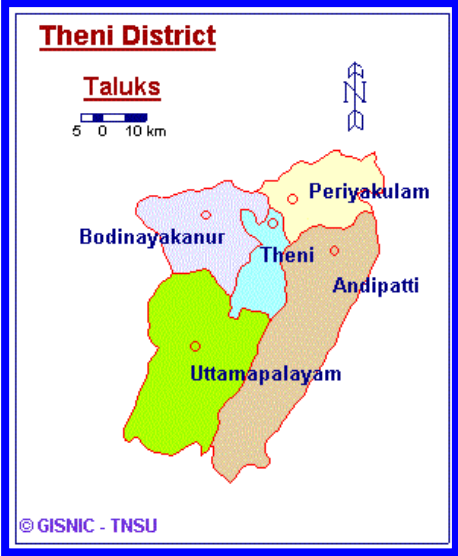


Environment Profile for Theni district



1

The Context

The **Department of Environment (DoE)** is the nodal department for dealing with environmental management of the State. The State has been endowed with multitude of natural resources, judicious management of, which is an essential for that sustainable development in all sectors. All effective management of resources calls for an in-depth assessment of their existing conditions and trends. A cursory evaluation of the present status of our environment and natural resources including land, soil, water & air and the life support systems like forests, rivers & coastal areas indicates that the health of such systems is threatened by serious levels of degradation. Though different Government Departments / Agencies are responsible for the management of the resources under their jurisdiction, information relating to the individual sector lies fragmented.

To manage the environment in a holistic manner and to develop the



environment friendly sustainable development perspective, it becomes necessary to identify the gaps in the present management of resource bases. Such intervention would be realistic when data collected from the primary/secondary sources, compiled and presented in the form of district environment profiles provides a strong database. Thus the **AIMS Research** (A Joint Venture of TCW/ICICI, IDBI and ICICI) - a leading consultancy and research organisation has been engaged for the preparation of such a report. This report will form the basis for developing **Environmental Management Plans** at district level and it will spell out specific action programs to be implemented by local/state institutions. This report provides a brief account of the manner in which the **district** has been prepared and presented.

To achieve certain degree of uniformity in the presentation of Environmental data in the districts, it is considered necessary that certain standardised formats are adopted for collection and presentation of the relevant data besides interpretations of the data thus collected. Accordingly the data compiled in the prescribed formats have been synthesised and presented in the following chapters.



2

Background

History: The district of Theni has been carved out as a separate

district recently as a result of bifurcation of Madurai district. According to the said bifurcation, three taluks namely Uttamapalayam, Periyakulam and Andipatti of the erstwhile Madurai district separated from its parent district to form this new district. At present also this new district is comprised of five taluks and eight Community Development Blocks.

Fairs and Festivals: Important festivals of this district are Pongal, Deepavali, Adi Kirthigai, Kanda Sashti and Chithirai. During the harvest or Pongal festival season in the month of January, the conduct of bullfights (Jallikattu), a unique rural sport of Tamilnadu, can be witnessed near Madurai. Here the bull is allowed to run in an open stretch of land pursued by the bullfighter whose aim is to catch the bull and tame it and win a cash award usually tied to the horns of the bull.

Physical Features: The district can be divided into two natural divisions. Hilly areas constituted by parts of the three taluks viz. Periyakulam, Uttamapalayam and Andipatti with thick vegetation and perennial stream from the hills on the western side, and another one is Cumbum valley which lies in Uttamapalayam taluk. The district lies at the foot for western ghat and is diversified by several ranges and hills. A range of hills which runs parallel to western ghats from north to south separate the district from neighbouring Kerala State.

2.1 Geographical location of the district

Theni is one of the Southwestern districts of Tamilnadu State. It is bounded on the north by Dindigul district, on the east by Madurai district, on the south by portions of Virudhunagar district and Idukki district of Kerala State and on the west by Idukki (Kerala). The district administrative headquarters of this district is location at Theni Allinagaram town. The district lies between $9^{\circ} 53'$ and $10^{\circ} 22'$ north

latitude and 77° 17' and 77° 67' east longitude. The general geographical information of the district is hill area. Vaigai River is flowing in the district and it will normally be dry during the summer season. Theni district consists of Five taluks, namely 1.Theni, 2.Periyakulam, 3.Andipatti, and 4. Uthamapalayam and 5.Bodinaickanur. The total geographical area of the district is 3076.30 Sq. Km. Theni district is divided into 8 Blocks. The details of the name of the taluks and area has shown in the following table:

Sl.No.	Name of Taluks	Area in Sq. Km.
1	Theni	230.22
2	Periyakulam	390.30
3	Andipatti	792.41
4	Uthamapalayam	1020.33
5	Bodinaickanur	643.04
district Total		3076.30

2.2 Administrative arrangement in the district

Theni district comprises 5 Taluks, 8 Blocks and 183 Villages. As regards the hierarchy of administrative arrangement, there are 5 Municipalities, 23 Town panchayats and 130 Village panchayats in the district. The details regarding the number of blocks, villages, village panchayats, town panchayats and municipalities respective of each taluk are given in Table No: 1.

