

CHAPTER 20

ENVIRONMENT

The impacts of urbanization and climate change on the world's environment and populations are arguably two of the most pressing issues facing the world today. Even though cities comprise very less percentage of the earth's surface, there is an extraordinary concentration of population, industry and energy use, leading to a massive local pollution and environmental degradation. The ecological footprints of cities go far beyond their urban boundaries to forests, agriculture, water and other surfaces, which supply their residents so that they have an enormous impact on the surrounding rural, regional and global ecosystem.

For a liveable and healthy town, it is imperative that its planners address environmental concerns, which have deep and long standing influence on its people and land. Unplanned developmental activities and apathetic policies result in the drainage of nature and the city becomes prone to flood and pollution. Thus protection, conservation and sustainable environmental practices are the essential functions of a desirable integrated urban approach.

In this chapter, the present status of environment, its potentials and related problems are analysed for the Corporation area. Based on the analysis, various measures have been undertaken to mitigate the risk and effects of various pollutions.

20.1 EXISTING STATUS

Environmentally sensitive area includes water bodies, plantations, paddy lands, religious sites, wetlands, mangroves, heritage sites, coastal areas etc. These areas are to be conserved and areas other than the sensitive areas can be considered for development. The location of all the eco sensitive areas in the Corporation area is shown in Figure.20.1. Industrialization has resulted in many environmental problems such as water pollution, air pollution, noise pollution, generation of hazardous wastes and disasters including urban flood, landslides, coastal erosion etc.

The River Kanampuzha flowing through the southern boundary of the Kannur zone as well as Kattampally (Varam Kadavu and Pullooppi Kadavu) are fully contaminated due to the timber seasoning done in it,

dumping of plastic wastes and other solid wastes into it. It is seen that the encroachment of water bodies are done by land owners of the river shore, by depositing waste earth and debris from demolished buildings.

At present, the remaining mangroves are preserved undisturbed. There are some pockets of mangroves on the shores of Kanampuzha and Kattampally.

20.1.1 SENSITIVE /FRAGILE AREAS

I. Mangroves

There was a reasonable amount of mangroves areas in Thavakkara south and most of the area has been reclaimed/destroyed for new bus stand and Kannur University campus.

II. Water bodies

a) River

The major rivers flowing through the Corporation area are Kanampuzha, Kakkad puzha and Kattampally puzha (Varamkadavu and Pullooppikadavu). Thottadapuzha, Ayyrathpuzha (Nadalpuzha) are other minor rivers.

