in two seasons – northwest monsoon and southeast monsoon. Most of the rainfall is during June, July and August. The monthwise rainfall, maximum temperature and minimum temperature are presented in the following table.

Table 1.1 Climate condition

Sl. No.	Month	Rainfall (in cm)	Minimum temperature	Maximum temperature
1.	March	52	24.10	34.00
2.	April	125	24.00	33.40
3.	May	310	23.50	32.80
4.	June	697	21.10	22.50
5.	July	640	20.80	29.10
6.	August	400	22.00	30.10
7.	September	285	23.70	32.10
8.	October	331	23.50	31.50
9.	November	188	24.00	32.1
10.	December	55	23.70	32.70
11.	January	24	22.10	32.20
12.	February	24	22.90	33.00

Source: Development Report of Vaikom Municipality

1.10 Influence Area of the town

Vaikom town is the headquarters of Vaikom taluk. For various administrative needs, people from the entire taluk depends the town. Vaikom taluk hospital is a major medical institution and people from most part of the town depend on this institution for their medical need. Vaikom, Tahalayolaparambu and Kuruppanthara are the major market in the taluk and people mainly in the northern and western part of taluk depends on Vaikom market. For higher education needs people are depending on institutions at Ernakulam and Kottayam. Considering the above acts, entire Vaikom taluk can be treated as the influence area of the town.

2 DEMOGRAPHY

2.1 Introduction

Vaikom is a third grade municipality and is the fourth urbanized town of Kottayam district having a population of 22,641 as per 2001 census with a growth rate of 3.91% during the 1991–2001 decade. Table 2.1 shows the percentage of urban population in five taluks of Kottayam district.

Table 2.1 Percentage of urban population in Kottayam district – 2001

Sl. No.	Taluk	Population			% urban
		Total	Rural	Urban	
1	Meenachil	403584	351262	52332	12.97
2	Vaikom	309586	286945	22641	7.31
3	Kottayam	627912	455034	172878	27.53
4	Changanassery	351660	299693	51967	14.78
5	Kanjirappally	260904	260904	-	-
	Total	1953648	1653838	299818	15.34

Source: Census report

It can be seen that out of 5 taluks in Kottayam district Vaikom figures last among the urbanized ones.

2.2 Density of population and its spatial distribution

As per 2001 census Kerala has a population density of 819 persons per sq.km and Kottayam district has a density of 885 persons per sq.km. In the case of Vaikom town the density is 2593 persons per sq.km. A comparison of the density of population with other three urban centers of the district is shown in table 2.2

Table 2.2. Population density of municipalities of Kottayam district

Sl:No.	Name of municipality	Area in Sqkm	Population as per 2001 census	Population density (persons/sq. km)
1	Kottayam	15.55	60728	3905
2	Changanacherry	13.50	51967	3849
3	Vaikom	08.73	22641	2593
4	Pala	15.93	22640	1421

Source: Census Report

Among the wards, Kovilakathumkadavu ward has the highest net density with 9615 persons per sq.km closely followed by Polassery ward (4285) and Convent ward (4047). The wards with less pressure of population are Udayanapuram ward (1731) followed by EVR ward (1867). The density is low due to the lack of enough infrastructural facilities and amenities including transportation net works. The population size and density of different wards is shown in table 2.3.

Table 2.3 Ward wise population of Vaikom municipality – 2001

Ward No.	Name of ward	Area in sq.km	Population			Density of population (persons/Sqkm)
			Male	Female	Total	
1	2	3	4	5	6	7
1	Karayil	0.48	491	589	1080	2250
2	Udayanapuram	0.52	422	478	900	1731
3	EVR Ward	0.60	523	597	1120	1867
4	Parikkappally	0.60	579	681	1260	2100
5	V.K. Velappan	0.51	503	534	1037	2033
6	Industrial ward	0.40	588	526	1114	2785
7	Cheeramkunnumpuram	0.44	588	641	1229	2793
8	Amalapuri	0.61	601	658	1259	2064
9	Kaliyamma Nada	0.34	463	498	961	2826
10	Arattukulam	0.51	494	571	1005	1971
11	Perumpalliyazham	0.63	619	660	1279	2030
12	Vijaya theatre	0.39	480	518	998	2559
13	Vadakkumcore	0.44	648	673	1321	3002
14	Convent	0.34	663	713	1376	4047
15	Juma mazjid	.32	559	599	1158	3619
16	Mahadeva Kshethram	0.39	546	590	1136	2912
17	Kalackal	0.36	505	501	1006	2794
18	Kovilakathumkadavu	0.13	631	619	1250	9615
19	L.F. church	.42	528	540	1068	2543
20	Polassery	0.26	547	567	1114	4285
		8.73	10948	11693	22641	2593

Source: Census Report

2.3 Growth of population

Vaikom town occupies the first position in population growth rate among the towns of Kottayam district (refer table 2.4) .The decadal growth rate of population of Vaikom municipality during 1991-2001 is 3.91%, while the growth rate during 1981-91 was 3.28%. But the towns of Kottayam and Changanassery in the district recorded negative growth during the decade 1991-2001.

Table 2.4 Decadal growth rate of population

Sl: No	Name of the municipality	Area in Sqkm	Population			Growth rate in percentage	
			1981	1991	2001	1981-91	1991-2001
1	Vaikom	08.73	21097	21788	22641	3.28	3.9
2	Pala	15.93	21624	21890	22640	1.23	3.4
3	Changanacherry	13.50	51955	52445	51967	0.94	-1.89
4	Kottayam	15.55	64431	63155	60728	1.98	-3.84

Source: Census Report

The decadal variation in population of Vaikom town since 1931 is shown in table 2.5.It shows a decreasing trend and the decadal growth rate is reduced to 3.28% during 1981-1991 from 22.64% during 1921-31 period. A slight increase in growth rate was recorded thereafter.

There is a general tendency for lower population growth and the district is fastly approaching to zero growth rate of population. Also there is no migration to the town due to lack of employment generation.

Table 2.5 Decadal variation in population since 1921 in Vaikom town

Year	Population	Decadal variation	% of decadal variation
1931	13808	``	22.64
1941	15248	1440	10.43
1951	15646	398	2.61
1961	17418	1772	11.33
1971	20014	2595	14.90
1981	21097	1083	5.41
1991	21788	691	3.28
2001	22641	853	3.91

Source: Census Report

2.4 Sex Ratio

As per 2001 census the sex ratio of Vaikom municipal town is 1068 (1068 female per 1000 male), which is higher than the district ratio of 1024. The table 2.6 shows the change in sex ratio over the past four decades in case of Kottayam district and Vaikom municipality. The sex ratio of the town is showing an increasing trend. It is an indication of social change.

Table 2.6 Change in sex ratio (Number of females per 1000 males)

Census year	Kottayam district	Vaikom Municipality
1961	967	1006
1971	982	1031
1981	1014	1032
1991	1003	1030
2001	1024	1068

Source: Census Report

2.5 Household size

The average size of a household is another important parameter of quality of life. The average household size of Vaikom town in 1981, 1991 and 2001 are 5.71, 5.06 and 4.41respectively. It shows a decrease in household size, which indicates a lower rate of population growth in future. A comparison of the household size of the municipalities of the district is shown in table 2.7.

Table 2.7 Average household size of towns in Kottayam district for 1981, 1991 & 2001

Sl. No	Name of the town	1981			1991			2001		
		No. of households	Population	Average house hold size	No. of house holds	Population	Average house hold size	No. of households	Population	Average house hold size
1	Pala	3433	21624	6.30	3982	21890	5.49	4578	22640	4.94
2	Vaikom	3695	21097	5.71	4309	21788	5.06	5139	22641	4.41
3	Kottayam	11642	64431	5.53	12869	63155	4.91	13936	60728	4.36
4	Changanassery	8549	51955	6.08	10087	52445	5.19	11218	51967	4.63

Source: Census Report

The number of households in the town is increasing at higher rate (16.62%, 19.26% during 1981-91, 1991-01 respectively). But corresponding growth of population is very low (3.27% and 3.9% respectively) and two towns register even negative growth rate. It indicates that the natural growth rate of population, considerably reduced and the joint family system is changing to nuclear family system.

A rural urban comparison of the households in the district is shown in the table 2.8

Table 2.8 Household size – Rural Urban Comparison of the District

Area	1981			1991			2001		
	Population	No.of Households	Household size	Population	No.of Households	Household size	Population	No.of Households	Household size
Urban	159107	27319	5.82	320918	31247	5.11	299808	65793	4.56
Rural	1538335	267957	5.74	1507353	299070	5.04	1653838	368827	4.49
Total	1697442	295276	5.75	1828271	361913	5.05	1953646	434520	4.49

Source: Census Report

It indicates that the household size of the urban population always higher than the rural household size.

2.6 Literacy

The literacy rate of the town as per 2001 census is 85.61%. Eventhough the literacy rate of Vaikom town has been increasing over the past decades it is still lower than district and state literacy rates. It shows the educational backwardness of the area.

Table 2.9 National to Town level literacy 1981, 1991 & 2001

	19813	1991	2001
India	43.57	52.21	78.85
Kerala	78.85	89.81	90.86
Kottayam district	83.04	95.72	95.82
Vaikom town	81.09	84.41	85.61

Source: Census Report

3 LAND USE PATTERN

3.1 Introduction

The land use pattern of Vaikom town has evolved giving prime importance to the Siva temple. Four major roads of the town start from the four gates of the temple, dividing the town into four sectors and each of these sectors showed certain characters in earlier days. The urban growth has been confined around the temple and the remaining areas show rural character to an extent.About 95% of the commercial activities in the town are carried out around the temple surroundings and boat jetty area. Most part of the town other than the central area is currently under residential use. Vaikom town is also influenced by the News Print Factory at Velloor. Developments in Tourism sector are taking place, even though at a slow pace, along the coast of Vembanad Lake.

3.2 Land use pattern

Vaikom is a 3rd grade municipality comprising of 20 wards of approximately equal population (the number of wards has increased to 23 in 2005 election). It is mainly a pilgrim cum service town and lies in three villages namely, Vaikom, Naduvila and Vadakkemuri. Table 3.1 shows the land use details of the town for the year 1997. It is seen that the total residential area is 75.61% of the town and the total developed area is 746.93 hectares. The existing land use is shown in Map 3.1

Table 3.1 Land use details of Vaikom town (1997)

Sl. No.	Description	Area in hectares	% to the total area
1	Residential	660.06	75.61
2	Commercial	13.01	1.49
3	Public and Semi public	33.90	3.88
4	Industrial use	4.28	0.49
5	Agricultural use	111.13	12.73
6	Park and open space	2.44	0.23
7	Roads	32.39	3.71
8	Water courses	14.38	1.65
9	Bus terminals	1.83	0.21
	Total	873.00	100.00

Source: Land use survey conducted by Town and Country Planning Department

3.3 Residential use

The predominant use of land in Vaikom town is for residential purpose and this area comes to 660.06 hectares. The residential density of the town is 32.98 persons per hectare, which is very low when compared with space standards. But there is large variation in population density among different areas of the town. In areas like Kovilakathumkadavu ward, the density is as high as 96.15 persons per hectare, while in Udayanapuram ward the density is low as 17.31 persons per hectare. Generally in wards along the bank of Vembanad Lake on the western side the density is high, compared to other parts of the town. Most of the buildings are having an area of 25 sq.m to 100 sq.m. with tiled roof. The residential area includes slum dwellings.