2.3 Meteorological information

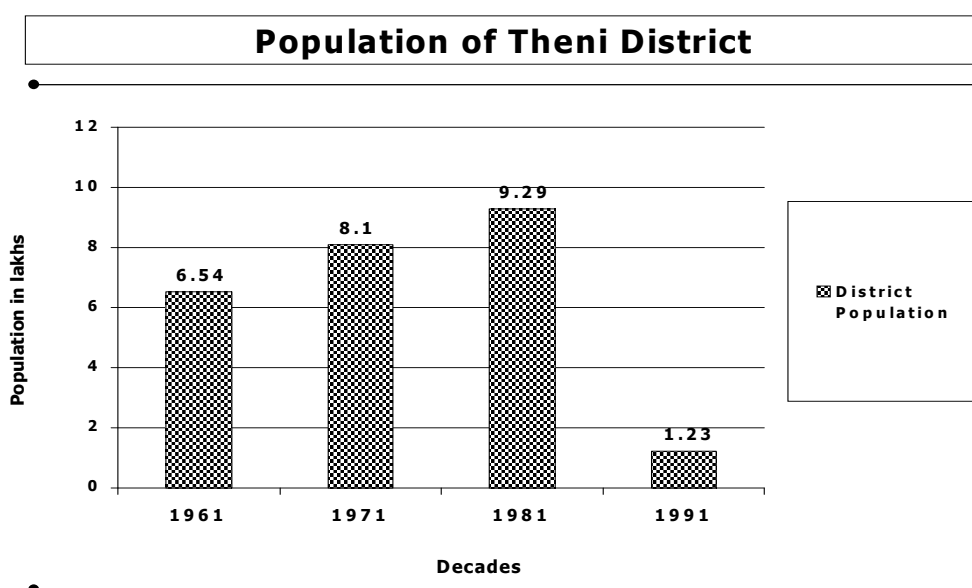
The monthly average rainfall in the district has been 78.21mm. The months of April, May, September, October and November receive a rainfall that is more than the annual average rainfall. The average number of rainy days, mean maximum temperature, mean minimum temperature and mean relative humidity for the period 1991-96 are given in Table No: 2.

2.4 Demographic details

The growth of population over the past three decades and the essential characteristics of the population for the past few decades in terms of birth rate, death rate, infant mortality rate and literacy level are given in Table Nos: 3,4,5.

2.4.1 Population

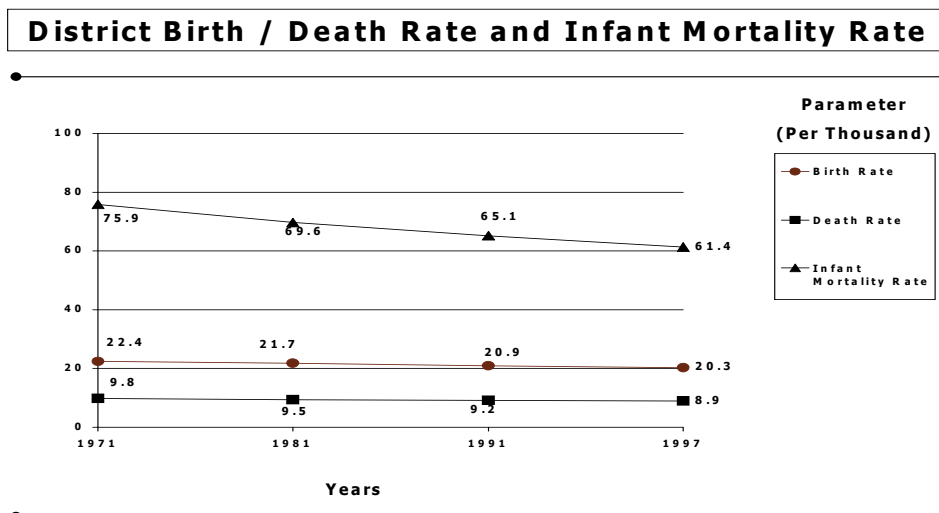
The population of Theni district has grown from 6.54 lakh in 1961 to 12.29 lakh in 1991. The growth rate indicates that there has been a significant increase during the 1981-91 decade with the average growth rate being 2.04% per annum during this decade. According to the 1991



census, Uthamapalayam taluk is the most thickly populated and Theni taluk is the least populated in the district. The details of population growth along with the growth rate-taluk wise are given in Table No: 3.