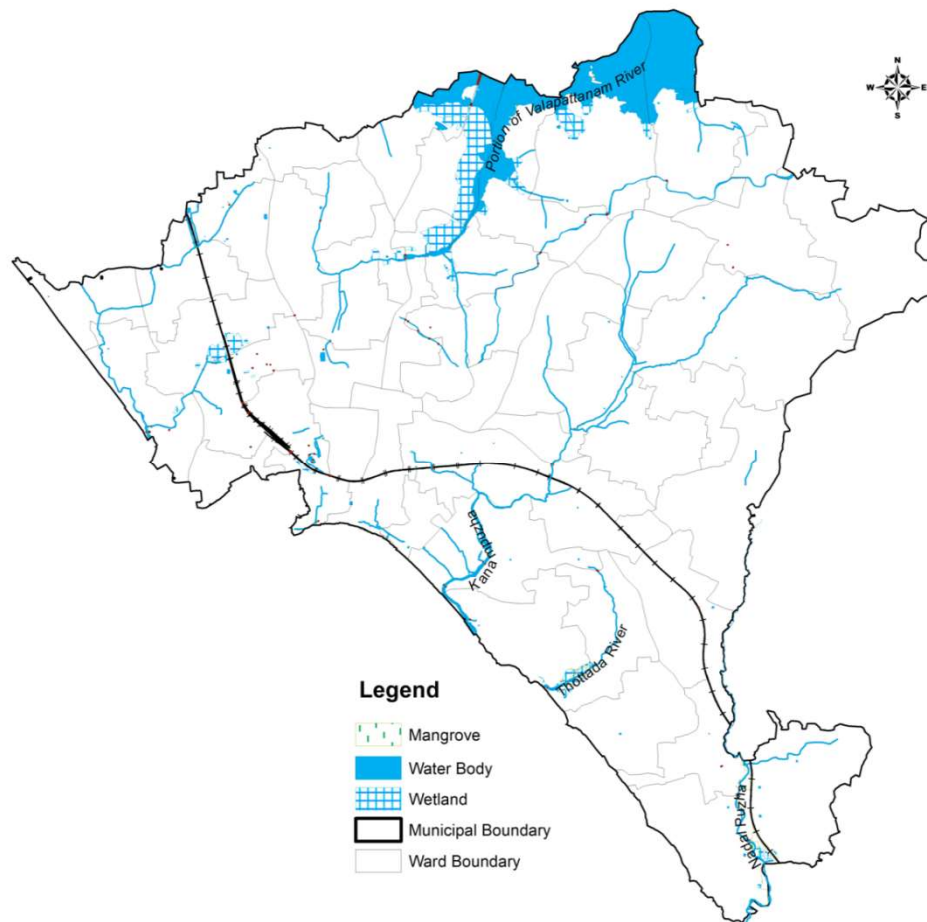


Figure.20.1 The location of all the eco sensitive areas in the Corporation area



Kattampilly River

The river banks have intense agricultural activities and are environmentally sensitive areas with a chance of flooding during monsoon. All these areas are densely populated and are known for fishing activities.

Kanampuzha River originates from Ayyappanmala in Munderi Panchayat, once the centre of the bhodan movement. The river flows through Macheri, Vattappoyil, Peringalayi, Kappad, Thilannor, Elayavoor, ThazheChovva before joining the sea at Adikadalayi. The River is categorized in Zone I of Coastal Management Plan issued by CESS. The construction on the banks of the river is now being controlled as per CRZ Rules.

b) Ponds

Anakulam, Chettyarkulam, Valiyakulam, Kannoorkara pond are important ponds in the Corporation area. Among these, Anakkulam pond, which was a major source of water in the planning area till a few years back is recently renovated and opened to

the public. It can be now used as an evening hangout place for the people. Also, there is a park which is newly constructed as a part of AMRUT scheme.

Chettiarkulam, an old pond is also renovated and beautified and a large number of people are using it now.



Anakulam Pond

c) Thodes and Canals

Pazhassi Canal is a major canal mainly flowing through Puzhathi, Elayavur and Chelora zones of the Corporation area. It comes under Pazhassi Irrigation Project (PIP) in the Valapattanam River. Other riverlets and Canals flowing through the planning area are Andathodu, Padannathodu, Ammayithodu, Valiyathodu, Cheloravayalthodu, Macheryvayalthodu and Athirakam Canal etc.

III. Coastal Areas

The western boundary of planning area is bound by Arabian Sea. Coastal

Zone regulations are applicable in the coastal areas of the Municipal Corporation area which fall under Coastal Regulation Zone (CRZ) II. The coastal stretch is blessed with a continuous strip of sandy beach along a coastal stretch of 17 km on the southern side. All these areas are densely populated and are known for fishing activities.

IV. Paddy and Wetland

Paddy fields are mostly located in Elayavur, Chelora, Puzhathi and Pallikkunnu zones of the Corporation area which act as retention ponds for rain water during monsoon and in turn recharge the ground water resources. Also, these open areas act as lungs for the planning area.

In view of depleting ground water levels, paddy fields assume a vital role in the recharge of ground water. Conversion of these lands for any other use shall not be allowed.

Natural wetlands, because of their long term capacity to filter pollutants from the water that flows through them, are referred as “earth’s kidneys”. The Munderikkadavu wet land area in Elayavur zone is a portion of Kattampally River and the Munderikkadavu bird sanctuary is located in this marshy land which is the home of a plenty of migrant birds that reach this area. This biodiversity enriched region enhances the scenic beauty of the terrain. In the past

years, this marshy land was extensively used for the cultivation of rice crops and is commonly called as Kaippadu.

20.1.2 POLLUTION

In general, environmental issues are mainly due to water pollution, air pollution, noise pollution and generation of hazardous wastes.

• *Pollution due to industries*

For the purpose of categorization of industrial sectors, "Range of Pollution Index", is used as the basic criteria. Based on the extent of pollution, industries are categorized as red, orange and green. Industrial sectors having pollution index score of 60 and above are grouped under red category, while score of 41 to 59 grouped under orange category. Pollution Index score of 21 to 40 are green category and up to 20 is included in the white category.

In the Corporation area, all the industries are under either orange or green category. The major industries in Corporation area are Kerala State Handloom Development Corporation Ltd., Cannannore Cooperative Spinning mill Limited and Milma Diary. Most of the industries in the planning area are manufacturing (25%) and textile (21%) type. The textile industry units mainly causes air and water pollution through the discharge of waste water and emission

of toxic gases such as Sulphur dioxide, oxides of nitrogen etc. Boilers, thermo pack and diesel generators used in textile industry produce pollutants that are released into the air. Also, the water discharged from these industries contains high amount of chemicals which is harmful to every life including plants also.

The Milma units also produce waste water, which is treated from the effluent treatment plant of the dairy unit located near to the Milma Dairy at Podikkundu. The treated water is mainly used for plantations inside the Milma Dairy especially the curry leaf plants, cultivated there, for adding in sambharam. So the pollutants in this unit are stayed off up to a certain limit.