3.4 Commercial use

The area under commercial use comes to 13.01 hectares, which is 1.49% of the total area. It can be seen that the commercial activities have developed along the roadside and there are no major commercial activities like whole sale market, shopping complex etc. There are 11 medium type-shopping complexes in the town. The extent of land under this category is very low, compared to other land uses. A small area is now used as daily-market near Little Flower Church and another at Thottuvakkom for fish, meat and vegetables. There are two markets in the town, the details of which are shown in the table 3.2.

Table 3.2 Details of markets

Sl. No.	Name of market	Area of market premises	Days of functioning	Commodities	Wholesale/ retail	Turn over of goods per year
1	Sreemoolam market, Thottuvakkom	40 cents	Daily	Fish, meat	Retail	2000 tones
2	Kovilakathumkadavu	80 cents	Daily	Fish	Wholesale & retail	36000 tonnes

Source: Field survey 2005

3.5 Public and semi public use

The area under public and semi public use is 33.90 hectares, which comes to about 3.88% of the town area. This category of land includes the land used for educational and medical institutions, Government and private offices and other public religious institutions like temple, church, mosque etc. There are 54 Government



offices are functioning in the town. The number of medical and religious institutions is 39 and 24 respectively. But there are no higher order facilities for education, medical and recreation and hence the residents of Vaikom town depend on Ernakulam and Kottayam towns for these facilities. Community health centre and Government Ayurveda hospital etc are the major medical facilities available with in the town limit.

3.6 Industrial use

The extent of land under industrial use is very less and comes to 4.28 hectares, i.e. only 0.49% of total area. Most of the light industries are scattered all over the settlement. There is an industrial estate having an area of 3.57 acres at Chalaparambu on the side of Vaikom – Ettumanoor road (S.H.15) . There are about 250 small-scale units functioning in the town and most of these units are functioning within commercial/residential buildings.

3.7 Agricultural use

A vast area of 111.13 hectares of land comes under agricultural use, which mainly consist of paddy fields. Sizeable area of paddy fields is now kept as vacant without cultivation and part of paddy fields are now being used for vegetable cultivation.



3.8 Water courses

The total area of water bodies is about 14.38 hectares, which includes tanks, lake, wells etc. There are two canals namely Perumchila thodu and Andhakara thodu passing through the central area of town which connect K.V. Canal and Kanianthodu. The K.V canal starting from Vembanad Lake and leads to Vechoor.

These water courses are used for inland navigation earlier. Presently the system of internal canals form part of the drainage network of the town. Conservation and maintenance of these canals is highly essential for the early disposal of storm water, considering the fairly level topography of the town

3.9 Transportation

The total land under transportation use (including area under roads, terminals) is about 34.22 hectares, which is only 3.92% to the total area. It is less than the minimum required for a town of this type. It is seen that most of these roads are not properly maintained. Further, majority of roads in the municipal area are having an average road width of 3 to 4 metres only. The main road within the town area is S.H.15.

The municipal bus stand of area 36.8 cents, now functioning on the side of the Boat Jetty – Kochukvala road and mainly used for private bus parking is not sufficient to cope up with the volume of traffic and vehicles at present. The KSRTC bus stand has an area of 2.89 acres and comparatively better facilities are available here.



4 HOUSING

4.1 Housing stock

According to 1991 census, there are 4302 houses as against 4309 households resulting in a housing shortage of only 7 numbers, that is almost all the households have own residences. But during the enumeration conducted in 1997 it is seen that the number of dwellings available is 4683 and this shows that the household size has decreased. Assuming a marginal housing shortage of 2% from the existing housing stock, the number of houses expected during 2001 is 4771.

4.2 Household size

The average number of persons per household (persons living together and living under a family head) is 5.71 for Vaikom town in 1981. During 1991 it decreased to 5.05 and in 2001 it is only 4.41. Vaikom municipal town is ideal for residential development in many ways such as proximity to water front, good transportation network, level ground for new road formation and building construction, water front areas for recreation facilities, easy access to most of the plots, water and electricity facility, less saturated population (2593 persons / sq,km) etc.

4.3 Structural condition of houses

The existing housing stock, which amounts to 4891 numbers, is divided into Kutcha, moderate and pucca according to the structural conditions and age. It is found that 20%houses are pucca, 62% moderate and 18% in the kutcha category during 1994. Among Kutcha houses, 50% are in identified slums.

4.4 Housing distribution

Housing development is mostly dispersed all over the municipal area but the intensity is high in Juma Masjid, Kovilakathumkadavu, Polassery, Convent Wards etc. and generally along the shore of Vembanad lake. Housing development in the form of colonies and group housing are not existing in the town.

4.5 Identified slums

There are a few slums existing in the town. They are clustered together and lack proper access, privacy, sanitation, drainage etc. Some slums on the bank of Vembanad Lake are affected by the rise in water level of the Lake due to rain or tide. As per the report, " Urban slums in Kerala 1995-1996" there are 14 slums identified in Vaikom town (Perumchila settlement, Karayil,Polassery North, Pollassery, Kozhikadu Purayidam, Kolothumkadavu, Thotumkal.I, Fishermen Colony, Kaipuram, Venparambu, Chalaparambu, Perumechila, Painagapally Lane and Putherezhath). Details of the slums as per the above report is shown in the following table.

Table 4.1 Details of identified slums

Total number	Area	Population			
		SC	ST	Others	Total
14	13.35	47	4	368	419

Source: The report "Urabn slums in Kerala 1995-96"

Most of the houses in the slum area are to be taken up for improvement in a phased manner. Some slum houses are adequately spaced and hygienic and ideal for a better living while some are congested, less spaced, lacks drainage and proper sanitation. The shortage in housing may be tackled by identifying suitable places for new housing development, particularly for economically weaker sections and medium classes in the initiative of the government. There is enough space for public housing in the municipal area, since the terrain is uniformly level and there is adequate access facility to most of the places.

5 TRANSPORTATION AND COMMUNICATION

5.1 Introduction

Road system followed by waterway plays the predominant role in the transportation and communication system of Vaikom town. The important artery of the town is the state highway connecting Ettumanoor and Ernakulam. The roads connecting Vaikom with T.V. Puram, Moothedathukavu, Muttunkal and Vechoor are the sub-arteries. The national waterway No.3 is passing close to Vaikom town. Vaikom road railway station at a distance of 8km from the town is the nearest railway station.

5.2 Road transportation

5.2.1 Road Net work

The road network of the town follows grid-iron pattern in level plain surface. Four roads starting from the four gates of Vaikom temple, i.e. North Nada, East Nada, West Nada and South Nada run in four directions and other roads in the town cross the above roads perpendicularly.

5.2.2 Hierarchy of roads

i) Arterial roads

Ettumanoor – Ernakulam road

Vaikom - Vechoor - Cherthala road

ii) Sub arterial roads

Vaikom – TV Puram road

Vaikom – Vazhamana road

Vaikom – Muthedathukavu road

iii) Collector streets

All other PWD roads and Municipal roads come under this category.

5.2.3 Right of way and carriage way

Most of the roads in the town are narrow with only single lane or two-lane traffic. The west nada road, the widest road in the town has an average right of way width of 16.45m and carriageway of 11.8m. The Ettumanoor-Ernakulam road, the important road passing through the town has a right of way of 10m and carriageway of 6.2m. The municipal roads, which form part of the road network has width varying from 3 to 5 m. The right of way and carriageway of the major roads of the town is shown in table 5.1.

Table 5.1 Major roads of the town

Sl. No.	Road	Right of way (in m)	Carriage way width (in m)	Peak hour Traffic volume (PCU/Hr)	Capacity of the road (PCU/Hr)	V/C ratio
1	E.E.Road- Chalapparambu to Ernakulam junction	10.00	6.20	976	1100	0.89
2	E.E.Road- Ernakulam jn. to Udayanapuram	12.50	6.10	953	1000	0.95
3	Pulinchuvadu – Cherumchuvadu Road	7.10	4.00	380	700	0.54
4	Ernakulam jn – North Nada Road	11.65	6.50	874	1100	0.79
5	West Nada – Boat jetty Road	16.45	11.80	1118	2000	0.56
6	K.S.R.T.C station Road- Boat Jetty to Ernakulam jn.	10.90	6.00	545	1000	0.55
7	East Nada Road	9.75	3.90	507	700	0.72
8	Moothedathu kavu Road	10.00	5.10	626	900	0.69
9	TV Puram Road	7.25	4.00	209	700	0.29
10	Vechoor Road	9.25	4.65	495	800	0.62

Source: Traffic survey by Town and Country Planning department - 2000

5.2.4 Traffic volume

The capacity and peak hour traffic volume of important roads in the town etc. are shown in table 5.1. As per the survey conducted in the year 2000, maximum traffic volume of 1118 PCU was observed in West nada Boat jetty road, followed by Chalapparambu – Pulinchuvadu stretch of Ettumanoor – Ernakulam road with 976 PCU and Ernakulam junction. – Udayanapuram stretch of the same road with 953 PCU.

The volume capacity ratio of all major roads are less than 1.00.The volume – capacity ratio in E-E road has almost reached its capacity with V/C ratio of 0.89 between Chalaparampu and Ernakulam junction and 0.95 between Ernakulam junction and Udayanapuram.

The above studies reveal that the capacity of major roads of the town is sufficient to meet the present day traffic. But the condition of the internal roads which form part of network is very poor. These roads are inadequate for handling traffic as well as provision of urban amenities.

5.3 Water transport

Vaikom municipal town is bounded by water bodies in the east and west. Cherthala town in Alappuzha district has close links with Vaikom town. Thousands of passengers from both sides are passing in and out through Vembanad Lake, which is the main communication corridor between the two districts. Regular passenger boat services are operating from Vaikom to Thavanakkadavu and Pallipuram.



Table 5.2 shows the daily number of passengers & goods handled using the water transportation facilities.

Table 5.2 Number of passengers using water transport facilities

SL. No.	Boat Jetty	Average No. of passengers per day	Volume of Goods handled
1	Vaikom Boat jetty	7500	2000 tones
2	Jankar Jetty near PWD Rest House	..	158

Source : Traffic survey conducted by Town & Country Planning Dept - 2000

The existing boat jetty is very old and the area is very congested and lacks many passenger facilities. It is to be renovated according to the requirements.