2.4.2 Trend in Birth/Death rate and Infant mortality rate

Birth rate, Death rate and Infant mortality rate have decreased during 1971-1997 period. Birth rate, death rate and infant mortality rate

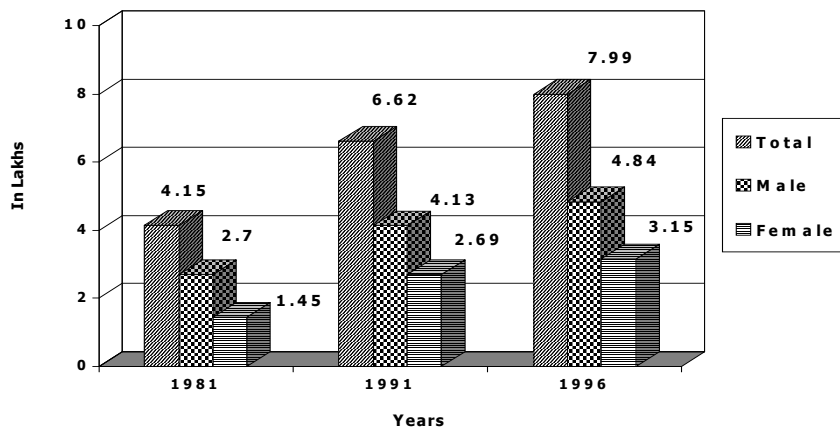


have been 20.3, 8.9 and 61.4 respectively in 1997. (Refer Table No: 4).

2.4.3 Literacy level among the population

The literacy level of Theni district according to figures available for the year 1996 is 58.55% with male literacy level being more than the female literacy level. It is also observed while the male literacy level has grown steadily from 57.40% in 1981 to 66.80% in 1996. There has also been a significant increase of female literacy level from 31.68% in 1981 to 49.22% in 1996. The information on literacy level of the district is given in Table No: 5.

Literate Population of Theni District



Resources - Availability, use and Environmental status

3.1 Land resources

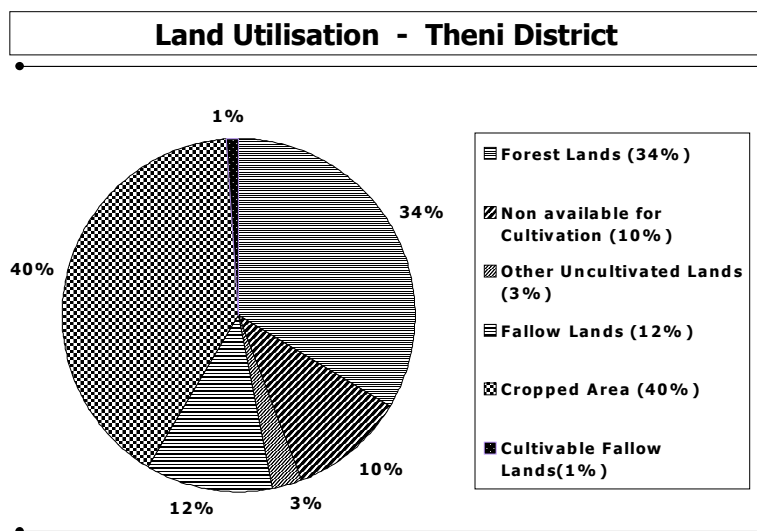
Resources of the district, their availability, use and environmental status are discussed in the following chapters.

