

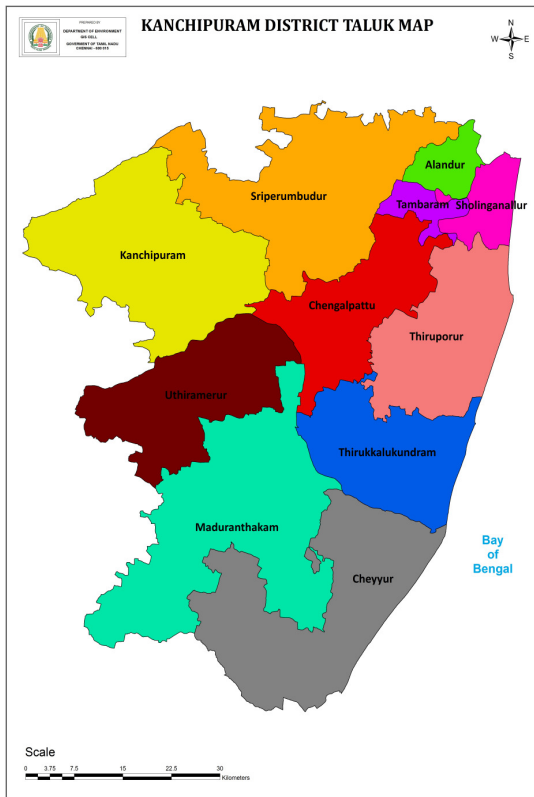
KANCHIPURAM DISTRICT

KANCHIPURAM DISTRICT

1. Introduction

i) Geographical location of the district

Kanchipuram district is situated on the Northern East Coast of Tamil Nadu and is bounded in the West by Vellore and Thiruvannamalai districts, in the North by Tiruvallur district and Chennai district, in the South by Villuppuram district and in the East by the Bay of Bengal. It lies between 11° 00' to 12° 00' North and 77° 28' to 78° 50' East. The district has a total geographical area of 4,393.37 sq.km and



coastline of 57 km Kanchipuram, the temple town is the district headquarters.

i) Administrative profile

For administrative reasons, the district has been divided into 4 revenue divisions comprising of 11 taluks with 1,137 revenue villages. For development reasons,

it is divided into 13 development blocks with 648 village panchayats.

iii) Meteorological information

The pre-monsoon rainfall is almost uniform throughout the district. The coastal taluks get more rains rather than the interior regions. This district is mainly depending on the seasonal rains. Northeast and southwest monsoons of contribute respectively to the total annual rainfall. The normal rainfall of the district has been 1213.3 mm and actual rainfall has been 1133 mm. The months between April and June are generally hot with temperatures going up to an average maximum of 36.6°C. In winter (December - January) the average minimum temperature is 19.8°C.

2. Resources availability

i) Land resources

The following table shows the soil types in the district.

Type of soil	Places in district
Red Loam	Kanchipuram, Uthiramerur blocks
Lateritic Soil	Plateau in the district
Black Soil	Spread in all blocks
Sandy Coastal Alluviam	Thirukazhukundram, Thiruporur, St.Thomas Mount.
Red Sandy Soil	Kanchipuram,

ii) Agriculture and horticulture

Agriculture is the main occupation of the people with 47% of the population

engaged in it. Paddy is the major crop cultivated in this district. Groundnuts, Sugarcane, Cereals & Millets and Pulses are the other major crops cultivated. Palar River along with Tanks and wells are the main sources of irrigation in this district. Following table shows the details of agriculture in the district.

Classification	Area in ha
Total Cropped Area	1,98,543
Net Area Sown	1,60,090
Area sown more than once	38,453
Area Under Principal Crops	
Rice	1,45,966
Millets and Cereals	1,217
Pulses	2,966
Sugarcane	7,586
Groundnut	28,766
Gingelly	912
Cotton	53

iii) Forest resources

The total forest area in the district is 23,586 ha spread in the interior regions of the district. In this 366.675 ha are Reserved Land. Much of the natural forests have been converted into man-made forests since the late 1950s. However, chunks of natural forests still exist in Hanumanthaputheri, Maiyur and parts of Kelambakkam R.F. which still support the original vegetation. Kanchipuram district has the singular distinction of having established woodlots in community (Poramboke) lands vested with the panchayat. Way back in 1961, the first ever community plantation- the precursor of the present day social forestry was raised near Sunguvachatram in panchayat lands.