In addition to passenger boat services barge service is also operating between Vaikom and Thavanakkadavu. It is of high importance in the transportation of goods and vehicles. Table 5.3 shows number of vehicles using the barge services per day.

Table 5.3 Number of vehicles carried by the barge service per day

Vehicles	From Vaikom to Thavanakkadavu	From Thavanakkadavu to Vaikom
Trucks	48	46
Car, Jeeps, Van, Three wheelers	32	35
Two wheelers	78	75
Cycles	16	11

Source : Traffic survey conducted by Town & Country Planning Dept -2000

The Development and rejuvenation works of the waterways of the region is already under way as different projects. Construction of a waterway terminal at Vaikom under National Waterway Authority is in the final stage. The Development of Kottayam – Vaikom canal has also been taken under Kerala State Transport Project. The completion of these projects will accelerate the economic development of the town.

5.4 Bus Terminals

At present KSRTC buses are operating from KSRTC bus station located in Boat jetty- Ernakulam junction road and private buses are operating from the Municipal bus station located adjacent to KSRTC bus station. The proposed second municipal bus station, located at Dalavakkulam has not yet started functioning due to non-availability of suitable access road.

There are 615 private bus trips operating from Vaikom town. This bus station located on either side of the road has an area of 0.28 hectares. Only 11 bus bays are available and it is inadequate creating traffic bottlenecks on road, leading to road accidents. Passenger waiting area and other amenities are inadequate.

The KSRTC bus station has an area of 1.55 hectares and 347 bus trips are operating from this station to various parts of the state. Comparatively better facilities are available this station.

- The change in the routes of public transportation in the region with the opening of new corridors has affected the services through Vaikom town. A major share of services in the Kottayam – Ernakulam route is now adopting Thallayolaparampu –

Kanjiramattom route, which is shorter one. It is one of the reasons for the backwardness of town. But with the opening of new corridor via Kumarakom, Vechoor, more services are now started operating through Vaikom town.

5.5 Parking facilities

There is no organized parking area within the town. Vehicles are being parked on the roadside itself, affecting the free flow of traffic and causing inconvenience to pedestrian traffic. Vehicles are parked at the following locations.



1. Northern side of the west nada road in between TV Puram road and private bus stand road. This is the major parking place for cars and jeeps.
2. North Nada road - Autos are parked at this place.
3. Auto parking in northern side of Boat jetty road in front of Head Post office.
4. Lorries and tempos are parked on the Kottayam – Vaikom road near the Ernakulam junction. Autos are also parked near to this junction in the bus stand road.

Parking problem is very severe during festival seasons – Ashtami & Sabarimala season. Most of the vehicles of Sabarimala pilgrims are being parked along North Gate road creating problem to pilgrims as well as local people.

5.6 Rail Transport

There is no rail linkage to the town and this short coming is one of the reasons for the backwardness. The nearest railway stations of the town are - Piravom Road (Velloor) and Vaikom road (Appanchira) at a distance of 11km and 8km respectively from the town.

Even though the town is very close to the metro city, Kochi it is not able to take advantage of this like acting as a satellite town or establishing ancillary industries etc. Lack of rail linkage is one of the reasons for this.

6 INFRASTRUCTURE FACILITIES

6.1 Water supply and sanitation

The source of water to the town is Muvattupuzha River with intake facilities at Piravom. The storage tank at Udayanapuram having 9 million liters capacity supplies drinking water to the entire municipal area. As per statistics, 90% of the population are getting water supply directly from this protected water supply scheme (Comprehensive water supply scheme to Vaikom Municipality and adjoining Grama panchayats). There are 321 public taps distributed across various wards of the municipality and a handful of house connections.

6.2 Sanitation

No public drainage and sewerage system is existing in the municipality. Sanitation is mainly through pit latrines and septic tanks. Comprehensive drainage system has to be implemented among the main corridors of the town. The necessity of drains for carrying rainwater is high, since during the developmental activities, most of the natural drains are closed or diverted from the disposal channels. This causes flooding of the entire town during rainy season.

6.3 Electricity

There is one sub station located at Vallakom along the Kottayam Vaikom road. This 110 kv sub station feeds Vaikom municipal town also. Nearly 90% of the houses are electrified. Power for commercial and industrial establishments are also supplied from this station. 1218 street lights are provided within Vaikom municipal town.

The power sector experiences considerable shortage in its supply even though Vaikom town consumes less electricity when compared to other urban centres of the state.

6.4 Health facilities

Vaikom municipal town is the headquarters of Vaikom taluk. The taluk hospital is the major health centre of the town. In addition to this, the newly started Indo American Hospital in Chemmanakari in the adjacent Maravanthuruthu Grama Panchayat provides medical service in super speciality level.

One Government Ayurveda hospital is also functioning in the municipal town by the western side of Poothalapadi road. The other medical facilities available in the town include small hospitals, clinics and dispensaries. Details of Medical Institutions in the Municipal area are shown in the Table 6.1 and 6.2. For higher order facilities, people have to depended hospitals of Kottayam or Ernakulam.

Table 6.1 Medical Facilities - Hospitals

Ownership	Branch of medicine	Hospitals (with I.P)					Dispensaries (without I.P)			
		No.	Bed	Doctors	Nurses	Other staff	No.	Doctors	Nurses	Other staff
Government	Allopathy	1	272	15	43	89	..	..	..	..
	Ayurveda	1	20	3	6	5	..	..	..	..
	Homeo	..	..	..	..	..	..	..	..	..
Private	Allopathy	11	54	11	23	35	5	6	..	4
	Ayurveda	1	4	1	..	1	7	8	..	12
	Homeo	..	..	..	..	..	4	4	..	5

Source: URIS 2005

Table 6.2 Medical Facilities – Clinics and laborataries

Type	No.	Doctors	Other staff	Remarks
Dental Clinic	4	6	10	
Eye clinic	3	3	3	
Clinical Laboratory/Scanning centre	9	3	15	

Source: URIS 2005

6.5 Educational facilities

Vaikom municipal town is equipped with enough primary and secondary educational facilities. But no higher education facilities are available in the town. Three high schools in Government sector and 3 in private sector are existing. Three U.P. schools and 2 Primary schools are also functioning. The details of the schools are shown in the table 6.3. The strength remains static for almost all schools with a slight reduction in overall strength year by year.

In addition to the secondary schools a number of technical institutions are also functioning in the municipal town. They are: 1) SMSNHSS Vaikom (2) Institute of Engineering Technology (3) Udaya Institute of Commerce (4) Modern Institute of Commerce (5) Bharat Institute of Commerce Welfare Technical Institute, Vaikom. These institutions offer courses on various disciplines such as Agriculture, Accountancy and Auditing, Civil, Electrical and Electronics (VCR-TV) , Engineering, KGTE Typewriting and shorthand, fitter and allied trades.

Table 6.3 Educational facilities – Details of schools

Ownership	Grade of school	Medium of Education	No. of schools		Students		Teachers		Non teaching staff	
			State	CBSE	State	CBSE	State	CBSE	State	CBSE
Government	LPS/UPS	Malayalam	3	..	338	.	20	..	8	..
		English	..	..	..	..	..	.	..	..
	HS	Malayalam	2	..	1249	..	59	.	10	..
		English	..	..	..	...	..	..	..	..
	HSS/VHSS	Malayalam	1	..	480	..	26	..	7	..
		English	..	..	..	..	..	..	..	..
Private	LPS/UPS	Malayalam	2	..	494	..	19	..	5	..
		English	..	3	..	509	..	42	..	11
	HS	Malayalam	1	..	1517	..	52	..	8	..
		English	..	..	..	..	..	..	..	..
	HSS/VHSS	Malayalam	1	..	1330	..	48	..	7	...
		English	..	1		700	..	35	..	8
		Malayalam & English	1	..	948	..	48	..	19	..

Source: URIS 2005

6.6 Recreational facilities

There are 3 cinema theatres and 3 recreation clubs in and around the central area. There is a small park on the bank of Vembanad Lake by the southern side of taluk hospital. There are no other recreational facilities such as stadium, swimming pool, Aquarium, Community centres, Museum etc. Being located on the bank of Vembanad Lake there is ample scope for developing waterfront recreation facilities which would attract people from neighbouring area. But this potential has not been fully utilized.

Vaikom municipal town is equipped with medium range of community halls one each at the 4 entrance of the temple. The seating capacities of these auditoriums range from 300 to 600 numbers. The temple owned 'Oottupura' facilitates for 'Kalyanasadya' and such other programmes.

6.7 Marketing facilities

There are two daily markets at Thottuvakkom (Sreemoolam market) and Kovilakathumkadavu. The Thottuvakkom market provides facilities for transacting commodities such as meat, fish and vegetables and the latter especially for fish transaction. A slaughter house is located in Sreemoolam Market and renovation of this market is in progress. Whole sale and retail transaction is taking place here. One shopping complex owned by Vaikom Municipality at Padinjarenada also provides shopping facilities for consumer articles.

6.8 Banking facilities

Banking facilities are available through 4 major banks such as Federal Bank, State Bank of Travancore, Catholic Syrian Bank and Kottayam District Urban Co operative Bank. The Federal Bank and State Bank of Travancore are located in the west Nada road side, the Catholic Syrian Bank at the town centre and the District Co operative bank at the north gate. Life Insurance Corporation of India branch at Vaikom is situated in the Municipal Complex building.

6.9 Other facilities

Vaikom municipal town is the head quarters of Vaikom taluk and hence some of the taluk level facilities are available within the municipal town. All the Taluk level government institutions are functioning in the municipal town and this is the most significant aspect of the town. Taluk revenue office, Taluk Supply Office, Employment Exchange, Labour Office, Transport Office, Sale Tax Office, Coir Project Office, Sub Registrar Office, Head Post Office, Excise Office, Sub Treasury office, Central excise office, PWD office, Electrical sub Division office, Devaswom office etc are some of the important government offices functioning in Vaikom Municipal town. The Water Authority Treatment Plant and Sub Division Offices are also located inside the municipality. Another important office is the Judicial First Class Magistrate Court, which is located in the centre of the town at Padinjarenada. One Police Circle office and Police Station are also located adjacent to the municipal office.

7 HERITAGE & TOURISM

7.1 HERITAGE

7.1.1 INTRODUCTION

Conservation of heritage has been given supreme importance in all civilized societies of the world with due respect to its contributions in inspiring the people so as to improve the quality of life with the knowledge and wisdom acquired through centuries and in enriching the cultural and artistic wealth of the nation. The old and historic sites are not just the settlements but are the repositories of national traditions and culture and thus call for their effective conservation and preservation. Vaikom has a history rich with cultural, artistic, social and political legacies. And hence the heritage structures and sites Vaikom boasts of are having these mixed legacies too which have to be treated with due attention and care.

