CHAPTER-III

PROFILE OF THE STUDY AREA

For the purpose of research work, all the municipal towns in the district of Kannur have been selected. The general feeling was that one could find glaring inequality and differences with regard to solid waste collection and disposal. It is also observed that in each municipal town there are issues between the people residing nearby trenching yard, and the municipal authorities. Moreover there is discrepancy with respect to solid waste composition and collection. Differences were also noticed with regard to pattern of expenditure on solid waste collection and disposal. To know the details about the facts mentioned above, it is helpful to study the profile of municipalities and also the role of Kudumbashree units in the area of collection and disposal of solid wastes. Profile also highlights the important of geographical locations and their influence on SWM. An impact of solid waste mismanagement is different in different towns. Water logged areas are prone to vector diseases. Therefore the following profile of each of the municipality under consideration will provide the basic features like physiography, climate, ecology, geology, water resources and population.

3.01 Profile of Kannur district

Kannur is a beautiful miniature of the picturesque state of Kerala. It is reported that the history of Kannur commences with the arrival of Europeans. In the 16th century Portuguese, Dutch, English and French people landed in Kannur. In February 1766 Hyderali invaded and subdued Kolathunadu, subsequently during his invasion Tippu Sultan subdued Malabar and Kannur being then in Malabar, came under Mysore regime. In 1792 the English people attacked and defeated Tippu Sultan and former Malabar district was brought under British Regime.

The former Kannur district was carved out of portions of Malabar district and the Kasargod Taluk of the Madras state linked to Kerala as per the state Re-organization Act. Thereafter on 1st January 1957 it was bifurcated for administrative convenience,
in to three districts namely Kannur, Kozhikode, and Palakkad. Then Kannur district had six Taluks namely Kasargod, Hosdurg, Taliparamba, Kannur, Talassery and North Wayanad. On 1.1.1979 North Wayanad was linked to Wayanad district. On formation of Kasargod district, the taluks namely Kasargod and Hosdurg were de-linked from Kannur district and the present Kannur district was formed with the remaining taluks namely Taliparamba, Kannur, and Talassery.

**Physiography**: 

Kannur district lies between latitudes $11^\circ 40'$ to $12^\circ 48'$ North and longitudes $74^\circ 52'$ to $76^\circ 07'$ East. The district is bound by the Western Ghats in the east of Kozhikode and Wayanad district in the south, Lakshadweep in the west and Kasargod the Northern most district of Kerala in the north. The district has been divided into three geographical regions – high lands, mid lands and low lands. The high land region comprises mainly of mountains. This is the area of major plantations like coffee, rubber, tea, cardamom and other spices. Timber trees like teak, Veetty, etc. are grown in plenty in this region. The midland region, lying between the mountains and the low lands, is made up of undulating hills & valleys. This is an area of intense agricultural activity. Coconut and areca nut are the main agricultural products come from this region. The low land is comparatively narrow and comprises of rivers, deltas and seashore. This is a region of coconut and paddy cultivation. The total geographical area of the district is 2967.98 Sq.kms, which is 7.64% of the total states area.

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1. District credit plan 2006-07
Profile of the study area

Climate:

The district has a humid climate with an oppressive hot season from March to the end of May. This is followed by the south-west monsoon which continues till the end of September, October and November from the post monsoon or retreating monsoon season. The North East monsoon which follows extends up to the end of February, although the rain generally after December. During the months of April and May, the mean daily maximum temperature is about 35° Celsius. Temperature which is low in December and January is about 20° Celsius. On certain days the night temperature may go down to 16° Celsius. The annual average rainfall is 3438 mm and more than 80 percent of it occurs during the period of South – west monsoon (between June and September). The rainfall during July is very heavy and the district receives 68 percent of the annual rainfall during this season.

Ecology:

Kannur district has a long coast (152km), which is about one fourth of the coastline in the state. Fishery plays an important role in this district. There are 31 fish landing centres in the district, of which Tellicherry, Kannur, Mattool, Madai, Cheruvathur, Kanhangad, Kasaragod and Manjeshwar are major centres. Mopla Bay and Valapattanam are the two fishing harbours in the district. The annual production of fish comes to 81000 tons. Of these the average production of oil sardines, prawns and mackerals come to 16630, 14120 and 11650 tons respectively. Patches of mangrove species are distributed near Melur and Dharmadam Island, which is surrounded by Dharmadam estuary. Similarly, Valapattanam and Pazhayangadi areas have patches of mangroves, where Valapattanam estuary and Pazhayangadi estuary surround those mangroves respectively. In Kannur district total mangrove area has been estimated to be as 9.47km².

Art and Culture:

The Kolathiri kingdom deserves special mention with regard to the cultural heritage of the State. In the 14th and 15th centuries, under the Kolathiri Rajas,
Thaliparambu became a famous centre of learning, enlightenment and culture. The story of this place developing into a cultural centre is intimately linked with the famous Thaliparambu temple. With the transfer of the capital of Kolathiri from Thaliparamba to Chirakkal, Chirakkal also rose into prominence as a great centre of the arts. The gift of the district in the field of art and culture is its folk arts. The social situation that prevailed here gave rise to various folk art forms. The assimilation of different styles of Aryan and non-Aryan culture and the influence of Jain and Buddhist philosophies kindled its growth further. Though the social set-up has been effaced by time, the cultural life of the folk remains unchanged. Kannur is the land of the famous performing art Theyyam.

**Tourism:**

The district has a high tourism potential. The St. Angelos Fort in the Kannur Cantonment, which was constructed in 1505, and the mosque at Madayi constructed in 1124, using marble brought from Mecca, attracts plenty of tourists. The tourists who come to this district will never forget to visit, St. Angelo's Fort, Muzhappilangad Beach, Meenkunnu Beach, Payyambalam beach, Snake Park at Parassinikkadavu, Mappila bay, Pazhassi Dam, Sree Muthappan Madappura and a number of water theme parks. Other places of Tourist interest in Kannur are Thalassery Fort, Ezhimala, Malayalakalagramam, Pythal Mala, Gundert Bungalow, Thottada Beach etc. The exodus of both skilled and unskilled workers to Gulf countries still continues from Kannur. The huge amount of foreign money they send from there has changed even the face of each and every town as well as country side of Kannur.