The major forest product, the industrial pulpwood obtained from Eucalyptus plantations, is supplied for paper manufacturing. The lops and tops left after extracting the pulpwood is sold as fuel wood. Fuel wood is extracted also from the Casuarina plantations. Cashew is the important Non Timber Forest Produce which contributes a major share of forest revenue.

iv) Mineral resources

Granite, stone quarry, sand quarry, silica sand and clay are the minerals available in Kanchipuram district. Following table shows the availability of mineral resources.

Estimated Availability of Mineral resources

Sl. No.	Name of the mineral	Estimated Availability (in metric tonnes)
1.	Silica Sand	6,00,000
2.	White Clay	5,00,000
3.	Black Granite	3,75,000
4.	Stone	75,00,000
5.	Sand	45,00,000

v) Water resources

River Palar is the main river in the district, which is not perennial. This is the only river that flows through the district, originating from Nandhi Durg in Karnataka. It runs through for a length of 350 km and nearly half of it in this district covering a basin area of 2187 sq.km The river has part of its basin in Karnataka and Andhra states.

Most of the year it remains dry, due to the construction of dams across the river in Andhra Pradesh. Cheyyar and Vegavathy rivers are tributaries of Palar and join it at Thirumakkudal.

vi) Fisheries production

The Kanchipuram District is rich in fish resources. Scope for exploitation of marine fisheries in the District is high with the coastal line of 57 km. A comparison of fish production indicates that the coastal production is higher than the inland fish production. The fish production from both inland and marine sources has increased in both quantity and value.

vii) Heritage sites

Kanchipuram

Kanchipuram is known as the "city of a thousand temples". The 192 ft high temple tower of Ekambaranadhar temple and the 100-pillar mandabam (building) in Varadaraja Perumal temple in this town are famous, and are considered marvels of the architectural beauty of the Vijayanagara dynasty. The British Viceroy Robert Clive, who is responsible for the British rule in India, had exclaimed the architectural beauty of Varadharaja perumal temple and presented a fabulous jewelry to this temple. Today, apart from its temples, this small town is also known for its thriving handloom industry. The city is quite famous for its silk sarees, considered to be one of the best varieties of silk sarees. Walajapet near Kanchipuram is also famous for silk saree weaving.

Vedanthangal

Vedanthangal is one of India's main water-bird sanctuaries situated at a distance of 48 km from Kanchipuram. Storks, egrets, cormorants, darters, flamingos, pelicans, moorhens, herons, kingfishers, sandpipers, white ibis, spoonbills, swans and grey wagtails are some of the birds also which visit seasonally. Between October and March, many migratory birds visit. The

birds can be viewed from the bank or from the watch tower.



Vedanthangal water-bird sanctuaries

Muttukadu

Muttukadu is a large lake formed out of the backwaters from Bay of Bengal. It has boating and wind surfing facilities. It is located at a distance of 80 km from Kanchipuram. The backwaters of Muttukkadu have been developed by the Tamil Nadu Tourism Development Corporation to serve as a picnic spot and a center for water sports. Training and demonstration programmes are also organised for beginners.

Mamallapuram

It is a place of architectural interest and lies on the east coast, 55 km south of Chennai. It is an important tourist center. The shore temple and the monolithic chariots, known as the "Five Rathas", Arjuna's peanace, the Krishna Mandapam, Mahishasura Mandapam, the elephant etc., are all magnificent pieces of sculpture which attract hundreds of tourists throughout the year. The place is also known as the Seven Pagodas and along with the sea-shore and its temple provides a beautiful picnic spot

abounding in natural beauty. There is also a lighthouse here. A training center for sculpture has been set up here by the government. The group of sculptures in Mamallapuram is listed out by the UNESCO as a World Heritage Site.



Mamallapuram

Covelong

This is a small fishing village 40 km from Chennai on the Mahabalipuram road. The remains of a fort here now functions as a luxury beach resort. Facilities for windsurfing and swimming are available here. A dargah and an ancient church are also located here.

Dakshina Chitra

Dakshina Chitra has relocated 18th, 19th and early 20th century houses and re-created village streets and work places providing authentic insights into the domestic architecture, spatial organisation, life-styles and character of the essential Tamil or Keralite or Andhrite or Kannadiga.

The Crocodile Bank

The Madras Crocodile Bank, a crocodile breeding center, is located about 14 km from Mamallapuram. At this center, about 5000 crocodiles of 6 different species, alligators and other reptiles are bred in captivity, kept in open, marshy

enclosures. There is also a snake farm where anti-venom is produced and there is a regular venom extraction show.

viii) Biodiversity

Following are the important flora and fauna in the district.