7.1.2 Vaikom Mahadeva temple



This temple more than 1000 years old is the most prominent landmark of Vaikom and it can be seen that Vaikom town has developed with the temple as the nucleus. It attracts a large number of devotees from within the state and outside throughout the year and particularly during the festivals and the Sabarimala pilgrimage season. This is one of the most renowned religious and cultural centres of Kerala. The Ashtami Festival is the most important of these celebrations. The Temple building has many mural paintings and is built in traditional architectural style. The premises consist of very large ponds with Kulapura malika etc.

7.1.3 Satyagraha Memorial Sree Narayana High School

Sathyagraha Memorial Sree Narayana High School compound and Boat Jetty area; – Areas blessed by the arrival of Mahatma Gandhi in connection with Vaikom Sathyagraha conducted as part of Indian freedom struggle with the prime objective of permitting lower castes to enter the temples of Travancore.



7.1.4 Udayanapuram temple

This temple at about 2km north of statue junction on Vaikom – Ernakulam road is another prominent heritage structure. This temple has copper roof, wood carvings, Chuttumathil, Vilakkumadom etc.



7.1.5 Vadakkumcore Palace (Vaikom Valiyakottaram)

It is located on the eastern side of north gate of Vaikom Mahadeva temple. The building about 1000 years old was originally constructed as Chathusala by Chithira Thirunal Maharaja. Its pillars with ornamental architectural forms are very attractive. Now it is used as rest house owned by Travancore Devaswom Board.



7.1.6 Vaikom Kottaram

This building more than 300 years old Located near Chalaparambu– Arattukulam road is owned by a family. The building constructed in traditional Kerala style with thatched roof and with surroundings full of herbal plants has the potential to be a valuable nostalgic specimen in the evolution of Kerala style building construction.



7.1.7 Vaikom Arattukulam

This large pond located on the south side of Vaikom – Vazhamana road at Arattukulam junction is estimated to be 1000 years old. This is now used for bathing by the public. It adds to the beauty of the area and is environmentally benignant too.



7.1.8 Nagamoozhimana

This building located on the west side of Vaikom – Ernakulam road at 0.5km from the Statue junction is believed to be about 1000 years old. The house is constructed as C*hadhusala* in a vast area of trees. There are six *Kavu* which give a pleasant healthy environment. There is also a *Nagaraja* idol.



7.1.9 Indamthuruthy Mana

This is located towards east of Kochalumchuvadu in Vadakkenada road and is about 1000 years old. Almost the entire construction of this building is in wood in 'Chadusala' style. There was a tunnel inside the building connecting Vaikom Mahadeva Temple for the use of the prince. This building was used as a dais for Mahatma Gandhi during the visit on Vaikom Sathyagraha.

7.2 TOURISM

7.2.1 INTRODUCTION

Vaikom is blessed with ample potential for development in tourism sector which is yet to be exploited. The town is gifted with features of excellent natural charm like long backwater coast, network of canals etc. and the presence of heritage structures and sites is an added attraction. Further internationally famed Kumarakom, Metro City of Kochi and Alappuzha (yet another place with equally beautiful tourist spots) etc. are not much far from this town. All these factors provide substantial scope for developing tourism as a major industry of the town.

7.2.2 Present Scenario

At present mostly private entrepreneurs are seen operating in the hospitality business and that too up to a limited extent other than the KTDC which has a motel and Devaswom board which maintains a guest house. That some new health resorts are coming in the private sector is a welcome sign.

However in the back water tourism area it is observed that, other than country boat trips operated by individuals, there is virtually no activity. Trips conducted on House boats etc. which is part of a fast developing tourism business in not far away Kumarakom is yet to catch up here. Particular of the accommodation facilities available in the town is shown the table 7.1.

Table 7.1 Accommodation facilities

Category	No. of Units	Total Rooms	Occupant Capacity
Tourist Home/Lodge (Private)	8	106	167
Motel	1	2	6
Guest House	1	4	12
Health Resort	2(Under Construction)		

7.2.3 Tourism Development Potential

In back water/canal tourism inventing projects for leisure options like water sports, boating etc. along with providing infrastructural facilities would invite further investment in the sector thus creating an environment for tourism to blossom into a full fledged industry. Developing pilgrim/heritage tourism need to be explored with Mahadeva temple as the major attraction followed by other religious buildings/places along with Boat jetty area and the places associated with National freedom struggle and related agitations like Vaikom Sathyagraha and the arrival of Mahatma Gandhi.

7.3 ENVIRONMENT

The topography of the town is fairly level and it is comparatively low lying area. The network of canals are the major system for the collection, conveyance and disposal of the storm water. The environment of canals and disposal of waste are the major environmental threat leading to flooding in many parts of the town. It also affects the tourism potential of the town.

Another feature of the town is the number of ponds. In most of the plots there are more than one pond used for different purpose. Filling up of the ponds is another environmental problem. It is affecting the ground water recharging and this may lead to saline water intrusion into more area once the consumption of ground water increases.

8 ECONOMIC BASE

8.1 Work Participation rate

According to 1991 census, total workers in Vaikom municipal town were 6758. Besides these, there are marginal workers also forming part of the total working population. In 2001 census, the number of workers came up as 7348 as against the total population of 22641. There is only a slight increase in population during the last 2 decades that is 1981-91, 1991-2001. The work participation rate has also slightly increased.

The total workers and work participation rate of Vaikom municipal town is shown in table 8.1. The classification of workers and a comparison of work participation rate with district figures are shown in table 8.2.

Table 8.1 Total workers and work participation rate of Vaikom town

Item	1971	1981	1991	2001
Total population	20014	21097	21788	22641
Total workers	5567	5774	6758	7438
Participation rate	27.8%	27.4%	31%	32.85%

Source: Census Report

While analysing the work force participation, it is seen that the work participation in the first decade is 31% and during the 2nd decade (1991 – 2001) it has increased to 32.85% and the population slightly increased. The active participation of working population is thus seen increasing.

Table 8.2 Comparison of work participation rate with district figures (2001)

Sl. No.	Classification of workers	Vaikom town		Kottayam district (total)		Kottayam District (urban)	
		Workers	% of total population	Workers	% of total population	Workers	% of total population

1	Main workers	6188	27.33	539609	27.62	80231	26.76
2	Marginal workers	1250	5.52	102548	5.25	12000	4.00
	Total	7438	32.85	642157	32.87	92231	30.76

Source: Census Report

The work participation rate has increased to 32.85% from 27.8% of 1971. The participation rate is almost same as district (total) figures. But it is interesting to see that the participation rate of the Vaikom town is more than district urban participation rate.

8.2 Sectoral distribution of workers

Table 8.3 shows the change in occupational pattern of workers of Vaikom town. As can be seen in any town with increasing urbanization, here also the workers under primary occupation like cultivation and agricultural labourers have decreased considerably and at the same time, the secondary and tertiary sector has increased rather than the primary sector. This indicates that the town is becoming urbanized. Total workers, as per 1991 census is 6758. Among this, 1491 workers belong to the primary sector (agricultural labourers, livestock, fishing and quarrying etc). This amount to 22% of the total workforce persons engaged in other sectors such as secondary and tertiary are 20% and 58% respectively

Table 8.3 Occupational pattern Vaikom town 1981-91

Sl. No	Category of main workers	1971		1981		1991	
		Workers	% of total workers	Workers	% of total workers	Workers	% of total workers
1	Primary workers	1903	34.23	963	16.68	1491	22.06
2	Secondary workers	1141	20.53	503	8.71	1351	19.99
3	Tertiary workers	2515	45.24	4308	74.61	3916	57.95
	Total	5559	100.00	5774	100.00	6758	100.00

Source: Census Report

The above mentioned figures represent only the work forces among the inhabitants of the town. In addition to this a large number of people are working in Government and private offices, textile shops and such other organized work places. They are mostly commuters from outside the town.

While analysing the work force among the three sectors, it is seen that the secondary and tertiary sectors constitute the major share of the work force of which the secondary sector comprises primarily the work force in the town centre and the rest is distributed all over the municipal area. A good number of the population is also working outside the municipality. Another feature to be observed that the percentage of workers in the primary sector is comparatively high and more than secondary workers. More number of workers engaged in fishing activity living in the town and the town is industrially backward.

8.3 Fishing

Fishing and its trading are the major activities of the town as it is located on the bank of Vembanad Lake. Details of fishing activity are shown in table 8.4. But the number of labourers engaged in fishing sector is showing a decreasing trend. Those who were earlier engaged in fishing are now concentrating in trading of fish coming from other areas.



Table 8.4 No. of persons engaged in fishing in Vaikom town

Name of fish landing centres	No. of fisherman engaged in fishing	Fishing craft	Average annual fishing
Kovilakathumkadavu	1200	800	600 tones

Source: Fishermen Society, Vaikom

8.4 Industrial workers

Employment in the industrial sector does not constitute a major part of the economic base of the town. There is ample potential for certain types of industries in Vaikom for which there are raw materials, stalled work force, land etc.

Only a few persons, i.e. less than 100 are living with the employment in industrial sector permanently. Only two factories, (other than those in the Industrial Estate) which give employment to more than 25 persons, are existing in the municipal town. These two industries are in the coir-manufacturing sector.

8.5 Government owned industrial sector

The industrial estate located at Chalaparambu is the only one Government owned industrial estate in the municipal town. At present 11 units are functioning within the estate providing employment to 112 persons. Metal based industries and service based industries predominate in the industrial sector. The productions and the employment prospects are not influencing the town's general environment because of its micro scale. A large number of industrial establishments will have to be created for resolving the employment and economical crisis of the town. Vaikom town is well equipped with financial investment, expert labour force and comparatively cheap land availability.

Coir production is the other major industry of the town. But marketing facility is a major constraint to this industry. Very few of the produces are being sold through the shops.

8.6 Raw materials and products

Coir and Pandanus are the main raw materials available in and around the town. Coir materials collected from outside the town are transported through roadways and waterways. There is ample transportation facility in both these modes. Next to the metal-based industries located along the important roadsides and at the industrial estate at Chalaparampu a few of sawmills, flourmills and such other industrial units are also functioning.

The small scale industries are only a few, numbering less than 50 which all together shows the picture of the industrial horizon of Vaikom municipal town. The small-scale industrial sector at Vaikom produces goods for domestic consumption of the town and outside. Due to the absence of any major industry that can act as a major promoter to the small-scale industries, the town suffers a great in industrial development.

In the agricultural sector, coconut is the major crop. Coconut is the base material for coir and oil extraction industry. Coconut husk is also a prominent raw material.

The decrease in agricultural dependant population from 1971-81 and 91- 2001 is predominant and a major work force can be utilized in coconut cultivation and its further processing. There is a vast prospect in Vaikom town for coconut farming and its industrial development.