**Festivals:**

The traditional Hindu in the district observes a number of religious festivals. Among them the prominent ones are Vinayaka Chathurthi (in the month Chingam, August-September), Ashtami Rohini (in Chingam), Navarathri (in Kanni, September-
Profile of the study area

October), Mahasivarathri (in Kumbhom, February-March), Onam (in Chingam), Vishu (in Medam, April-May) and Pooram (in Meenam, March-April).

Geology:-

The geological formations in the district are of Archean and formations of recent age. Archean formations comprise of greisses and charrockiates. Recent formations are alluvium and laterite. Archeans occupy the midland and highland regions of the district having rock types of basic charrockiates and horn-blendsbiotite greiss. The remaining portions in the coastal area are covered by laterite, alluvium, lime-, shells, lignified woods, etc. Archean formations like foliated horn-blende-biotite greiss (gray or white in colour) is one of the main rock types in the northern portion of the district. Recent formations like laterite are developed on a limited scale along the coastal areas.

Water resources:-

Kannur district is endowed with a fine river system. Except for a few minor ones, most of the rivers are perennial and provide good scope for irrigation and controlling floods through minor irrigation works. With a length of 110 kms., the Valapattanam river, which originates from the Western Ghats, is the longest river in the district. The main tributaries of the river are Valiapuzha and Aralampuzha. Kuppam River originates from reserve forests and has area of 539 sq.kms. The length of river is 82 kms. The other rivers in the district are Mahe (54 kms.), Anjarakandi (48 kms.), Thalassery (28 kms.), Ramapuram (19 kms.) and Perumba (51 kms.) Most of the rivers are navigable. The Valapattanam river has the longest navigable length followed by Anjarakandy. Owing to the peculiar topography, the bulk of rain water, which is the only source of ground water recharge, escapes as run off. Only 10 per cent of the total rainfall can be considered as contributing to recharge. It was observed that the water found in the wells was of good quality and could be used for domestic, industrial and irrigation purposes. Preliminary studies indicate that ground water resources of the coastal sandy tract were fairly good for development, whereas, in the laterite covered areas it was very limited.
Profile of the study area

The solid waste and sewage discharged by the human settlements on the length of the river cause pollution of Valapattanam River. The level of pollution in upper stretches of Valapattanam River is maximum during the summer season. Lack of sanitary facilities, sewage collection and treatment, waste discharged from hotels and commercial establishments cause the pollution of Valapattanam River.

Population:-

The population of Kannur district as per the 2001 Census is 2412365 which are 7.57 of the total population of the state. The density of population is 813 per Sq.km and the sex ratio is 1090. The district is in the eighth position among districts of Kerala in terms of the total population.

Table: 3.01
Population & density of population in Kannur District (1961-2001)

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Male</th>
<th>Female</th>
<th>Density of population (Per. Sq.km)</th>
<th>Sex ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>1,780,294</td>
<td>8,74,667</td>
<td>905,627</td>
<td>397</td>
<td>1,048</td>
</tr>
<tr>
<td>1971</td>
<td>2,040,260</td>
<td>1,010,547</td>
<td>1,029,713</td>
<td>524</td>
<td>1,033</td>
</tr>
<tr>
<td>1981</td>
<td>2,800,055</td>
<td>1,375,194</td>
<td>1,424,861</td>
<td>651</td>
<td>1,040</td>
</tr>
<tr>
<td>1991</td>
<td>2,244,685</td>
<td>1,092,375</td>
<td>1,152,310</td>
<td>757</td>
<td>1,055</td>
</tr>
<tr>
<td>2001</td>
<td>2,412,365</td>
<td>1,154,144</td>
<td>1,258,221</td>
<td>813</td>
<td>1,090</td>
</tr>
</tbody>
</table>


Literacy :-

The literacy rate in the Kannur district is very high. The effective literacy rate of males is 95.54% and that of female is 91.40%.
Profile of the study area

Table: 3.02

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Literacy</th>
<th>Male</th>
<th>Literacy %</th>
<th>Female</th>
<th>Literacy %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>7,35,038</td>
<td>4,54,489</td>
<td>61.8</td>
<td>2,80,549</td>
<td>38.2</td>
</tr>
<tr>
<td>1971</td>
<td>9,38,544</td>
<td>3,79,372</td>
<td>40.4</td>
<td>5,59,172</td>
<td>59.6</td>
</tr>
<tr>
<td>1981</td>
<td>1,811,031</td>
<td>9,79,436</td>
<td>54.1</td>
<td>8,31,595</td>
<td>45.9</td>
</tr>
<tr>
<td>1991</td>
<td>1,782,331</td>
<td>9,00,614</td>
<td>50.5</td>
<td>8,81,717</td>
<td>49.5</td>
</tr>
<tr>
<td>2001</td>
<td>1,594,343</td>
<td>7,84,728</td>
<td>49.2</td>
<td>8,09,615</td>
<td>50.8</td>
</tr>
</tbody>
</table>


The economy is mainly agrarian in nature. The major employment provider in this district is Kerala Dinesh beedi that was formed after the closure of Manglore Ganesh beedi. Now Dinesh is in the way of diversification and has entered in the field of IT, Textile, food processing etc. Kannur district has had its industrial importance from very early days. Dr. Herman Gundert, the famous German missionary and Lexicographer compiled the first dictionary in Malayalam, when he lived in Thalassery in the 1st half of 19th Century.

The Pariyaram medical college, Kannur medical college, Co-operative hospitals and a number of Pvt hospitals are offering ultra modern facilities. Malabar cancer centre at Thalassery gives solace to hundreds of cancer patients in and out of the district. Besides, the Pappinissery Visha Chikilsa kendram is offering effective treatment for snake bites.