Characteristic species

- *Manilkara hexandra*
- *Mimusops elengi*
- *Albizia amara*
- *Memecylon umbellatum*
- *Diospyros ferrea* syn *maba buxifolia*

Top Canopy

- *Mimusops elengi*
- *Diospyros ebenum* (occasional)
- *Strychnos nux vomia* (occasional)
- *Strychnos potatorum* (occasional)
- *Diospyros chloroxylon* (occasional)
- *Drypetes sepiarea* (rare)
- *Syzygium cumini*
- *Canthirum decocum* (frequent)
- *Ziziphus glaberrima* (frequent)
- *Acacia leucophloea* (frequent)
- *Catunaregam spinosa* (frequent)
- *Buchanania lanzan* (occasional)
- *Sapinda emarginatus* (occasional)
- *Albizia amara*
- *Albizia lebbek*
- *Tamarindus indica*
- *Azadirachta indica*
- *Borassus flabellifer*

Under wood

- *Carissa carandas* (abundant)
- *Flacourtia indica* (locally abundant)
- *Diospyros ferrea* (frequent)
- *Grewia* sp. (abundant)
- *Gymnosporia* sp. (frequent)

- *Ixora arborea* (frequent)
- *Tarennia ascatia* (frequent)
- *Memecylon umbellatum*
- *Garcinia spicata*

Shrubs

- *Strobilanthus*
- *Dodonaea viscosa* (abundant)
- *Glycosmis pentaphylla*
- *Ochna squarrosa*
- *Gmelina asiatica*

Herbs

- *Hemidesmus indicus*

Tropical dry evergreen scrubs

- *Diospyros ferrea*
- *Ziziphus glaberrima*
- *Calliea cinerea*
- *Catunaregam spinosa*
- *Carissa spinarum*
- *Albizia amara*
- *Buchanania lanzan*
- *Dodonaea viscosa*

Thorn forests

- Karunkali - *Acacia chundra*
- Usil - *Albizia amara*
- Neem - *Azadirachta indica*
- Sarakonnai - *Cassia fistula*
- Namai - *Anogeissus latifolia*
- Karai - *Randia dumetorum*
- Vagai - *Albizia odoratissima*
- Kala - *Carissa carandas*
- Etti - *Strychnos nuxvomica*
- Virali - *Dodonaea viscosa*
- Avaram - *Cassia auriculata*
- *Canthum dicoccum*
- *Aristida setacea*
- *Heteropogon contortus*.

Fauna

- Jackal - *Canis aureus*
- Jungle cat - *Felis chaus*

- Palm squirrels - *Funambulus pennanti* and *F. palmarum*
- Hare - *Lepus nigricollis nigricollis*
- Common mongoose - *Herpestes edwardsi*
- Shrew - *Suncus sp.*
- Pangolin - *Manis crassicaudata*.
- Pariyakite - *Milvus migrans govinda*
- Brahminy kite - *Haliastur indus*
- Partridge - *Francolinus pondicerianus*
- Koel - *Eudynamis scolopacea*.
- Spotted owl - *Athene brahma*
- Common rat snake - *Ptyas mucosus*
- Cobra - *Naja naja*
- Green whip snake - *Ahaetulla nasutus*.

3. Impacts

i) Urbanization

The proportion of urban population to total population has increased over the decades in the district. Acceleration in density of population is felt heavily in urban areas. The decadal growth rate indicates that the urban centers have increased in the district adding enormously on the urban population. The estimated sewage generation is at 383.33 lakh liters per day in urban areas with a breakup of 222.10 lakh liters per day for municipalities and 161.23 lakh liters per day for town panchayats. Underground drainage system is available in Kanchipuram, Maraimalainagar and Uthiramerur. Overall solid waste generated in the district adds up to 437.14 tonnes with a break-up of 379.00 tonnes in municipalities and 58.14 tonnes in town panchayats. The primary component of the waste is compostable matter constituting 86% in the total waste.

ii) Industrial development

One of the largest industrial areas of Tamil Nadu, Kanchipuram has the pride in being home to vital production bases of international industrial groups like, Ford, Hyundai, Saint Gobain as well as many export houses in and around the Madras Export Processing Zone. The reasons for this are not far to seek:

- Proximity to the Chennai urban area
- Proximity to an international airport and two sea ports at Chennai and Ennore
- Excellent connectivity through the world class East Coast Road and upcoming upgraded NH4 & NH45
- Moderate cost of land
- Good industrial parks at Maraimalai Nagar, Alanthur, Irungattukottai, Sri-perumbudur, Siruseri, Oragadam and Paranur
- Reasonably good power supply with the North Madras Power Station and Kalpakkam Atomic Power Station located in and around the District.
- Availability of skilled and highly qualified manpower at Chennai and suburbs with IIT, Chennai and Anna University .