8.7 Traditional industries

Coir, pandanus, toddy tapping are the traditional industries of Vaikom region. A number of coir societies are functioning in and around Vaikom town and Vaikom Coir mats Society is functioning in the town. Pandanus is the another raw material available in the town. Ullala near Vaikom town is a major market of Pandanus products. A number of labourers in the area are engaged in toddy tapping and trading.

9 PROBLEMS AND POTENTIALS

9.1 Problems and issues

Based on the studies and analysis made in the previous chapters, following are the identified problems.

i) The H.N.L factory at Velloor has a dominant role in the economic development of Vaikom town, both in commercial services and for shelter facility. But the adjacent grama panchayat, Thalayolaparambu, which is developing as a major commercial centre and market place hinters the development of Vaikom town

ii) Developments are mainly concentrated around the temple, particularly along the road connecting west nada and Boat jetty and the road connecting boat jetty and Ernakulam junction. Other areas remain undeveloped mainly due to inadequate road net work.

iii) All the vehicles coming to the town have to round about the temple causing congestion around the temple. Absence of parking areas creates problem during festival and Sabarimala season.

iv) Absence of higher education facilities.

v) The existing Medical facilities are not satisfactory.

vi) Lack of urban facilities like park and playground, town hall etc.

vii) The work participation rate is only 32.85%.

viii) Conversion of paddy fields for other purpose and filling up of canal network leading to environmental problems.

ix) No growth in industrial sector, percentage of workers engaged in secondary sector showing a decreasing trend.

x) Since agricultural occupation is not sustainable many people are keeping the land vacant without cultivation.

xi) Fishing sector showing a decreasing trend. People who are engaged in fish catching are now concentrating in fish trading only.

xii) The potentials of tourism sector are not utilized properly. No investment in this sector and absence of a co-ordinating agency is being experienced.

xiii) Poor housing condition- structural condition of majority of houses are very poor. Only 20% of houses have pucca structure.

xiv) The town is loosing its status as an important transport transit point between Kottayam and Ernakulam, due to the development of alternate routes. Also shifting of some activities like market is taking place now.

9.2 Development Potentials

The development potentials of the town are listed below. The proposals are formulated considering these potentials

i) High deposit– loan ratio. Huge amount of money available in banks can be utilized for development purpose.

ii) Ample scope for developing tourism which can attract both domestic and foreign tourists as the town is located on the bank of Vembanad lake with a beautiful network of canals, and also due to the fact that the town is located in between major tourist destinations.

iii) Nearness to National Waterway No.3. The new terminal at Vaikom will promote economic development of the town and will pave the way for establishment of industries.

iv) Due to the completion of Kottayam – Vechoor road there is a possibility for increasing traffic through Vaikom. So Vaikom may regain its importance as an important transport node between Kottayam – Ernakulam and coastal area and the High range.

v) Scope for developing as a satellite town for Kochi due to its nearness and availability of land for residential development.

vi) Abundant scope for fishing, fish processing and fish trading.

vii) The heritage significance of Vaikom due to Vaikom temple attract thousands of pilgrims during Ashtami festival and Sabarimala pilgrim season. There is ample scope for developing pilgrim tourism

viii) The Vaikom region was famous for traditional industries like coir and Pandanus. Raw material is also available in abundance. This sector can be revived by modernization and diversification of products.

ix) There are possibilities for Vaikom to attract ancillary – allied development of Kochi City due to the investments in Kochi.

10 POLICIES FOR FUTURE DEVELOPMENT

Based on the identified problems and potentials following broad policies are laid down for future development of the town.

10.1 Agricultural sector

111.13(12.17%) hectare of land is coming under agricultural use and 22.06% of total working population is engaged in primary sector. There is enough potential for improving the activities in this sector.

10.1.1 Policies

- Retaining the remaining cultivable paddy fields and promoting paddy cultivation.
- Promoting cattle rearing, cultivation of grass, establishing unit for processing of milk etc. with the contribution of farmers.
- Promoting poultry farming.
- Promoting the cultivation of flowers and vegetables for export considering nearness to the Kochi International Airport.
-

10.2 Fishing

Considering the number of labourers engaged and the availability of working days, fishing is equally important like agriculture and industry. The town has about 5km long backwater coast and has a number of rivers and canals. It is a major fish-trading centre also.

10.2.1 Policies

- establishing fish trading units
- establishing fish processing units

10.3 Industrial sector

As per 1991 census 20% of total workers are engaged in secondary sector. This shows low industrialization and low profile in economic sector.

10.3.1 Policies

- Provide basic infrastructure for industrial development, to attract ancillary and allied development due to the huge investment proposed at Kochi.
- Setting up of new units utilizing the surplus deposits available in banks
- Promote coir and rubber based industries
- Revival of traditional industries of the region
- Promote industries based on coconut, like food stuff, oil and soft drink products.

10.4 Infrastructure facilities

Availability of proper infrastructure facility is necessary for any development. Poor infrastructure facility is one of the reasons for the slow growth of the town.

10.4.1 Policies

- A road net work, which will give accessibility to the poorly developed area, will reduce the present concentration around Vaikom Mahadeva temple.
- Improvement of terminal facilities
- Improvement of civic amenities
- Improvement of water transportation facilities and develop Vaikom as an important terminal in National Water Way No.3.

10.5 Tourism

Presence of backwaters and a network of canals and rivers, Vaikom Mahadeva temple and proximity to the international tourism destinations like Kumarakom, Kochi and Alappuzha, give enough potential to develop Vaikom as a major tourist destination.

10.5.1 Policies

- development of back water and canal tourism by developing a network of canals
- development of pilgrim tourism
- Improving connectivity with other tourist centres by improving road, rail and waterway networks.
- Include Vaikom in a tourist circuit connecting adjacent tourist centers.
- Promoting cultivation of flowers in vacant and marshy land to improve the landscape.

10.6 Heritage

The heritage value of Vaikom due to the arrival of Gandhiji for Vaikom Satyagraha and due to the presence of Vaikom temple has to be explored.

10.6.1 Policies

- suggest development controls to conserve the Heritage value of temple and Surroundings
- suggest regulations for conserving the heritage value of Satyagraha Memorial Sree Narayana High School compound and Boat Jetty area – areas blessed by the arrival of Mahatma Gandhi.

10.7 Service Centre

Vaikom has to be developed as a service centre of the region.

10.7.1 Policies

- Provide all taluk level facilities
- Improve education facilities
- Considering nearness to the metro city Kochi, develop Vaikom as a satellite town of Kochi, by improving the transportation means such as rail and road connection.

11 POPULATION PROJECTION AND LAND REQUIREMENTS

11.1 Introduction

The projection of population is done based on the trend of growth of population during the previous decades. Changes in socio-economic factors and political situations affect the growth trend. Hence several methods are adopted to find out an optimum population forecast for the horizon year, visualizing the socio-economic and political scenario of the future to the extent possible.

11.2 Perspective population

Population of Vaikom town in 1961,1971,1981,1991and 2001are 17418, 20014, 21097, 21788 and 22641 respectively.

i) Arithmetic increase method (Pn = Poi + r n)

P 2011 = 22641 + (140 x 10) = 24041

P 2021 = 22641 + (140 x 20) = 25441

ii) Geometric increase method (Pn = Po(1 + r)^t

P 2011 = 22641 x 1.04 = 23547

P 2021 = 23547 x 1.04 = 24489

iii) Incremental increase method

Year	Population	increase in population	Incremental increase
1961	17,418		
1971	20,014	2596	
1981	21,097	1083	-1513
1991	21,788	691	-392
2001	22641	853	+162
Total		5223	-1743

Average		1306		-581
P 2011 =	22641 + (1306 – 581)	=	23366	
P 2021 =	22641 + (1306 – 581) x 2	=	24091	

iv) Decrease rate of growth method

Year	Population	% increase in Population	Decrease in % increase
1951	15,646		
1961	17,418	11.33	
1971	20,014	14.90	- 3.57
1981	21,097	5.41	+ 9.49
1991	21,788	3.28	+ 2.13
2001	22641	3.91	-0.63
		Average	+1.86

P 2011 = $22641 + \frac{(3.91 - 1.86) \times 22641}{100} = 23105$

P 2021 = $23105 + \frac{(3.91 - 2 \times 2.68) \times 23105}{100} = 23149$

The perspective population for the Vaikom town for the year 2011 and 2021 is shown in table 11.1. The average value of the projected population using different arithmetical methods for the year 2011 and 2021 are 23515 and 24293 respectively. But with the investments proposed in the city Kochi, it is roughly estimated that an additional population of about five lakhs has to accommodate in Kochi and surrounding area. Based on this concept an additional population of 15,000 and 30,000 is assigning to Vaikom for the year 2011 and 2021 respectively.

Table 11.1 Perspective Population for the year 2011 and 2021

Sl. No.	Method	Projected population	
		2011	2021
1	Arithmetic increase method	24041	25441
2	Geometric method	23547	24489
3	Incremental increase method	23366	24091

4	Decrease rate of growth method	23105	23149
	Average	23515	24293
	Migration	15000	30000
	Total	38515	54293
	Rounded to	**38,500**	**54500**

11.3 Perspective working population

As shown in the table 10.1 Vaikom town is expected to have a projected population of 54,500 in the year 2021. However the working force strength has been projected based on the projected population excluding the migration part since the migrant population depends on the town primarily for dwelling purpose and for commuting to and from the work place Kochi. The working force is taken as 35% of the projected population. It is assumed that the primary sector employment will decrease and secondary and tertiary sectors will constitute major share.

Thus the perspective working population of year 2021 is found to be 8503 and the occupational distribution of it is as shown in table 11.2.

Table 11.2 Proposed occupational pattern of Vaikom town-2021

Sl. No.	Occupation	% of workers	Number of workers
1	Primary sector	15	1275
2	House hold industry	8	680
3	Manufacturing industry other than household industry	10	850
4	Construction	6	510
5	Trade and commerce	25	2126
6	Transport, storage and communication	7	595
7	Other service including tourism	29	2467
	Total	100	8503

11.4 Area requirement for various urban uses 2021

11.4.1 Residential use

At present 660.060 Hectare of land is used for residential purpose. The present residential density is worked out to be 33.20 persons per hectare.

Assuming an average density of 100 persons per hectare during horizon year, the land required under this use is computed as 606 hectares. An area of 673.47 hectare has been proposed for residential use.

11.4.2 Commercial use

Projected population of 2021 is 54500. Considering the fact that, the people from adjacent grama panchayats Thalayazham, Chempu, Maravanthuruth, T.V. Puram, Vechoor and Udayanapuram are depending on Vaikom town for different services an area of 27.95 hectare has been set apart for commercial purpose which works out to be at the rate of 0.5 Hectars/1000populaton.

11.4.3 Public and semi public use.

At present 33.50 hectares of land is under this use. This is worked out to be 1.395Hect/1000 population. In addition to the existing area 2.74 hectare has been newly proposed for this use.