• *Pollution from health care institutions*

There are a number of health care institutions in the Corporation area. The sources of water pollution from hospitals are sewage and the wastes from laundry, laboratory, operation theatres, canteen, toilets, etc. Air pollution results from the functioning of generator sets and incinerators. Bio medical wastes include human anatomical waste, animal waste, microbiology and biotechnology waste, waste sharps, discarded medicines and cytotoxic drugs, soiled waste, solid waste, liquid waste, incineration ash and chemical waste.

• *Water pollution*

As there is no proper drainage network, the road side drains end at the natural water bodies such as Ammayithodu, Kakkad and Padannathodu and finally it reaches the rivers and at last in the Arabian Sea. Due to discharge of sullage and hotel wastes through these storm water drains, the natural water bodies get contaminated. This will promote the growth of micro-organisms like pathogens which cause several intestinal diseases like Malaria, typhoid, cholera etc. The solid waste disposal in water bodies also contaminates them. The encroachment of river banks by the adjoining land holders is also a part of it.

20.2 CONSERVATION EFFORTS

Irrigation Department of Kerala has already completed efforts to conserve Kanampuzha River. As a part of this, side walls are constructed at many stretches of the river. But still many stretches need side walls. The people's participation is required to protect the river.

The mangroves on the side of river which are undisturbed to an extent, has to be protected. Even though the sea wall construction at the southern boundary is almost completed, during rainy season, the wave action damages the sea wall frequently. The Anakkulam and Chettyarkulam are also renovated recently.

20.3 DEVELOPMENT POTENTIALS AND PROBLEMS

Munderi Kadavu Bird Sanctuary; a biodiversity rich wetland area is a part of Kattampally River. It is on the suburb of Kannur. This area is famous for migratory birds. So conservation of the river is very important. Since Kanampuzha River is a perennial one; it influences the water in the nearby wells. So the waste deposition in the river is strictly avoided.

There is a scope for a boating service through Varamkadavu, Pullooppikadavu and Munderykadavu. Due to the presence of bird sanctuary, it can be enhanced as a tourist spot.

Since mangroves can hold the soil together and prevent coastal erosion, they are helpful for protecting vulnerable coastlines from wave action. Also mangrove forests provide homes for several species of plants and animals. In the Corporation area, mangroves exist mainly on the banks of Kanampuzha River and to some extent, in Kattampally also. Due to their importance, these mangrove forests deserve preservation.

The improvement of aquaculture which is already taking place in the rivers will be economically helpful to the planning area.

Conversion of paddy fields in Kanampuzha water shed to non-paddy or non-agricultural purposes is a major issue in the planning area. Due to the

timber seasoning, depositing of solid wastes, plastics and sewage outlets from households, Kanampuzha River is fully contaminated. Many stretches of the River need side walls. The encroachment of water bodies is another issue faced in the planning area. Also, lack of proper drainage network, contaminate natural water bodies.

Due to all the above issues, the Corporation authorities have to give priority to protect the river and water resources. The awareness of people about the importance of environment protection is alarmingly poor in this area.

In the Corporation area, all the industries are under either orange or green category based on the "Range of Pollution Index". About 25% of the industries are manufacturing followed by textile units (21%). These industries as well as Milma units cause discharge of waste water and emission of toxic gases such as Sulphur dioxide, oxides of nitrogen etc.

20.4 INFERENCE

Developing the city in an environment ally friendly way is also a part of development plan. In Kannur Corporation area, there are so many ecologically sensitive areas. The environmental problems normally generated are related to the waste disposal, river encroachments and misuse of natural resources. The

natural drains and water bodies are required to be protected from being polluted by various causes. Unscientific use and disposal of plastic and other hazardous substances are to be taken care of with proper planning and regulations.

The conversion of paddy lands along Kanampuzha water shed has to be discouraged by adopting various measures by providing better infrastructure facilities to improve the cultivable area and productivity. Also, there is a potential for tourism development of Adikadalayi beach and Kanampuzha River. Walk ways can be constructed along the banks of River.

The eco-sensitive areas need to be protected and conserved. Measures needed to be taken by the municipal Corporation and authorities concerned to protect these environmentally sensitive areas. It can be implemented through proper action plans involving people's participation.

Also, the destruction of forests, wetlands, sacred groves and laterite hills over the last few decades makes rain water to discharge into the plateau without any percolation. Because they act as aquifers and help replenish the water table during the rainy season.

Building up of solar power plants in Kannur is a key step towards development. The purpose is to create energy that improves life for present and future generations and hence to provide sustainable solutions for society and deliver excellent value. The main aim of the project is responsible energy production focusing on low emissions; high resource efficiency and security of supply. This initiative will also inherit the sense of energy utilisation among the young citizens, and make them understand and bring the values of solar energy into the society.