iii) Thermal power generation

The only power project available in the district of Kanchipuram is the atomic power plant which is located in Kalpakkam.

iv) Natural hazards

As any other coastal environment, coast of Kanchipuram district also gets affected with regular erosion and accretion. Sea level rise and elevation in sea surface temperature are also seen here as the consequences of global climate change.

v) Natural disaster prone areas

Information on drought, flood and cyclone in the district is very limited. However, it has been ascertained from the available information that there had been cyclones in 1985-86 and 1992-93. As a consequence flood has occurred during the above years. The north east monsoon contributes more rainfall than the south west monsoon. Generally flood occurs during north east monsoon as there is heavy down pour coupled with cyclonic storm formed in Bay of Bengal. Floods occur in the zones such as Upper Cheyyar and Kiliyar of Palar basinches Heavy floods had occurred in 1985, causing heavy damages to Maduranthagam tank and washing away of Kiliyar Railway Bridge and NH Road Bridge. There were also floods during 1992-1993 causing heavy damages to lives and properties. The cyclonic storm which crossed the coast at Karaikal on 4.12.93 had caused substantial damages in the basin area. Several hectares of crops were also damaged due to the flood.

Kovalam

The stretch of the coast from Kovalam upto Chinnakuppam is a bay like formation. This bay formation is likely due to the outcrops on its south acting as a natural littoral barrier. A significant stretch of coast south of Kovalam has a wide beach conducive for plantations as a long-term measure for protecting the coast.

4. Government initiatives

i) Coastal protection initiatives

Devaneri

This stretch of the coast has a flat beach. However, in the vicinity of this coast, a large number of dwelling units has suffered damages due to the tsunami. This stretch of the coast can be protected with a flat seawall with a higher crest elevation for 0.5 km backed up by plantations in between the dwelling units and the crown of the seawall. On the south of Devaneri, existing plantations act as barriers in reducing the tsunami run-up. Hence, Devaneri stretch of the coast can be protected by combination of rubble mound seawall and plantations.

Mamallapuram

In the coastal stretch between Devaneri and Mamallapuram, the shoreline undergoes short-term changes and hence this stretch of the coast need not be considered for putting up any hard structures and only plantations could be taken up as a long-term solution.

Meyyur Kuppam and Sadras kuppam

This village lies south of Kalpakam Atomic Power Station. The impact of tsunami was severe in this stretch. In the immediate south of this village, presence of coconut plantations gave slight relief, as the land in this area is not in an elevated location. During tsunami the water level rose by 3 m and penetrated into land. This stretch of the coast has a number of houses, which need to be protected.

Oyyalikuppam

A number of dwelling units adjacent to the coast has been washed away due to tsunami. This village is situated north of Palar River. The Palar River traps some of the sediment transport directed towards North leading to a deficit of sediment supply, leading to erosion along this stretch of the coast.

ii) Awareness initiatives

There are at least eight environment NGOs dealing with environmental awareness programs and cleaning campaign. Various awareness creation activities have been made among the fisher folk on tsunami and Coastal Regulation Zone issues by different Government and Non Government organizations. Attempts have been made to develop bioshields, rebuild livelihoods, establish the 'Village Knowledge Centres' and reclaim soil in the tsunami affected agricultural fields in Kanchipuram district.

5. Summary / Conclusion

- Kanchipuram district is situated on the Northern East Coast of Tamil Nadu and is adjacent by Bay of Bengal.
- The district has a total geographical area of 4,393.37 sq.km and coastline of 57 km.
- For administrative reasons, the district has been divided into 4 revenue divisions comprising of 11 taluks with 1,137 revenue villages.

- For development reasons, it is divided into 13 development blocks with 648 Village Panchayats.
- Agriculture is the main occupation of the people with 47% of the population engaged in it.
- Paddy is the major crop cultivated in this district. Groundnuts, Sugarcane, Cereals, Millets and Pulses are the other major crops cultivated.
- The total forest area in the district is 23,586 ha, spread over the interior regions of the district. In this forest area there are 366.675 ha of Reserved Land.
- Palar is the major river in the district, which is not perennial. This is the only river that flows thorough the district, originating from Nandhi Durg in Karnataka.
- The Kanchipuram District is rich in fishing resources. Potential for exploitation of marine fisheries in the District is high with a coastal line of 57 km.
- The proportion of urban population to total population has increased over the decades in this district.
- One of the largest industrial areas of Tamil Nadu, Kanchipuram has the pride in being home to vital production bases of international industrial groups
- The only power project available in the district of Kanchipuram is the atomic power plant which is located in Kalpakkam.