Kannur University with head quarters at Mangattuparamba. Kannur district consists of three taluks with 129 villages. There are six municipalities viz, Kannur, Payyannur, Taliparamba, Thalassery, Kuthuparamba and Mattannur besides Kannur Cantonment.

2. District Hand Book of Kerala
3.02 Profile of five municipalities in the district

3.03 Kannur Municipality (KNRM)

Kannur Municipality was established in the year 1887. The total area of this municipality is 11.03 Sq.kms and this region consists of 38 wards. There are 63795 people living in this region.

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (Sq.km)</th>
<th>Population</th>
<th>Decadal Growth rate (%)</th>
<th>Density of Population</th>
<th>% variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>12.62</td>
<td>46,101</td>
<td>8.65</td>
<td>3,653</td>
<td>-</td>
</tr>
<tr>
<td>1971</td>
<td>11.03</td>
<td>55,162</td>
<td>19.65</td>
<td>5,001</td>
<td>36.9</td>
</tr>
<tr>
<td>1981</td>
<td>11.03</td>
<td>60,904</td>
<td>10.41</td>
<td>5,521</td>
<td>10.3</td>
</tr>
<tr>
<td>1991</td>
<td>11.03</td>
<td>65,233</td>
<td>7.11</td>
<td>5,914</td>
<td>7.1</td>
</tr>
<tr>
<td>2001</td>
<td>11.03</td>
<td>63,795</td>
<td>-2.20</td>
<td>5,783</td>
<td>7.7</td>
</tr>
</tbody>
</table>


North of the Kannur Municipality is Pallikkunnu Panchayath, North East of this region is Elayavoor Panchyath and Puzhathi Panchyat, South east of this Municipality is Edakkad Panchayat. Southern side is Kanapuzha, South – West of this region is Kannur Cantonment and western side is Arabian Sea. Municipality has been categorized in to Kannur I, Kannur II, which are revenue villages.

Industry:

Historians have recorded that Kannur which has the fragrance of Cardomon plantation in it, possessed a considerable place in the trade and industrial history of Kerala. The Arakkal Dynasty had a great role in both the sector of trade and industry. Its prosperity owned much to the trade dealings with the countries like Egypt, Africa, and Arabia as well as to the island like lakshadeep and Minicoy. Kannur stood high in the exports of pepper, coffee, cardamom, betel leaf, arecanut, woods, coir products etc. When British colonizers settled here, the natives felt interested to their new life
styles and the prevailing traditional industries of the land miserably declined. The
sea-shore resources also get diminished and the ‘fishing’ become name relatively less.
Gradually Kannur frame got expanded to the Handloom sector. Though Kannur
stands superior to many other towns in the industrial sector, a serious defect to be
pointed out is that, the town lacks that sort of industries which has the possibility of
further static developments according to the modern technical system. At present,
Kannur Municipal area has 234 production units and 115 service units to its credit.

Energy:-

In Kannur Municipal area, a 66 K.V sub station and an office of the Deputy
Chief Engineer are established to Chovva, about 3 kms away from Kannur
Municipality office. In south Bazar, there is the divisional office of the Executive
Engineer and in Thekki – Bazar, situates the electrical major section of Assistant
Executive Engineer as well as the meter testing and Billing units. Besides there are
two electrical major sections, one in Chovva and the other in Burnassery. Apart from
this, the Electrical Section Office of the Assistant Engineer works in Thayyil region

The first sodium vapour lamp in Kannur Municipality was launched in
Thavakkara Subway in 1987, which really paved the way for tremendous
achievements in the matter of Electric lights. Towards the end of 1996, sodium lamps
had been placed in the important wards and regions of the town.

During 1963-64 periods, the municipality had just 929 electric lights and 89
Kerosine lamps as the street lights. During that period it had spent an amount of Rs.
3421/- for placing Kerosine lamps and bigger amount of Rs. 34,342/- for electric
street lamps. Today, municipality given around 83,127 rupees to the State Electricity
Board as the bill amount for the street lamps used.

Education :-

The first educational institution established in Kannur towards the school
education facilities for women, was GovGirls High School, Kannur and it was in
19th Century. The historically famous Kannur Govt. School (old Municipal high
School) was established in 1907. Today, we have one govt. Nursery School and
number of Private Nursery Schools in the town. Besides, we have 33 kinter garden in
Profile of the study area

the area. There are 24 Educational Institutions under the Municipal authority. This includes the two Teacher Education Centres. The municipality has 6 L.P. School 11 U.P. Schools and one Higher Secondary to its credit. In total, the 17 out of the 26 educational institutions belong completely to public sector.

Within the municipality, all have many higher educational centers, including both public and private institutions. The residents of the Municipality depend normally on S.N. College, Govt. Brennen College, Sir Syed College and Krishna Menon College for higher education. In matters of technical education Govt.Polytechnic, ITI and women polytechnic do the necessary help for the people. A campus of Kannur University is coming up at Thavakkara.

Health:-

In Kannur Municipality, there is one Homeo Hospital under Govt. control and District Auyrveda Hospital as well as child protection centre situating at Thayyil region. The Govt. Hospital which is close to the Municipality and about 32 private hospitals provide all the hospital services required for the people of the Municipality. The threat of mosquitoes is increasing in the town, and therefore there are more chances for spreading of the crucial diseases like elephantiasis and Malaria in this region.

Urban Planning:-

Compared to other towns in Kerala, Kannur is a centre which cannot claim much, credit for urban planning. Moreover, the lack of drainage facilities is a major issue found in the municipal region. As the waste of the town remains strewn here and there, Kannur is hopelessly poor as far as the overall neatness of the town is concerned.