11.4.4 Industrial

The number of workers in the industrial sector (other than household industries) is estimated to be 850 by the year 2021. Assuming an employment density of 100 person/hectare, the requirement of industrial area works out to be 8.50 hectares. 4.47 hectare of land has been proposed for industrial use for the horizon year.

11.4.5 Household industries

Number of workers in household industries is worked out to be 680. An average density of 50 persons/hectare of land is required for housing these industries. The land required for this use is computed as 13.6 hectare. This land can be found in the residential area itself, since the proposed residential density is comparatively very low.

11.4.6 Park and open spaces

At present, no organized area other than the Children's Park near Boat Jetty is set apart for park and open spaces. Assuming an average standard of 0.4 hectares/1000 population in the horizon year, 21.8 hectare of land is required under this use. 6.30 hectare of land is proposed under park and open spaces and to meet the requirements of the neighbourhoods more parks and open spaces can still be established within them.

11.4.7 Tourism and other services

The labour strength in this sector is estimated to be 2467 by 2021 and there is considerable potential for developing back water and pilgrim tourism. Taking an average of 0.5hectare/1000 population the

land required under this use is estimated to be 13 hectares. Land for aquatic sports complex, area for parking of tourist vehicles, botanical garden, parks etc are proposed in the plan.

11.4.8 Agricultural use

At present 111.13 hectares of land is under agricultural use especially paddy cultivation and it is around 13% of total town area.

11.5 Future requirements of environmental and civic infrastructure.

11.5.1 Environmental Infrastructure

a) Water supply

The water supply demand is estimated to be at the rate of 135 litres per capita per day. Hence the future demand on 2021 is calculated as 7357 Kilo liters.

b) Electricity

The electric power requirement computation for the policy plan period is shown in table 11.3

Table 11.3 Power requirement

Sl. No.	Zone details	Persons served	Rate of power requirement in town (Kwh. per person/day)	Total power requirement in (Kwh per day)
1	CBD areas (assume 1/5th pop)	10,900	1.00	10,900
2	Industrial zones	1,530	4.00	6,120
3	Remaining areas	42,070	0.50	21,035
	Total			37,103

c) Solid waste disposal

As the residential density is very low, the solid waste disposal does not pose any problem in the peripheral area. However for the central area and surroundings a system is essential for collection and disposal of solid wastes. The quantity of solid waste is estimated to be at the rate of 0.25 kg. per capita and it comes to around 13.63 tones/day for the town.

d) Sewage

Since the proposed residential density is very low, there is no need for any public drainage system and the existing system can continue during first phase i.e. 2001-2011. The present system need to be modified in the second phase i.e. 2011-2021.

e) Surface drainage

A network of drains has to be constructed for major roads. The town with a good net work of natural drains and a large number of ponds can absorb the storm water. But the restoration of some of the closed drains and ponds and retention of paddy field etc are to be done for the easy drainage of storm water.

11.5.2 Social Infra structure

11.5.2.1 Educational facilities

There are 6 High Schools, 3 UP Schools, 2 LP Schools and few other technical institutions functioning in the town and it is sufficient for the present demand. But at present there are no facilities for higher education within the town and people of this town depend on Kottayam and Ernakulam for higher education.

11.5.2.2 Medical institution

The taluk hospital (Community Health Centre) Vaikom with a bed strength of 252 is located in the town. Indo-American Hospital Chemmanakari, near Vaikom provides super specialty treatment facilities for certain ailments. Other than these, the medical facilities at Vaikom are limited to a few dispensaries and clinics. People of this area have to depend on Kottayam Medical College for better treatment.

12 POLICY PLAN 2021

12.1 Introduction

Policy plan broadly illustrates the nature of future developments and proposes guidelines to be followed for achieving the set goals. Map 11.1 is showing the proposed land use and probable locations of the development projects. Development Plan and its development proposals are made in tune with the policy plan.

12.2 Policies adopted in the planning

Following broad policies are adopted in the policy plan for future development.

i) Planning area is the municipal area. This facilitates the implementation of the development schemes by the statutory authority itself.

ii) Future urban development is proposed in the area northeast of Vaikom Mahadeva temple, where residential density is very low and sufficient vacant land is available.

iii) Redensification of residential area has been proposed in the future plan. This makes the optimum utilization of service facilities.

iv) Major paddy fields, water bodies and agriculture lands are proposed to be retained as such.

v) The backwardness in industrialization is a felt problem, which in turn leads to economic backwardness also. Measures are to be taken for the development of industry.

vi) Considering the enormous potential, due importance has been given to tourism sector.

vii) Improvements of infrastructure such as water supply, electricity, roads etc are proposed in the whole planning area giving due importance to new developing area.

viii) Transportation network has been proposed in tune with the policies mentioned above, retaining the gridiron pattern of the road network and providing adequate parking facilities considering the anticipated flow of pilgrims and tourists.

ix) Provision of infrastructure for attracting ancillary – allied development due to huge investments in Kochi.

x) Including Vaikom also in the suburban railway network of the metro city Kochi.

xi) Promotion including diversification of traditional industries suitable for Vaikom

12.3 Land use classification for various uses.

Land use classification for various uses by 2021 is as proposed below with the realization of the development potential proposals. Table 12.1 shows the break up of land use.

Table 12.1 Proposed land use

Sl. No.	Description	Area	percentage
1	Residential	673.47	77.14
2	Commercial	27.95	3.20
3	Public and semi public	36.24	4.15
4	Industrial	4.47	0.51
5	Low lying Agriculture land to be retained	43.90	5.03
6	Transportation	58.87	6.74
7	Water bodies	14.67	1.68
8	Park open space	6.30	0.72
9	Green strip	7.13	0.82
	Total	873.00	100.00

12.3.1 Residential areas

An area of 673.47 hectares (77.14 %) has been proposed for this use during the horizon period. Residential density during this period is estimated to be 8 persons per hectare.Certain land presently under residential use has been proposed for transferring for providing various urban infrastructures. The reduction in residential area has been adjusted with the redensification in existing areas and re-organization of existing residential area. Land use zoning at this area permits flexibility so as to accommodate any compatible uses, including household industries, which are not detrimental to the main use.

12.3.2 Commercial use

27.95 Hectares of land has been set apart for commercial development. This includes area for new wholesale and retail market shopping centres etc. At present the commercial facilities are concentrated in west nada road and Post Office junction – Ernakulam junction road. In order to reduce the congestion around the temple, new market and commercial areas are proposed along the new link road connecting Kottayam Road and Vazhamana Road.

12.3.3 Public and semi public

An area of 36.24 hectares of land has been earmarked for public and semi-public use for the horizon period and among that 2.30 hectares of land is newly proposed. At present there is no land for the disposal of solid wastes. 5.00 hectares of land is proposed at Perumpallyazham area at the southeast corner of the town.

12.3.4 Industrial

4.47 hectare of land has been reserved for Industries other than household industries. No separate land has been reserved for household industries, since these can be provided in the residential area itself where the residential density is very low.

The existing industrial estate is located at Chalaparambu. The additional land for manufacturing industries are proposed at Amalapuri.

12.3.5 Low lying wet land

Existing low lying agricultural land is to be retained with all protective measures. An area of 43.90 hectares of land has been proposed for this use in the policy plan. Also the existing canals and ponds are to be retained as such, the encroachment, and the blocks in the canals are to be cleared. Promotion of the cultivation of flowers and vegetables are the other programmes proposed in the policy plan.

12.3.6 Transportation

Transportation area includes the proposed road network, bus terminal, truck terminal, parking areas, area for boat jetty and national water way terminal etc. 58.87 hectares of land has been proposed for the horizon year, which comes around 6.74 percentage of the total area. Following are the major proposals included under transportation in the policy plan

i. At the north East Side of the Mahadeva temple, an area of 5.00 hectares has been reserved for bus terminal.

ii. A tourist parking area at Dalavakkulam. 1.00 hectare of land has been set apart for this use. Due to its closeness to the new bus stand and Mahadeva temple it is useful for both pilgrims and tourists.

iii. Road network improvement by widening of the existing roads and proposal of new roads. Arterial roads of 18.00m width for a total length of 11.65 km., Sub arterial roads of 12.00m width for a length of 15.02 km, Sub arterial road of 9.00m width for a length of 0.40km and collector roads of 7m width for a total length of 13.64 km have been included in the proposed road network plan.

iv. Renovation of the existing boat jetty with all passenger amenities and additional berth for private boats. The available land at the existing boat jetty can be used for this.

v. A terminal in National Waterway. An area of 0.18 hectares of land adjacent to the boat jetty has been reserved for this purpose.

Water bodies

Vaikom is bounded by Vembanad Lake on its western side. A number of canals like K.V. canal, Kanian thodu, Perumchila thodu and Andhakarathodu are passing through Vaikom. An area of 14. 67 hectares comes under water bodies, which is1.60 percentage of the total area.

Projects included in policy plan

i. Cleaning the blocked portion and encroachments of Perumchila thodu and Andhakara thodu.

ii. Retaining the existing ponds.

iii. A green belt of 3 m width on either side of Kariar, Anthakarathodu, Perumchila thodu and Kariar and along the bank of Vembanad backwaters for preventing encroachments and for environmental protection.

12.3.8 Park and open spaces

An area of 6.30 hectare has been proposed for park and open spaces for the horizon period. Following are the major proposals included in the policy plan.

i. Botanical park

2.60 hectares of land on the western side of Vaikom Ernakulam road has been proposed for botanical park. The existing sacred grove has also been included in park.

ii. Children's park

1.7 hectares of land on the bank of Kariar at the south east end of the town has been proposed for children's park.

iii. Aquatic sports complex

An aquatic sports complex has been proposed near Vembanad Lake. 0.06 hectares of land and a new road has been proposed for this purpose.

iv. Green belt

A green belt of 3.00m width on either side of Kariar, Anthakarathodu, Perumchila thodu and Kanianthodu and a 5.00m wide belt along the Shore of Vembanad Lake has proposed as green belt.

12.3.9 Conservation of Heritage

i. To commemorate the arrival of Mahatma Gandhi in connection with Vaikom Satyagraha a Satyagraha memorial is under construction near Boat Jetty. Only constructions that do not harm its architectural style shall be permitted in this premise. Moreover that the identified heritage buildings / premises mentioned in the Chapter. 7 shall also be conserved.

ii. To conserve the heritage value of Temple and surroundings a **Parikrama** road is proposed around the Temple. Height restrictions are imposing for this area. Also the identified heritage buildings mentioned in the chapter 7 are to be conserved and preserved.

13 TRANSPORTATION PLAN 2021

13.1 Introduction

Transportation plan envisages the future transportation system for different modes i.e. road, railway and waterway. Of these, roadway and waterway modes are presently operating in Vaikom town.