3.1.1 Agriculture and horticulture

In the hilly areas of the district i.e. Uttamapalayam, Periyakulam etc. crops like fruits, vegetables and flowers are grown, which are supplied to other district in the state and also to some northern states. Paddy is cultivated twice in a year. The normal seasons for cultivation of paddy are June-August and September-December. During these seasons short and long term crops are sown. Dung, leaf manure, tank silt, Municipal compost and oil Cake besides chemical fertilisers, are the important manure used in the district. Cumbu and groundnuts are also cultivated. Ragi, which is the staple food of the poorest class, is mostly grown as crops like paddy. Cotton is also sown in rainfed and irrigated areas. Plantain is commonly grown in almost all of the taluks.

i. Land utilisation

According to the land utilisation pattern only 40 % of it is under agriculture. Excluding the forest area which is 34%, the remaining 26% of land may be brought under waste land development programme in order to augment the revenue and to make use of the agricultural labourers throughout the year.



ii. Trend in production and productivity of important crops

Cereals, pulses and oil seeds are observed that to are the three important crops produced in the district. The productivity pattern over the past 15 years indicates that the productivity of cereals and pulses has fluctuated but the productivity of oil seeds had increased during except 1992-94 period. The area under production for cereals, pulses and oil seeds has also fluctuated during the last 15 years. The details on the productivity performance of the district in relation to Cereals, Pulses and Oil seeds for the past 15 years are given in Table No: 7.

Horticultural and plantation crops

The total area under horticulture and plantation crops works at to a merge 15% to the total area under agriculture. More areas at the foothills of Western Ghats may be under flower crops.

There were fruit crops with an yield of 2,84,860 tonnes, vegetables crops of 33,960 tonnes and plantation crops like coriander, cardamom etc are of 140 tonnes cultivated and flower crops of an yield of 1,065 tonnes cultivated in 12913 3ha, 4553 ha, 1404 ha and 404 ha respectively in the

years 1995-96. The details are given in the Table No: 8.

iv. Consumption of fertilisers and pesticides

Information of the consumption of fertilisers and pesticides used during 1997-98 period only available. About 16,565 metric tonnes of chemical fertilisers were used in 1997-98. Out of which, 56.92% of nitrogenous fertilisers, 25.5% of Phosphatic and 17.58% of Pottasic were used in the same period. There has also been an intensive use of Bio-fertilisers (1,26,657 pockets) in the district, followed by Urea (13,986 MT) in 1997-98. 13,222 kgs of dust and 26,035 litres of liquid pesticides were also used in 1997-98 period. The block wise details of chemical fertilisers, urea, bio-fertilisers and pesticides were not available. The details on the total consumption of fertilisers and pesticides are given in Table No: 9.

v. Trend in consumption of fertilisers and pesticides

About 30551 metric tonnes of chemical fertilisers and 126657 pockets of Bio-Fertilisers are used in 1997-98 for Theni district. Pesticides (Dust and Liquid) are also used during 1997-98 in the district. The details with regard to the trends in the consumption of fertilisers and pesticides are given in Table No: 10.

vi. Soil types

Red loam soil is the predominant Soil type in this district accounting for 37.48% followed by red sandy soil of 14.53%. The other types of soils are lateritic soil, black soil, and sandy soil. The details are given in Table No: 11.

vii. Soil problems

Problematic soil covers 34.44% of the total area of the district. About 13.77% of the land available for cultivation are prone to soil gullied, Ravinous land, followed by Salinity/Alkalinity 9.92%. Sandy

desertic (6.34%), Water logging & marshy land (2.20%) and Prone to Floods (2.20%) are the other types of soil problems in the district. The details in this regard are given in Table No: 12.

viii. Status of soil and water conservation programs

There were 1567 check dam / stop dam constructions in this district. Cropping area where soil conservation works are undertaken in the district is 84,268 hec. The blockwise details are given in Table No: 13.

ix. Animal husbandry

Cattle and buffaloes, sheep, goats, pigs are the main livestock of this district, in addition to the poultry birds. Under a special animal husbandry programme different schemes like calf rearing scheme, poultry production and piggery production etc. are being implemented. A number of co-operation institutions have been set up and are working for the development of livestock.

3.1.2 Forest resources

i. Forest area

There are 27 forest areas in Theni district constituting a total area of 79581.24 (795.81 sq.km) hectares. 19 areas fall under the Reserve Forest category with 25543.75 (255.44 sq.km) hectares, 8 under Reserve Land category with 54037.49 (540.37 sq.km.) hectares and there is no Unclassed Forest type in this district. In the district total area of forest under green cover classification was 80,686 hec. Dense forest and sparse forest are 29,281 hec and 2,243 hec respectively. The details regarding the forest area and green cover classification of forest area are given in Table Nos: 14a & 14b.

ii. Trend in Per Capita Forest Area

There has been no change in the forest area (79,581.24 hec.) from

1961-1996. The percapita forest area and has shown a decreasing trend (0.122 hec. in 1961 to 0.058 hec in 1996). The details are given in Table No: 15.