Drinking water:-

About 50% of the families in the municipality depend on public water. For drinking water only 30% has wells of their own 15% of the people depend on public wells and another 25% on public water taps.
transport:

The length of the railway line that passes through the Kannur town, as the part of the Shornur - Mangalore Railway is nearly 6.000km. The first train from Kannur started its journey on 20th May 1903. The first trip was to Thalassery and later to Valapattanam on 15th May 1904. There are two level crosses inside the Kannur Municipality. Being connected to the Kannur Railway Station, there passes through this line about 28 traveller trains apart from a number of goods trains. But at present this station which earns a daily income of 3.5 lakh rupees, it could provide better facilities to the travellers. The first bus services were started connecting the remote areas of municipality, like Kannur - Valapattanam, Kannur – Anjarakkandy, Kannur - Kattampally etc. Those days buses plied on steam engines. There isn’t any isolated region in Kannur Municipal area where transportation is tough or impossible.

The cleanliness in Kannur Municipality:

It is observed that there are no modernized sewage systems to remove the liquid wastes except those which flow out through the natural drainages. The sewage treatment plant launched decades ago had gone out of service years before. The solid garbage removal is also a big problem for the municipality. There are no scientific methods to destroy effectively the 39 tonne solid wastes left out every day. Kannur Municipality’s trenching ground is situated at Chelora, which is 12Km away from Kannur city. A couple of years ago, the people of Chelora registered their protest against the disposal of solid waste in this region. As a result, the method of depositing the wastes in the large pits and ditches was decided and the system continues to work even today.

3. Vikasana Rekha - Kannur Municipality
Solid – waste Management – The Current Status

Presently, the entire refuse viz, market waste, slaughter house waste, domestic waste, building debris, branches of trees and leaves etc., are dumped at Chelora Panchayath where the municipality owns a waste land site of about 25 acres of which, only 13.54 acres are used for dumping the waste. At the time of owning the land, there were a few households nearby area. Till 1980’s there were no agitation or protest against trenching of waste. By this time the number of households in this area has considerably increased and thus protest against trenching has been taken up by them. Several times public stopped trenching and during those times, the entire loads of waste were kept in the roadsides This Panchayat is 12 km away from Kannur city; it is one of the most distant trenching grounds in Kerala. The collected waste is disposed off in Chelora by the method of trenching. Due to the increased quantity of plastic and other non-bio degradable waste materials, the land in that area is highly polluted, thus creating a lot of ecological issues.

Kannur Municipality has been divided into five zones (A, B, C, D & E) to have an easy solid waste management system, in which three zones, belong to Kannur centre and the other two in city Thayyil side. Each zone has a separate section office for MSW management. But majority of the work is undertaken by Kannur Municipal Office, which is listed under Zone B. For the collection and transport of the waste from various zones, the municipality uses vehicles, like hand cart, tiller, tipper and dumper placer.

Method of S.W collection can be divided in to two, which is primary and secondary collection. The primary method of waste collection is door – to door collection which is regarded as the best option all over the world. Secondary collections are made from open dumping places. Open dumping places are the most common Municipal collection points in Kannur. Recently efforts have been made for door – to door collection of waste through Kudumbashree unit. House – to – house collection of garbage is presently practiced in 24 wards out of the 38 wards.
Profile of the study area

DISTRICT - KANNUR
TALUK - KANNUR
VILLAGE - CHELORA

FIELD NOS 4/2 and 6/2

AREA
4/2 - 13.54 A.
6/2 - 2.25 A.
6/1A - 2.25 A.
6/1B - 3.25 A.
6/2 - 1.98 A.
TOTAL 23.95 A.

EXISTING ROAD
TRENCHING ARE
TRENCHING GB

SCALE 1cm = 10m
ALL MEASUREMENTS ARE IN METRES
3.04 Profile of Thalassery Municipality (TLYM)

Thalassery Municipality was established in the year 1866. The total area of this municipality is 23.98 Sq.kms and this region consists of 50 wards. There are 99387 people living in this region. North of the Thalassery Municipality is Dharmadom Panchayath, East of this region are Eranholi Panchyath and Kadirur Panchayat, and south of this Municipality is Mahe Panchayat. West of this region is Arabian Sea.

Thalassery has a unique place in Kerala's history and has an equally interesting evolution of culture, religion and tradition. Thalassery, which is now part of present day Kannur, a northern district of Kerala before the country's independence had its social, political and cultural life shaped by the local rulers, foreign trade links as well as imperial powers like the Portuguese and the British. In Kerala, perhaps no other place can boast of having several unique aspects attached to a region like that of Thalassery. The place has to its credit many firsts in its Socio cultural life and it would be interesting to explore some of them.

Cricket and Thalassery has a relationship, which eventually resulted in the popularity of this game in other parts of Kerala. Introduced by the British, the family of the Moosas in Thalassery also patronized the same. In the process, the family house of the Moosas called 'Bangla' have had the opportunity to play host to some of the cricketing heroes of the country like Mohammed Azharuddin, Krishnamachari Sreekanth and Anil Kumble.

Thalassery and fashion may sound a bit odd to those from Kochi and other towns of Kerala. But, if one wants to keep tab of the latest in fashion, step into Logan's Street in Thalassery. Named after the European, Mr. Logan, who wrote the Malabar Manual, the street is abuzz with youngsters, who scan shops selling the latest clothing, especially men's wear. Logan's Street has a phenomenal number of shops and the number is increasing by the day.

But, let us also have a look at some of the prominent landmarks and important testimonials in the eventful history of Thalassery like the Thalassery Fort. Built in 1708 by the East India Company, the fort is situated by the seaside. Yet another seaside attraction is the pier, which was built in 1910 to facilitate transportation of
Profile of the study area

goods from deep sea to land. Towards North, situated on the Dharmadom Island is the 143-year-old Brennen College, with a galaxy of eminent personalities forming part of its alumni. The Illikunnu Bungalow in Thalassery is another place of significance, as this is where Mr. Herman Gundert who arrived in Kerala in 1839 lived and prepared the first dictionary of Malayalam language. Thalassery may be a small town, but it is a place where one can see and feel some interesting aspects of life, which few other places in Kerala possess.