13.2 Road traffic

Roadway is the major means of transportation of the town. The existing road network is capable of handling the present day traffic. The network is to be improved to handle the future traffic. Some of the roads are very narrow and junctions are of inadequate capacity and design.

The existing road network is in such a way that, all major roads are originating from the four gates of Mahadeva temple, and vehicles have to come to the temple area to proceed to other parts of the town. Due to this developments are concentrated around the temple and most of the other areas are less developed due to the non-availability of proper access.

13.2.1 Projected traffic volume

Projections of traffic volume on major roads of the town have been made, considering the factors like growth of vehicle population, growth rate of traffic volumes on important roads, expected increase in the traffic after completing the Kippuzhamuttu bridge etc. Table 13.1 shows projected traffic volumes on important roads.

Table 13.1 Projected traffic volume of important roads.

Sl.No.	Roads	Existing			Projected traffic volume 2021	Projected V/C ratio (based on the present capacity of roads)
		Peak hour Traffic volume (PCU/Hr)	Capacity of the road (PCU/Hr)	V/C ratio		
1	E.E.Road, Chalapparambu – Ernakulam junction	976	1100	0.89	2719	2.47
2	E.E.Road Ernakulam jn. – Udayanapuram	953	1000	0.95	2655	2.66

3	Pulinchuvadu – Cherumchuvadu	380	700	0.54	1059	1.51
4	Ernakulam jn – North Nada road	874	1100	0.79	2435	2.21
5	West Nada – Boat jetty	1118	2000	0.56	3115	1.56
6	Boat Jetty - Ernakulam jn.	545	1000	0.55	1518	1.52
7	East Nada road	507	700	07.2	1412	2.02
8	Moothedathu kavu road	626	900	0.69	1744	1.94
9	TV Puram road	209	700	0.29	582	0.83
10	Vechoor road	495	800	0.62	1379	1.72

13.2.2 Circulation system

The proposed circulation pattern for the town aims:

i To give due importance to Mahadeva temple and surroundings.

ii. To decongest the area around the temple.

iii To open up the areas having poor accessibility and accelerate the development of those areas.

iv To bring about land development in tune with the proposed land use plan.

vi To have proper communication between interior zones.

vii. To divert the increased traffic generated due to the construction of the Kaipuzhamuttu Bridge away from CBD area.

viii. To facilitate easy movement of cargo to and from the National Waterway terminal and smooth maneuvering of new generation trucks.

13.2.3 Proposed road network for the year 2021

Gridiron pattern is adopted in the proposed road network. To give due importance to the temple and surroundings a **Parikrama** is formed around the Temple by widening of existing roads and formation of new roads at two stretches. Three categories of road i.e. arterial roads, sub arterial roads and collector roads are proposed in the network. Most of these proposals are widening the existing roads and there are a few new roads also. Details of the arterial sub arterial and collector roads are shown in the tables 13.2, 13.3 and 13.4 respectively.

a. Arterial road (18 m wide)

1. Widening of existing roads

i. Ettumanoor Road (Ernakulam junction to Municipal boundary)

ii. Ernakulam Road (Ernakulam junction to Municipal boundary)
iii. KSRTC Bus station road (Post office junction to Ernakulam junction)
iv. West Nada Road (West Nada to Boat Jetty)
v. North Nada Road (Ernakulam junction to GHS)
vi. Pulinchuvadu – Cherumchuvadu Road
vii. TV Puram Road (Kacheripadi to KV canal) (Southern part of this road form part of Parikrama)
viii. Vechoor Road (along the southern side of KV canal)
ix. Road parallel to and on the eastern side of Perumchila thodu,connecting Kottayam Road and Vazhamana Road (southern part of this road form part of Parikrama)
x. Vazhamana Road (East Nada to Muriankulagara)

b. Sub arterial road (12 m / 9m wide)

1. Widening of existing roads

Widening to 12.00m

i. TV Puram road (KV canal to Municipal boundary)
ii. Vazhamana road (Muriyankulangara jn to Municipal boundary)
iii. Moothedathukakvu road (Thekkenada to Municipal boundary)
iv. Chalaparambu – Arattukulam road
v. Arattukulam – Iyerkulangara road
vi. Perumpalliyazham road (Kavarapadi to Municipal boundary)
vii. Poothalapapdi road (Kochukavala to Udayanapuram temple via Poothalapadi, Nerekadavu
viii. Link road from TV Puram road to Pulinchuvadu – Cheranchuvadu Road
ix. A.K.G road (Vazhamana Road to Perumpulliyazham
x. Kovilakathumkaadavu Road
xi. Pre metric hostel Road (Chalaparambu junction to Municipal boundary)
xii. Homappura Road (part of parikrama)
xiii. Kochukavala-Kacherikavala Road (southern part of this road form part of Parikrama)
xiv. Road connecting Kochukavala and Vadakke Nada Road
xv. Road Around Mahadeva Temple Connecting West, South and East Nada

Widening to 9.00m

i. S.Q. Road

2. New roads

i. Road to Garbage disposal area from Perumpilliyazham road

ii. Road connecting South Nada Road and Vazhamana Road (Part of Parikrama)

c. Collector streets (7m wide)

1.Widening of Existing Roads

i. Kollan Road (Ernakulam Road to Municipal boundary

ii. Karuvallil Road (Ernakulam Road to Municipal boundary)

iii. Pulayan Road (Vypinpadi to Municipal boundary)

iv. Vypinpadi Road

v. Kariyil Road

vi. Palackal Road

vii. Sree Narayana Road

viii. Krishna Pillai Road

ix. Polassery Raod

x. Subhramanian Road

xi. Road from Link Road to Pulimchuvadu –Cherumchuvadu Road (Chethimangalam Road)

xii. Road from North Nada Road to Link road (Chethimangalam Road)

xiii. Naranath Road

xiv. Chullithara Road

xv. Valiyanapuzha Road

xvi. Matakkatu Road

xvii. Moothedath Road

xviii. K.V.Canal Road (Up to new aquatic complex)

xix. Vazhuthanakkattu Road

xx. Chemmanathukara Road

xxi. Street around the temple (north-west and north-east)

xxii. Kovilakathumkadavu- Kaniyanthodu Road

xxiii. Hospital Road (Municipal bus stand to Vembanad lake)

xxiv. Taluk Hospital –Kovilakathumkadavu Road

2.New Roads

i. Road connecting Kacherippady-Kochukavala Road & Vadakke Nada Road (Pension Bhavan Road) (part of Parikrama)

ii. Road connecting South Nada Road and T.V.Puram Road (Part of Parikrama)

13.2.4 Other road transport proposals

13.2.4.1 Municipal bus stand

3.160 Hectare of land has been earmarked for a new municipal bus stand.

13.2.4.2 Tourist parking area and Taxi stand

1.110 hectare of land has been earmarked for the parking of tourist vehicles and taxies at Dalavakulam.

13.2.4.3 Truck terminal

1.300 Hectare of land has been earmarked for truck terminal near the proposed market.

13.3 Waterways

13.3.1 Cargo terminal

Cargo terminal for National Water Way is proposed on the bank of Vembanad lake.

13.3.2 Boat jetty

The existing boat jetty is proposed to be renovated with more passenger facilities.

13.4 Railways

Considering the chance of developing Vaikom town as a satellite town of the metro city Kochi, a railway line- fromThrippunithura- as a part of metro suburban line to Kochi is also proposed.

14 INFRASTRUCTURE PLAN 2021

14.1 Introduction

In this infrastructure plan, the future infrastructural supports such as power, water supply, solid waste disposal etc. required for the town are proposed. This will promote the economic development of the town and will provide the essential urban facilities.

14.2 Transportation

Proposals for improving the road network and other transportation facilities are given in chapter 13

14.3 Electric supply

37103 KWh / day is the estimated power requirements per day by 2021. This can be met by increasing the capacity of Vallakom Sub-station, which is close to the town boundary. Provisions for switchyard, transformers transmission and distribution lines etc. can be made along the proposed road network and existing corridor.

14.4 Water supply

The quantity of drinking water by 2021 is estimated as 7357 Kilo liters. This demand can be meet by augmenting the existing water supply scheme.

14.5 Solid waste disposal

An area of 5.00 hectares has been earmarked for the disposal of solid waste. A treatment plant can be installed to convert the collected solid waste to valuable manure through suitable mechanical and organic process. Sufficient area has been proposed to other sanitary landfill in case the system faces any break down.

14.6 Surface drainage

For improving the surface drainage, it is proposed to clear three canals, i.e. Perumchila thodu Anthakarathodu and Kaniyan thodu. Measures are also suggested to protect these canals from further encroachments.

14.7 Housing

In this sector, proposals are made to improve the following identified slums in a phased manner by shelter up-gradation, improving sanitary condition, providing suitable access and providing water supply and electricity.

i. Fish market colony
ii. Chalaparambu colony
iii. Polassery colony
iv. Perumchila settlement colony
v. Perumchila colony
vi. Polassery north colony
vii. Vemparampu colony
viii. Thotunkal colony
ix Karayil colony

14.8 Market

There is no organized market in Vaikom town for both wholesale and retail trade. Since the town is acting as a trading centre for surrounding grama panchayats, area for new market has been proposed. Wholesale as well as retail markets can function in this area. A truck terminal is also proposed adjacent to the new market.

14.9 Industries

One of the main reasons for the backwardness of the town is the lack of industrialization. An area of 4.47 hectare is earmarked for industrial use including the present industrial estate at Chalaparambu. The additional land is proposed at Amalapuri.

14.10 Park and Open spaces

6.30 hectares of land have been earmarked for park and open spaces. Proposals include botanical garden and parks.

14.11 Public and semi public use

An area of 36.24 hectares of land has been proposed for this purpose. Most of the land under Public and Semi public use now being retained as Public and Semi-Public use zone.

14.12 Phasing of identified projects and rough cost estimate

Details of the identified projects i.e. land to be acquired, approximate land value, project cost, implementation period, amount to be spent in each year, the implementing agency etc. are given in the Table14.1.

The location of the major projects are also shown in the Map 14.1

Table 14.1

Phasing of Identified Projects

15 ZONING REGULATIONS

15.1 Introduction

Development Plan provides a legal framework within which development of an area or city/town takes place and land use zoning serves as a legal instrument for planning and executing proposals contained in the plan.

The main purpose of the land use zoning is to provide regulations for development of a particular area, to serve the desired purpose efficiently and to preserve its character. It also provides for the kind of buildings to be constructed. Zoning regulations are legal tools for guiding the use of land and protection of public health, welfare and safety. These regulations also improve the quality of life in the town.

15.1.1 The implementation and enforcement of the Development plan shall be in conformity with the zoning regulations prescribed hereunder. These regulations shall guide the granting or refusal or permission for land development.

All future constructions within the scheme area boundary prescribed in the Development plan shall conform to the Kerala Municipality Building Rules in force unless otherwise specified in these regulations/ scheme.