iii. Man made forest plantations

Man made forest plantations have been restricted to the existing forest areas in Theni district. About 4464.53 hectares of Man Made Forest Area are available in the district. Wattle, Softwood, Fuel wood, Cashew, Neem, Tamarind and other man made forest plantation species are the man made forest plantation in Theni district. Necessary details are given in Table No:16.

iv. Details of Villages Abutting Forest Area

The information is four-forest range of Bodi, Gudalur, Cumbam and Chinnamanur in the abutting forest areas in Theni district. (Refer Table No:17).

v. Tribal Villages

There are eleven Revenue Villages, three Tribal Hamlets and 172 number of Families identified in Theni district. The maximum no. of families located on Muttam, Uthamparai and Paruthipodu saragam revenue villages in the district. The details are given in Table No: 18.

vi. Forestry area diverted for non forestry purposes

Four cases with 2.297 hectares of forest area were in process of conversion to non-forestry purposes and 4 with 20.07 hectares was cleared for non forestry purposes in Theni district under Forest (Conservation) Act, 1980 upto 1995-96. Necessary information is given in Table No:19).

vii. Trends in production of forest produce

The growing trees of timber, industrial wood, fuel wood and bamboo, bamboo and other minor forest produces in reserve forest in

1991- 95 were the type of production of forests areas in Theni district. The details are given in Table No: 20.

viii. Conservation of Biological resources, Wild life census, Rare / Threatened species of Flora and fauna

There has been no conservation of biological resources in the district. The information of wild life census in Theni district is yet to be made available (Refer Table Nos. 21 & 22). The details regarding species of vascular plants and animals available in the district are given in the Table No.23.

3.1.3 Mineral resources

Rough stone/Jelly and sand are the mineral resources produced with actual production of 21105 LL and 14600 LL respectively, in Theni district. (LL- Load Lorry) (Refer Table No:24).

3.1.4 Water resources

i. Catchment area of river basins

Vaigai and Periyar are the catchment areas of river basins, which have the place of origins of Varusanadhu hills and Western hills respectively in the district. Area of the basin within the district rivers' length has shown in the Table No: 25.

ii. Basin wise status of the ground water availability

Vaigai River basin had a total geographical area of 7031 Sq.Km. Area of the basin with in the district of 3913 Sq.Km. and annual ground water potential of 1579 MCM in Theni district. (Refer Table No:26).

iii. Availability water spread area

There have been 55 seasonal / rainfed tanks and 5 panchayats tanks maintained by Public Works Department in Theni district. There were no systems tanks available in the district. Available water spread area in the district details is given in Table No: 27.

iv. Details of dams and reservoirs

There are three rivers flowing to this district and three Dams are constructed in the district for the uses of irrigation purpose. The details of water spread area, designated capacity and extents of ayacut are given in the Table No: 28.

v. Irrigation by different sources

The total cropped area is 124144 hec and the percentage of irrigated area to cropped area is 10.17%. The gross area irrigated by canals, tanks and wells are 12110 hec, 24 hec and 486 hec respectively. The blockwise details are not available. The details on irrigated area by different sources are given in Table No: 29.

vi. Incidence of drought, flood and cyclone

There are 5 taluks and 8 blocks in the district. It has been ascertained from the available information that the district was affected by drought during the years 1985-88, and affected by Flood during the years 1992-94, and 1997-99. There was no cyclone in the district. The details on drought and flood are given in Table No: 30.

3.1.5 Fisheries production

Theni district has no coastal line. There has been inland fresh water area, spreading in 7395 hectares. The fish production has increased both in quantity (tonnes) and value (lakhs) from 1991 to 1996. The details are given in Table No: 31. Inland fish production is done in the district.

i. General fish seed production

The Fish seed production of standard fry fluctuates from 1991 to 1996 and the highest production was in the year 1994-95. The inland fish production has steadily increased between 1991 and 1996 period in the district. There has been no coastal fish production in Theni district. The

details on fish and fish seed production are given in Table No: 32.