**Industry**

In the case of industrial development we can say that Thalassery does not have a proud history. There were no large scale industries in Thalassery. ‘Volcatt Brothers’, an European trade centre, which was established several years back is now changed to another trade centre known as ‘consolidated coffee’. Cashewnut factory of Pears Lessly, at the town boundary is a countable institution in the industrial map of Thalassey. Maballi Bakery, established in 1880 is the first bakery industry in Kerala. the first hotel was also located in Thalassery. The relation with Europeans gave Thalassery a place in the field of bakery industry. In the field of engineering, Raju engineering was the first institution. Now in Thalassery there are more than 200 small scale industries.

**Transport**

One horse cart with a beautiful whillies named ‘jadka’ horse cart named ‘bruham’ pulled by many horses passed through our city. Buses which run on coal were there in Thalassery. Thalassery-Kurg road, Anjarakandy road, Thalassry-Kutyadi road built in order to transport items from Wayanad, Kudag area to a place near the port is the important, the oldest and the busiest road in the city. The length of the railway line passing through our city is 7.1 km.
Profile of the study area

Energy

Chandra and company is the first institution which supplied electricity to Thalassry. Thalassery 110KV sub station of Ponyam West in Kathirur panchayat supplied electricity that is provided to our city and near by places. The supply of electricity in Thalassery is under the major substation of K.S.E.B in Thalassery. North, Thalassery south, Kodiyeri and Dharmadam. There are about 15,504 electricity customers in Thalassery town.

Education

The first English medium school in North Malabar was the B.G.M school started by the Basel German Mission on March 1, 1856 with 74 students. It is now known as B.E.M.P. The institution (Basel German Mission school) started along with the asset of Edward Brennen was take over by the government in 1872 and the ‘free school’ got the position of a state school. From 1883 to 1919 this institution was under the control of Thalassery municipality and the credit of making it a college with a great fame goes to Thalassery corporation. Brennen college was the one and only college in North Malabar until the re establishment of the state. The first municipality to establish the compulsory primary education in 1922 was Thalassery. The only pre-primary school in the municipality which is under the control of government is the Govt. Model Nursery School at Thiruvangad. There are 45 schools in the govt. aided area itself in the municipality surroundings.

Drinking water

About 35% of the total population in the municipality depends upon pipe water. Apart from this, there are 24 common wells in the city.
Profile of the study area

Public Health

The first treatment system in the city is the hereditary medical treatment. But with the arrival of Britishers, there spread the allopathy treatment. Thaluk hospital which later becomes the general hospital is the important hospital in the city ⁴.

Present System of Solid Waste Management

The present system of solid waste management is unscientific. It generates 40 tons of waste every day. There are 127 permanent workers and 40 temporary workers. The collected waste is disposed off in Punnol in Mahi by the method of trenching.

4. Vikasana Rekha - Thalassery Municipality
Profile of the study area

THALASSERY MUNICIPALITY-TRENCHING GROUND

Hannon
Thalassery
Kodiyeri
Munchyil: 173
Field No.: 38/1A, 24/H1

Area

Municipality

38/1A - 0.07 Acre
38/2R - 5.15 Acre
38/281 - 3.34 Acre

Asabian Loe
3.05 Profile of Thaliparamba municipality (TPBAM)

Thaliparamba municipality is located in Kannur district. It has a total geographical area of 43.8 square kilometer and came into being in 2000. As per the geographical information Thaliparamba belongs to the northern middle zone. Hills, slopes, valleys and coastal areas are also the peculiarities of Thaliparamba municipality area. East and west are highlands, middle part plateau and south and north are coastal platina. The Kuppam River passes through the northern part at a length of 2 1/2 km and Kuttikkol River through the western part of the municipality. NH 17 also passes through the municipality from north to south.

Origin and development of Thaliparamba

Thaliparamba is a living monument of celebrated culture and tradition which the society possessed in the past. The remnants of history that spreads from Stone Age to the modern period can be seen here. There are many myths regarding the origin of the word “Thaliparamba”. Some historians uphold the view that Thaliparamba is the place where governors of Thali (temple of god Siva) under the perumakkal dynasty were dwelling. The word of famous historian K.V. Krishnayyar, ‘Thali’ means siva temple. The place which encloses the siva temple is known as Thaliparamba. Sri Rajarajeswara temple and Trichambaram srikrishna temple are on the banks of Kuppam River.

Demographic features

The total population of Thaliparamba according to 1991 census was 37087 and it increased to 67441 in 2001. Out of 67441; 32511 are males and 34930 are females. According to the 2001 census the sex ratio of the municipality was favorable to women. The children below the age 6 years constitute 11.6% of the population. Among the total population 30.63% are employed in various occupational practices.
Climate and Rainfall

We get more rainfall in the months of June, July and August. Month of December and January are winter seasons. Scarcity of water appears in the month of February, March, April and May. From 1990 onwards we get 369524 mm rainfall.

Energy

Energy is use of the indispensable factors for human progress. Wood, kerosene, electricity are the major sources of energy used in day to day life. Kerala’s existing energy is evident in the municipality also. During hours of peak load, the voltage reaches to a minimum of 50 volts. Now 95% of the municipality has electricity. Electricity is distributed mainly from Mangad substation apart from that we have substation at Thaliparamba also.

Education

The effective literacy rate of the municipality was 81.68 in 2001 census. The first common school namely B.E.M LP School was established in 1982. In 1894 Brahmastree Moothedath Mallisseri Kuberan started Moothedath School at Chiravakku. Another important school is Tagore Vidyanikethan were admission is available only on the basis of entrance examination. It is a residential Malayalam school. Apart from this we have Seethi School also. Now there are two government higher secondary, one aided higher secondary School, three government UP, seven aided UP, three government LP, one central School, one engineering college, one aided College, B.Ed College, six unaided schools, one blind school here.