15.1.2 In these regulations the scheme area have been zoned under various uses such as residential, commercial, industrial, Public and Semi Public.....etc. Details regarding the nature of uses "Permitted", uses "Permissible" and uses "Prohibited" in each zone is detailed in the accompanying sheets.

15.1.3 Uses "Permitted" in a zone cover the uses that can be normally accommodated in the relevant zone.

(These are the uses that can be permitted by the executive authority concerned, in a use zone)

In some cases it may be possible to permit some other uses also which are not likely to affect the quality and environment in a zone specified for a particular use. Such cases have to be individually studied based on their performance characteristics and special locational factors. Such cases which come under the category are classified as "Permissible" uses. Uses "Prohibited" enlist the various objectionable uses in each zone, which shall not be permitted in a use zone.

Permissible uses are the uses that shall be permitted by the executive authority with the concurrence of the Town Planner of the Department of Town and Country Planning having jurisdiction over the area

15.1.4 All other uses other than permitted and restricted are prohibited uses.

15.1.5 Existing areas and structures of archaeological importance, agricultural uses and religious uses may be permitted to continue in all the zones and shall not constitute non-conforming uses.

15.1.6 In the case of concurrence issued for constructions involving filling of wet land, low lying land and paddy fields various mitigation measures including proper drainage measures has to be specified and local authority has to ensure that same are provided/enforced.

15.1.7 In the case of land to a depth of 50 m on either sides in residential zone and, land to a depth of 100m on either sides in Commercial zones along the sides of roads having an existing or proposed width of 12 m or more Residential, Commercial, Public and Semi Public uses may be permitted with the concurrence of the Town Planner of the Department of Town and Country Planning having jurisdiction over the area, if such uses are not allowable otherwise in the zoning regulations.

15.7.8 In case of plots (of single ownership and single document) which falls in more than one zone except agricultural zone the zoning regulations of the major (more than 75% of plot area) portion of the plot is applicable to the remaining portion of the plot also.

15.1.9 Regulation of constructions on the sides of new roads / roads proposed for widening as per the scheme shall be governed by the distance from the centerline of the road, unless otherwise specified

in the Detailed Town Planning scheme or any detailed road alignment approved by the Chief Town Planner.

15.2 Residential Use Zone

i. Permitted use

All Residences, Hostels and Boarding Houses for students / women, Night Shelters, Orphanages / Old Age Homes / Dharmasala , Ashram / Madom, Retail Shops up to 100 sq.m, Professional Offices up to 200 sq m, Commercial Offices / Establishments up to 200 sq.m, Restaurants / Canteen up to 100 sq. m, Bakeries and Confectioneries up to 200 sq.m, Beauty Parlour, Cottage Industries, Day Care and Creche, Nursery / Kinter Gartens / Primary and Upper Primary Schools, Police post, Police station, post office, cottage industries, IT / Software units, Library and reading rooms, Social welfare centers ,Community halls, Public utility buildings, clinics(out patient) and diagnostic centers, tot Lots, Parks, playgrounds, Boat Jetty, Auto Rickshaw /taxi stand, All government and public sector institutions and offices.

ii Permissible Use

Guest Houses / Lodges, Banking and Financial Institutions up to 200 sq. m, Automobile workshops of 2/3 wheelers, printing press, IT / Electronic industries, Educational Institutions such as High schools, Higher Secondary Schools and Technical Training Centers, Research and Development Institutes, Museum, Auditorium / wedding halls, Indoor Games Stadium, Gymnasium, Swimming pool, Exhibition centers and Art gallery, cultural and Information centers, Local / State / Central Government Offices, Public Sector Offices, Transmission towers and wireless stations, godowns / Ware houses / storage of Non hazardous materials up to 100 Sq. m, Fairground, Cremation ground /crematorium, burial ground /common vault, diary farm, poultry farm, hospitals / Health Centers (up to 20 beds), Service industries of Non-nuisance nature (See annexure -1) with maximum 6 workers or 3 workers + 3 HP, Fuel filling stations, storage of LPG gas Cylinders, bus depots without workshops, religious buildings, markets for retail goods, water treatment plants.

iii. Prohibited use

All other activities not mentioned in i and ii above

15.3 Commercial use zone

i. Permitted use

Shops both retail and wholesale including shopping complex / supermarkets / shopping malls, Professional Offices, Commercial Offices / Establishments, banking and financial institutions, Restaurants / Canteen, motels, hotels, beauty parlour , markets, Gymnasium / Yoga centers, godowns / warehouses / storage, non-hazardous nature, beer pubs / parlour, liquor bars, Automobile showrooms, weighbridge, Fuel filling stations, IT / software units, Police post, Police station, post office, Library and reading rooms, Social welfare centers, museum, Auditorium / wedding halls, indoor games stadium, movie halls.

Residences of floor area up to 300 Sq.m, hostels and boarding houses, night shelters, orphanages/old age homes / Dharmasala, guest houses/Lodges.

Cottage Industries, IT Hardware/ Electronic industries, Automobile workshop and Service stations, spray painting workshops, cold storage, ice factory, service industries of Non-nuisance nature (See annexure-1) with maximum 20 workers + 50 HP, Printing press, water treatment plants, Public utility buildings, clinics, diagnostic centers, hospital and health centers up to 50 beds.

Tot Lots, parks, outdoor games stadium, Fair ground, Open air theatre, traffic parks, playground and camping site.

Parking plaza, bus terminal / stand, lorry stand, auto rickshaw / taxi / Jeep stand, container Terminal, boat jetty.

ii. Permissible use

Local / state / Central Government Offices , Public sector Offices, Educational institutions, Research and Development institutes, transmission towers and wireless stations, convention centre, swimming pool, Exhibition centers and Art gallery, religious buildings, hospitals and Health centers, Residences of floor area above 300 sq.m.

Service industries of non-nuisance nature, marble and granite storage, Coal / wood / timber yards, gas installations and gas works.

Cremation ground / crematorium, burial ground / common vault, slaughter houses.

iii. Prohibited use

All other activities not mentioned in i & ii above

15.4. Industrial use zone

i. Permitted use

All type of industries other than obnoxious and nuisance type, Automobile Showrooms, Automobile workshops and automobile service stations, public utilities, electric power plants, Water Treatment plants, Marble and granite storage / cutting centers, Industrial Estates and Industrial parks, Retail shops up to 100 Sq.m.

ATMs, Cyber café, Restaurants / canteen up to 100 sq.m, Bakeries and confectionaries, Godowns / warehouses / Storage non hazardous, weigh bridge, Fuel filling stations, stacking yards, Residential uses incidental to industrial uses, Retails and wholesale business incidental to the Industrial uses, Container terminal, boat jetty, Transport terminals.

ii. Permissible use

Noxious, obnoxious and hazardous industries except storage of perishable and inflammable goods, junkyards, smoke house, dumping yards, sewage treatment plants, gas installation and gas works, quarrying of gravel / sand / clay / stone.

Banking and financial uses up to200 sq.m, Transmission towers and wireless station, transport terminals

Clinics (Out patient), Diagnostic centre, Hospitals & Health centre (up to 10 beds), Parks, Indoor/Outdoor games stadium, Fair grounds, Slaughter house, Diary farm, Poultry farm.

iii. Prohibited use

All other activities not mentioned in i & ii above.

15.5 Public and Semi Public zone

i. Permitted use

Local / State / Central Government offices, Public sector offices, educational institutions, Research and Developments institutes, Transmission towers and wireless station, Library and reading rooms, Social welfare centers, museum, Auditorium / wedding halls, indoor games stadium, convention

centers, swimming pools, exhibition center and art gallery, community hall, cultural and information centers, Public utility buildings, religious centers, electric sub-station, clinics, diagnostic centers, hospitals and health centers, Guest House.

Residential uses incidental to other main uses, residences floor area up to 100sq.m, Ashram / Madom, Retail shops up to 100 sq.m, banking and financial institutions, ATMs, Cyber café, Restaurants / Canteen up to 100 sq.m, Godowns / Warehouses / Storage up to 100 sq.m of Non-hazardous materials, Automobile Showrooms, Weigh bridge.

Tot Lots, Parks, Outdoor games stadium, Fair Ground, Open air theatre, Traffic park, Play ground, Amusement parks, Camping site.

i. Uses permissible

Lodges, professional offices, commercial offices / establishments, Gymnasium, Movie halls, Markets, Water treatment plants, Cremation ground /Crematorium, Burial Ground / Common vault, Slaughter hoses, Parking plaza, Transport terminals, Container terminals.

ii. Prohibited Uses

All other activities not mentioned in i & ii above

15.6 Park and Open Space

i. Permitted Use

Tot Lots, Parks, Fair ground, Open air theatre, Traffic Park, Play ground, Swimming pools, Indoor / out door games stadium, Amusement parks, Zoological and Botanical Gardens, Bird sanctuary, Police post, Fire post, Health centers for players.

ii. Uses Permissible

Taxi / Auto stand, Commercial Uses like Cinema and other shows, Restaurants up to 100 sq.m, Open air theatre, Clubs, Shooting Range, Picnic huts, Holiday resorts, Library, Camping site, Residential uses incidental to uses permitted.

iii. Prohibited Uses

All other activities not mentioned in i & ii above

15.7 Transport Zone

i. Permitted Use

Transport terminals, Container terminals, Parking areas, circulation.

ii. Uses Permissible

Automobile workshops, Night shelter, Banks, Restaurants, Booking offices, Parking plaza, Residential uses incidental to permitted uses.

ATMs, parks, transmission towers and wireless stations.

iii. Prohibited use

All other activities not mentioned in i & ii above

15.8 Low lying Land

i. Permitted Use

Agriculture, Horticulture and Fish farming .

ii. Uses Permissible

Dwellings of the people engaged in the farm, farm houses, poultry and diary farm, piggery farm, seed farms, processing, storage and sale of farm produces, Pasteurization plants with chilling stations, pump house, wells and irrigation ponds, storage of agricultural produces and seeds, Green houses, Dumping ground.

iii.Prohibited use

All other activities not mentioned in i & ii above

15.9 Green Strip Zone

3m strip of land on either side of Kariar, Anthakarathodu, Perumchilathodu, Kaniyan thodu and 5m strip of land along the coast of Vembanadu Back Waters has been zoned as Green Strip. This area shall be kept free from any type of construction activities.

15.10 Coastal Regulation Zone

For areas declared as Coastal Regulation Zone, the restrictions imposed from time to time by notification shall be applicable in addition to the regulations mentioned here.

15.11 Heritage Conservation

Height control is proposed for developments with in Parikrama road that surrounds Mahadeva Temple as follows;

Single storied buildings of maximum height 5 m. only shall be permitted up to a distance of 20m from the temple compound wall. Two storied buildings of maximum height 8m only shall be permitted from the 20m line up to Parikrama road.

Identified heritage buildings / premises mentioned in Chapter 7 shall be conserved

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