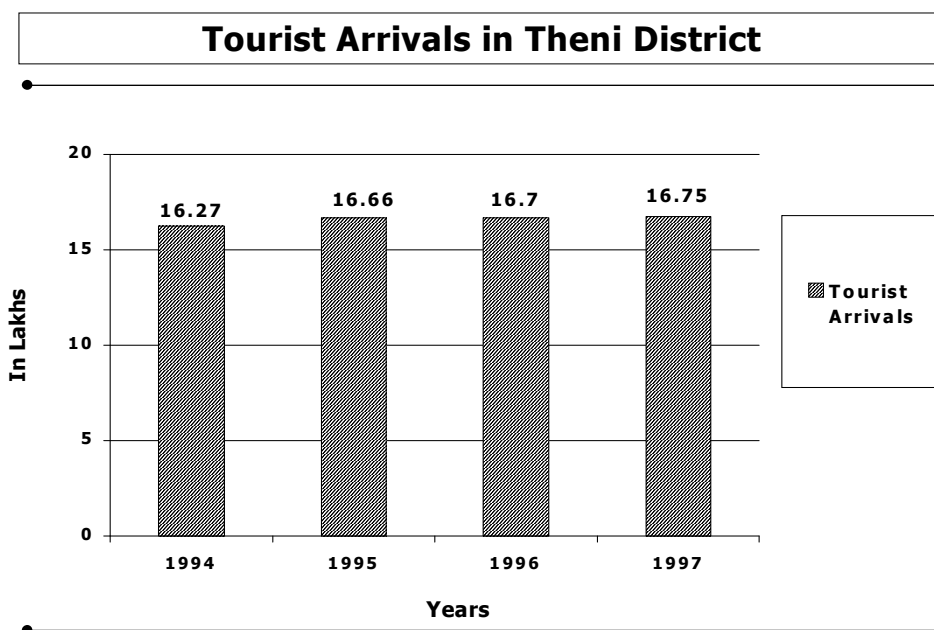
3.1.6 Heritage resources

i. Protected and conserved monuments

No protected and conserved monuments maintained by the ASI, State Archaeology Department and museums in Theni district (Refer Table No: 33).

ii. Places of tourist attraction

There are 3 tourist places located at 3 villages/towns in the historical/cultural/natural area. The special significance of the area is falls



and dam. Tourist arrivals both domestic and foreign have steadily increased from 1994 to 1997. These tourist spots are visited throughout the year and suruli falls is visited during April-May (Table No:34 & 35).

3.1.7 Energy resources

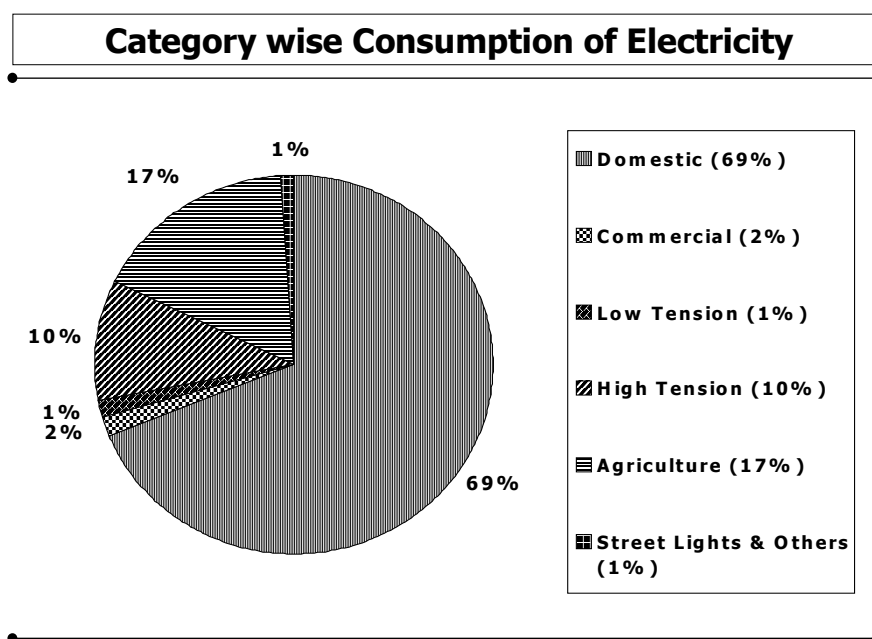
i. Installed power projects

There are three hydel power project with 181 MW capacity

installed and actual power generation of 494 MW in 1996 in Theni district (Refer Table No: 36).

ii. Consumption of electricity

There were 2.02 lakhs electrical connections with a total consumption of 8817.94 lakhs kW/h as on 1995-96. Domestic



consumption has the maximum consumers accounting for 69.01% of the total consumption, followed by agriculture consumption of 16.65%. The category wise consumption of electricity is given in Table No: 37.

iii. Electrification of villages

Theni district has achieved 100% electrification prior to 1986. All villages in the district are electrified. There are 22613 Pumpsets are energised in the year 1996 in Theni district. The details are given in Table No: 38.

iv. Non conventional & Renewable energy sources utilisation

Bio-gas and improved chullah are the methods of non-conventional

energy utilised in the district. Bio-gas is able to generate around 2.5% of their installed capacity of power and improved chullah is able to generate around 0.05%. The details are given in Table No: 39.