Transport

The transport facilities of Thaliparamba are able to satisfy their primary needs. Once Kuppam area played a major role in the transportation through water. Now the situation has changed. The present transportation system depends on bus services. There are more than 150 roads in 1991. We have a portion of NH 17 which had a length of 6 km, state high way. MLA road and another 10 km road of PWD. The opening up of Parassini River Bridge opened several vistas for the development area.
**Occupation of the people**

Even today people in Thaliparamba earn their livelihood through agriculture. Crops like coconut, rice, arcca nut, pepper, vegetables, cashew and tapioca are cultivated here. Along with agriculture, animal husbandry has an important role in the agricultural history. Traditional and cottage industries and handloom are still existing here. Mat making and handloom are traditional industries and sawmill, engineering, match box making, balls company, rice mill, sofa factory, toddy tapping, stone cutting, making of Ayurvedic medicine, automobile power making, oil mill, candle making, beedi making, furniture industry. Bakery, printing press, fertilizer mixing unit etc. are other occupations.

**Health**

There are 11 hospitals working under the control of municipality. There is Taluk Ayurvedic hospital, Taluk and quarters hospitals, Morazha fisheries Hospital, Parassinikkadavu PHSC. Five sub centers, 2 urban health centers. Though there are no ayurvedic and homeopathic nursing homes at Thaliparamba municipality, there are 8 Ayurvedic clinics, 5 homeo clinic and 2 Yoga centers.

**Drinking Water**

Now a days availability of drinking water is a very important problem in municipal areas. 90 % of the people depend on wells and 6% of the people are using the facility provided by the water authority. Then almost three percent depend on the tube wells. Increasing building constructions and use of the drinking water for other purposes will reduce the availability of ground water. The water source is limited here. There are four methods used by the distributors of pure water. They are public taps, housing connections, public wells and tube wells. The authority installed the water tank at Karimbam River for the purpose of distribution clean water in municipal areas.

5. Vikasana Rekha -Thaliparamba Municipality
Profile of the study area

Solid waste management- the current status

At present for the purpose of waste management authority handover the waste basket in every hotels, shops, vegetable shops, restaurant and other parts of market areas. Then the workers are collected these waste daily and transport by using the lorry and goods auto. There are only 22 contingent workers and 18 temporary workers in Thaliparamba municipality for the service of waste management. It generates 8 tons of waste every day. The collected waste is disposed off in Karimbam by the method of trenching.
Profile of the study area

THALIPARAMBA MUNICIPALITY-TRENCHING GROUND
3.06 Profile of Payyannur Municipality (PNRM)

Payyannur Municipality was established in the year 1990. The total area of this municipality is 54.63 Sq.kms and this region consists of 41 wards. There are 68711 people living in this region. North of the Payyannur Municipality is Karivellur, Kagol, and Eramam Panchayath, East of this region is Kadannapalli, and Eramam Panchayath, South of this Municipality is Ramanthalli, Cheruthazham, and Kunjimangalam Panchayat. Western side is Thrikkaripur and Valiyaparamba Panchayat.

History

‘Kolkanachary’ was a place which was praised by the poets of ‘Sanghakalam’ as the city of pearl and crown. This became Payyannur. Researchers and great personalities from abroad as well as from the home countries arrived here to learn more about the history and stories of Payyannur. The author of ‘Keralolpathi’ has also described Payyannur as a village which was the resting place of Brahmmins by Parasurama. As a result of the emergence of Aryans temples were established Temples in the places of ‘Kavu’ and ‘Thara’. the boycott of Simon Commission created the beats of Nationalist movement in the heart of Payyannur. Public meeting held in 26th May 1928 under the presidency of Jawaharlal Nehru created new waves in the mind of Payyannur to fight against untouchability and exploitation of Janmies. The civil disobedience and rejection of taxation started at Bardoli. It made an immediate effect upon Payyannur and it became known as ‘Second Bardoli’. One of the important movements in India against Britishers was the ‘Salt sathyagraha’ and Payyannur became the dais for that sathyagraha. Different nationalist movements such as picketing of alchoholic shops, the activities of ‘charka group’, policies against untouchability etc. created a new energy to Payyannur. In 1934 Gandiji reached here to collect ‘Harijan fund’. Soon after Dr. Rajendra Prasad also searched here to collect the Bihar National Calamity Fund. Along with the Nationalist movement, the expansion of Hindi and Khadar also continued and as a result, the idea of ‘Hindi Vidyalaya’ emerged in 1935 (Later it became Hindi Vidyapeedam). It is the peculiarity of Payyannur, ie, the youths were fully encouraged by the nationalist
movement. After the assassination of Gandiji, they decided to build a monument and collected money and bought a ground which is known as ‘Gandi maidani’. In 1953, Acharya Vinobaji also reached to spread the thoughts of Boodhan movement. Payyannur has a very rich cultural. Arts and culture of this place got important position in the History of Kerala Sahithyam. In addition to this, it became famous for its contribution in the field of Sanskrit, Astronomy and Ayurveda. It was the native place of folklore based dance and arts. The world famous dancer V.P. Dhananjayan belongs to this hereditary. The cultural differences of Hindus, Muslims and Christians blessed this place. The sediments of ‘Mahasilayuga’ such as rocky areas, burial facilities, the ‘cave’ built in ‘Echilam vayalil’ known as ‘Theeyathi Malika’ all these show the deep roots of great culture. Public Health forum also is functioning here which contributed a lot in the field of Public health awareness programme.

Industry

Density of population of Payyannur is very high mainly because it is a town area. This place achieved a lot of credit in the field of socio-cultural and educational sectors. But in the industrial sectors Payyannur was a failure. Few industries started here were more than 50 years ago, such as Baliapattanam Tiles, Kerala Engineering works at South Bazar, two ‘Marachakku’ established by Tamil chettiyars. One or two Automobile repairing shops, two or more manufacturing units of Copper plates etc.

Transport

During the period of Lord Dalhousie, railway facilities were introduced and its good effects were beneficial to Payyannur also. During that time there were only 4 Rikshas were controlled by horses. There were two roads such as Payyannur-Railway station road constructed by District board and road up to Hospitals etc. in that time. In 1947 a bus service was started by a company – N.K.B.T. At present, a national highway is passing in between Perumba to Palathara (Vellur) with 6.8km length. In the Payyannur municipality, around 26.570km PWD Road, 37.750km Tarred Road
Profile of the study area

and 74.750km untarred roads are here. This municipality also has a railway line with 5.5km and a railway station with 2 platforms.