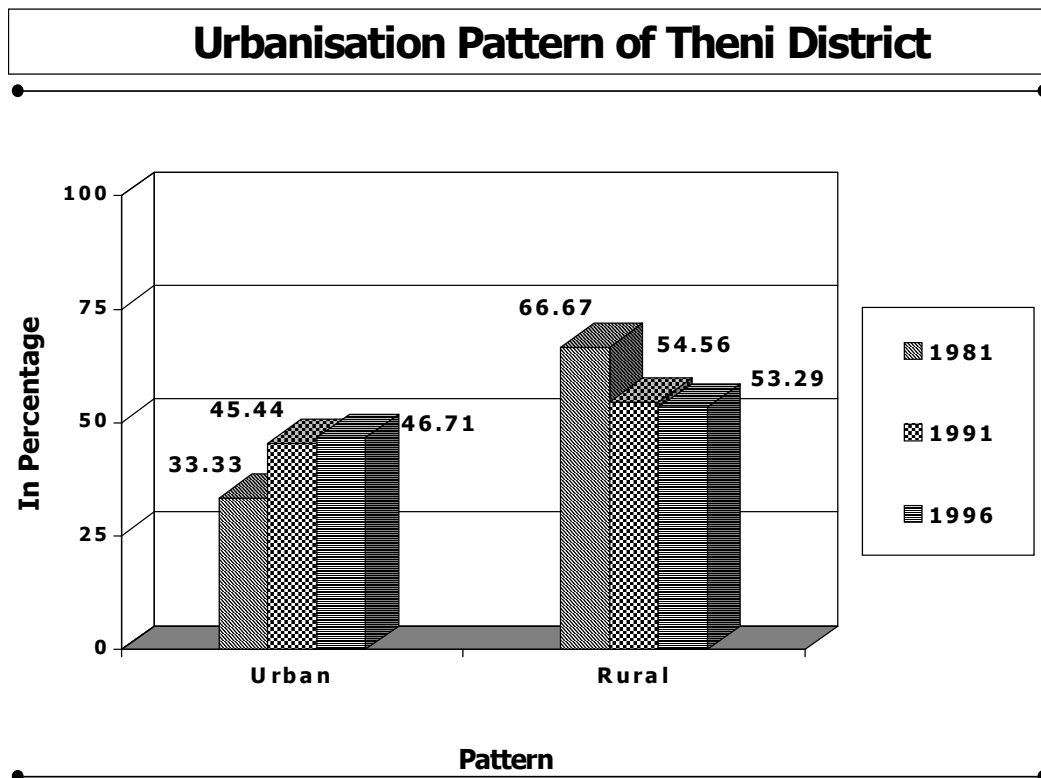
4

Infrastructure

4.1 Urbanisation

4.1.1 Urbanisation pattern

The proportion of urban population to total population has increased from 33.33% in 1981 to 46.71% in 1996. Among the urban areas, town panchayats account for a greater share of urban population

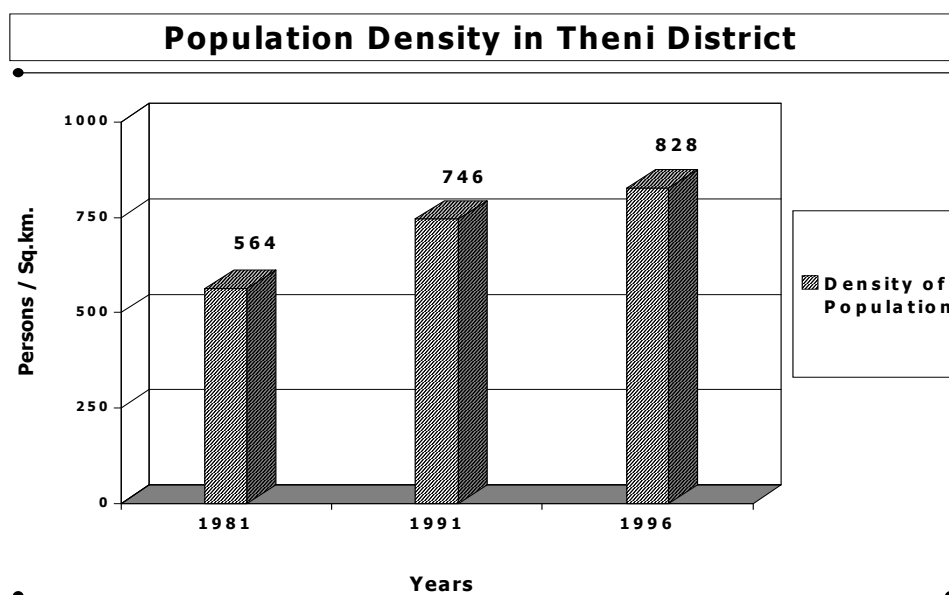


while compared to the other urban areas. The proportion of Rural Population to Total Population has decreased from 66.67% in 1981 to

53.29% in 1996. The urbanisation pattern of the district is given in Table No: 40.