Energy

Electricity arrived here in 1958. The distribution of electricity is done by the 110KV substation situated at Kankol. From this substation distribution was carried out by 3 feeders. The electricity distribution of this municipality is obtained through Vellur, Mathamangalam and section offices.

Education

Before the establishment of universal educational institutions, ‘Vidyarambham’ started in the houses of Acharyans. The first recognized educational institution was B.E.M.P school established by Basel Mission. Here, 5 Govt. L.P schools, 2 Upper Primary schools, 4 high schools and the total of 11 Govt. schools are functioning with good stations. The physical infrastructural facilities are not good even though, 27 schools belonging to this Municipality, is functioning well.

Drinking water facilities

Most of the People belongs to this Municipality depend on wells for their needs of water. There is only one project controlled by Kerala Water Authority to provide drinking water. In totality, water scarcity is one of the major problem faced by the natives.
Public Health Facilities

In the field of public health, Payyannur Govt. Hospital established in 1919. Govt. Ayurveda Hospital at Kandoth established in 1959, govt. Homeo Dispensary established in 1989 at Kanai, Family welfare sub centers under Payangadi P.H.C etc. are functioning. In addition to this, so many hospitals are functional under co-operative societies and so many Pvt. Clinics are also here. In the field of health, its position is higher than the state average level.

The present system of solid waste management

The present system of solid waste disposal is an unscientific manner. The total quantity of daily waste is 8 tons. The collected waste is 5 and disposed off in Moorikovval by the method of trenching. There are 18 permanent workers and 7 temporary workers for the service of waste management.
PAYYANNUR MUNICIPALITY-TRENCHING GROUND

Profile of the study area
Profile of the study area

3.07 Profile of Kuthuparamba municipality (KUTPABM)

Kuthuparamba municipality is located in Kannur district. It has a total geographical area of 16.42 square kilometer and this region consists of 25 wards. Kuthuparamba Municipality was established in the year 1991. There are 29532 people living in this region. North East of the Kuthuparamba Municipality is Patyam Panchayat North west of this region is Kottayam Panchayat. South – West of this region is Mangattidam Panchayat.

History

Kuthuparamba is the land having lots of memorable contributions made by the Kottayam Kovilakam in the cultural history of North Kerala. The name ‘Kuthuparamba’ was obtained, because of the introduction of ‘Koothu’ by the ‘Kottayathu Thamburan’. In addition to this, this land was blessed with the activities of our cultural heros such as Veera Pazhassi, Thacholi Othenan and Payyamballi Chandu etc. this was the starting place or point of ‘Attakhadha’ which is the formulation for ‘Kathakali’, Kerala’s own Art.

The capital of Veera Pazhassi and Kottayam Rajas, ie; Kottayam Kovilakam is in Kuthuparamba. The North kovilakam was situated at Elippattachira. Among the four Kovilakams, North Kovilakam disappeared a long time back. Kottayam Kovilakams and Kovilakam Rajas had an important place in our cultural history among them. The memories of Veera Pazhassi Raja who taught against the European aggression through Guerilla war strategy was most memorable.

In kuthuparamba also, the National Movement was rose against the British Monopoly. Another memorable figure in the Indian politics, ie; A.K.G; whose activities were concentrated in this place. The reformations made by Vagbhadanandan, and untouchability lead to the renaissance of Kuthuparamba.
Profile of the study area

**Education**

The first school in Kuthuparamba was the Mission school started by Basel Mission under C.S.I. Mission at town. Education society was started in Kuthuparamba and High school in Thokkilangadi was established with the help of people. The famous poet in Malayalam literature V.V.K’s operations also helped for the establishment of these institutions. Apart from 17 aided/govt. educational institutions, there are also working in Municipal areas.

**Health**

The existing govt. institution under the health sector is 1. Kuthuparamba govt. hospital, 2. Govt. Ayurveda hospital 3. Govt. Homeo hospital. Apart from this, 4 family welfare centres are also working in Municipal areas.

**Drinking water**

Nowaday’s availability of drinking water is not a serious problem in municipal areas. But in the month of April, May, particular areas face scarcity of water. The existing public sources of water are 59 K.W.A connection, 15 wells and 7 bore wells.

**Energy**

The municipality had just provide Electricity connection for 3500 houses, 1000 business centres, 100 industrial centres, 120 agricultural needs. Wood, Kerosene, and Gases are also used for food preparation.

**Transport**

There are several roads passing through Kuthuparamba municipality. The important ones are Thalassery- Kudak road. The total length of the road in municipal area is 148.583 km. The present transportation system depends only on roads.

7. Vikasana Rekha – Kuthuparamba Municipality
The present system of solid waste management

The present system of solid waste disposal is unscientific. The total quantity of daily waste is 8 tons. The collected waste is 7 and is disposed off in Palaparamba by the method of trenching. There are 14 permanent workers and 8 temporary workers for the service of waste management.
Profile of the study area

KUTHUPARAMBA MUNICIPALITY-TRENCHING GROUND
Profile of the study area

3.08 Mattannur Municipality (MATNRM)

Mattannur Municipality was established in the year 1996. It is the most recently formed municipality in Kerala. The total area of this municipality is 54.5 Sq.kms and this region consists of 31 wards. There are 44,313 people living in this region. Out of this 21662 (48.88%) are males and 226519 (51.12%) are females. 8500 families are living here. The municipality is bound by the panchayats like Maloor, Mangattidam, Vengadu, Keezhaloor, Keezoor, Chavassery, Koodali, Thillangiri.

History

The Mattannur Municipal area is one among the ancient villages and this may be proved from the evidence available so far. This fact may be confirmed by the mere existence of the scattered caves, bones of the dead kept in urns, stones, earthen ware, and spear made out of iron and other weapons in different ports of the locality. One of the major drawbacks is that these ancient remains have neither been scientifically tested nor their age has been determined.

The name “Mattannur” has got traditional significance but until now, there are no criticisms regarding its origin. It has been indicated that in A.D.152, an Egyptian traveller Ptolemy has visited a place named “Mazthannur”. However, it is quite interesting to note that there are many views regarding the origin of the name “Mattannur”. In connection with the existence of an ancient Shiva temple, it is believed that the name is derived from the word “Mriddannur” which means the place of Marthan or “Mahebunnur” meaning the place of rutting (rogue) elephants! Yet another opinion points out that the name is derived from the “Medannur” meaning the ‘place of hills’ As per the survey records the birth name of the place (original name) is “Pattinikkadu” derived from the name “Paltoni”, the goddess being worshipped by the people of Tamil Nadu.

The first and foremost criticism regarding the history of Mattannur is illustrated in the book named ‘Malabar Manual’ written by Logan. Mattannur claims a very
long inheritance in the Indian history through the struggle against imperialism. The Mattannur Panchayat was formed in the year 1962 by combining the three Revenue villages namely Pazhassi, Kolari and Porora. In 1990, Mattannur, was later upgraded as Municipality, but unfortunately, it was later degraded as Panchayat in the year 1994. The degrading of the Municipality to Panchayat led to series of agitations, in the year 1996, the Mattannur Municipality came into being. Meanwhile, several big and small agitations by people were started during the reign of Pazhassi Raja. The present Mattannur Municipality is a result of these agitations and its social progress.

**Industry**

The Mattannur Municipality ranks second in area and fourth place in population among the various municipalities of Kannur district, but are quite poor in industrialization. Traditionally, the people of this locality gave priority importance to agriculture. During 1980's the main mode of transport for goods was railway. Since, there was no railway network in the Mattannur municipal area, large industrialization could not be started then. The 55 year old lince kilu is the only unit in this area which is a reminiscence of industrialization. Around 166 industrial units are known to function in different places within the Mattannur municipal boundary. Leena enterprises, Diamond ropes, Siva paintings, Kaloor mini enterprises etc are the major industries.

**Energy:**

In the Mattannur Municipal area the major source of heat energy is firewood. Survey records shows that out of the 6261 houses, 5572 houses use firewood for cooking purpose, 61 houses depends on kerosene stove, 187 houses use electric stove and 313 hoses use gas stove. The Mattannur municipal area got electrified in the year 1969. As per the survey records, 2553 connection are used for agro industrial purposes. There is no facility for power generation within the area; however the distribution of power is carried out from the Mattannur section office. Out of the 12 wards in Mattannur municipality there are places which are yet to be electrified. 70% of the total 3658 consumers, use power supply for domestic needs and 27% uses it for
industrial purposes. Only 2.75% use power for agro industrial purposes. The street lights in the municipal area comprises of 36 sodium vapour lamps, 6 mercury vapour lamps, 45 CF lamp and 489 bulbs.

**Education:**
Two Govt school, 20 educational institutions, and higher secondary educational institutions, Unaided educational institutions etc are situated in Mattannur Municipality area.

**Health:**
In the Mattannur municipality the first govt. Rural Dispensary was established in the year 1963 which was later on developed as the Government Hospital. It is the only government Hospital in the Mattannur municipality. Apart from this we have five family welfare units functioning under the primary health centre of iritty. The private sector of the municipality has 17 Allopathy Hospitals, 5 Homeo Clinics and 1 Co-operative Ayurveda Hospital. The poison eradication centre at Maruthayi and a Marma treatment centre are also under the private sector. Also there are 12 Allopathy medical shops, 6 Ayurveda medical shops and 3 Ayurveda medicine production units within the Mattannur municipal area. The valuable medicinal plants grown in the Mattannur High school under the name “Dhanwadhiri Oushadhathottam” is of great significance and hence needs great appreciation. The statistical data indicates that in the case of public health, the Mattannur municipality maintains a relatively good standard in the state.

**Drinking water:**
The Mattannur municipal area experiences acute shortage of drinking water. About 85% of the total population in this area depends on well for drinking water. Out of 6261 houses, 5709 houses have wells on their own. 30% of the total wells in this area face severe drought for about 2.5 months during the summer season. Public tap was established in 44 places.
Profile of the study area

Transport:

The first and the most important transport network in the Mattannur municipality is the Thalassery-Kodaku road. This state Highway passes through the important centres in the west and the north east regions of Kannur District. The road crosses the hilly regions thereby connecting with the Karnataka state. Within the municipal area, the length of the state highway is 9km and it joins the Kannur-Mattannur road (District-Road), which is 27 km long at the central region of the municipality. There is neither rail transport nor water transport in this area. The Mattannur Bus Stand was constructed in the year 1968 and has an area of 1.5 acres but only 50 cents are being used by the Bus Stand.

Solid Waste Management:

Mattannur Municipality’s landed region is rural in nature. Percapita land region is 31 cent. Therefore, each household has land facilities for disposing or managing solid waste for their own plot. So that shops, small scale industries, workshops, hospitals, offices etc are the main sources of waste. At present the collected waste is disposed off in Karithoor Paramba by the method of trenching, where the Municipality owns a waste land site of about 4.63 acres; which is 7 km away from Mattannur municipality. It generates 5 tones of solid waste per day. Municipality engaged 14 permanent labourers and 6 permanent workers for the purposes of sweeping the streets and collecting the waste. Out of this 4 workers engaged in cleaning the streets in night time.

8. Vikasana Rekha – Mattannur Municipality
Profile of the study area

MATTANNUR MUNICIPALITY-TRENCHING GROUND

Profile Area

1. E. side street
2. F. side street
3. P. side street
4. H. side street
5. I. side street
6. J. side street
7. K. side street
8. L. side street
9. M. side street
10. N. side street

SANITARY LANDFILL - LAY OUT
MATTANNUR MUNICIPALITY