4.1.2 Density of Population

The overall density of population has increased from 564 persons / sq.km in 1981 to 828 persons / sq.km in 1996. The density in urban area has decreased from 2268 persons/sq.km in 1981 to 1462 persons/sq.km. in 1996 and the density of rural area has also increased from 410 persons/sq.km in 1981 to 600 persons/sq.km in 1996. The details on density are given in Table No: 41.



4.1.3 Decadal Growth rate in urban centres

The population of the district has grown from 1.98 lakhs in 1961 to 6.37 lakhs in 1996. The decadal growth rate indicates that there is a considerable growth in Municipalities and Town panchayats of the district. Theni municipality has registered the maximum growth rate among the municipalities and Gudalur has the maximum growth rate among the town panchayats. The details of decadal growth rate are given

in Table No: 42. The decennial growth rate for both Urban and Rural population has steadily increased from 1961 to 1991 (Refer Table No: 43).

4.1.4 Urban slum population

There has been a steady increase in the percentage of slum population to total population from 1991 to 1996. Information on slum population for Municipalities and Town Panchayats are not available (Refer Table No:44).

4.1.5 Trend in urbanisation and slums

Information on identified slum population of the district is not available (Refer Table No:45).

4.2 Infrastructure services and environmental status

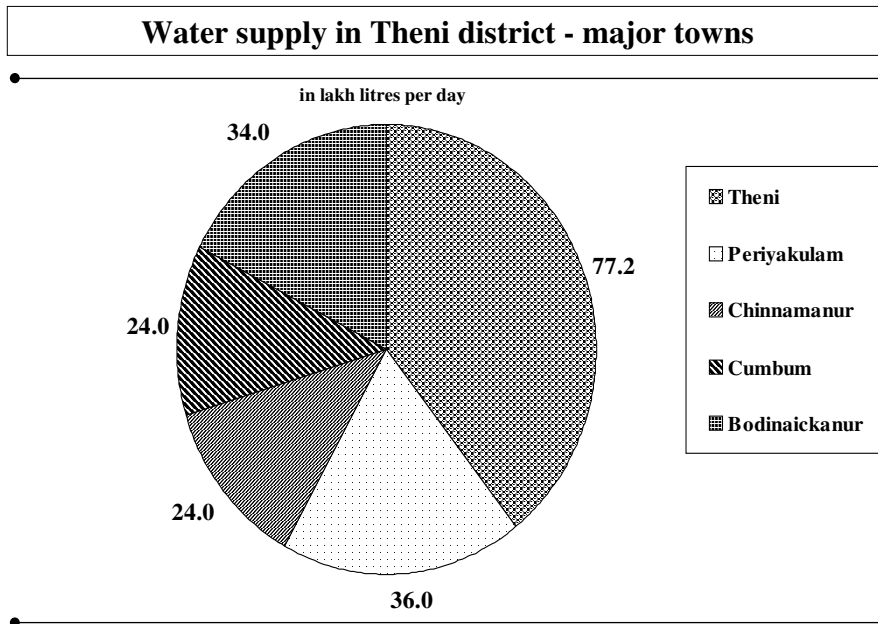
4.2.1 Occupied housing units

The total occupied housing units and rural were 2,98,295 and 4,50,320 respectively in the year 1991. Piped water supply in inside and outside of houses in urban areas was 1,40,155 and 1,58,140 respectively and in rural areas were 46,205 and 4,04,115 respectively in the year 1991. Nearly 1,28,740 of the 2,98,295 urban household and 4,16,370 of the 4,50,320 rural households lack toilet of any type within the houses, there by learning the majority of the population to depend on public conveniences or open air defecation (Refer Table No: 46).

4.2.2 Urban services

Designed capacity of protected water supply system for municipalities and town panchayats. The average water supply is around 87.91 lpcd for the district. Theni municipality has the highest consumption of 77.20 lakh litres per day, while the Periyakulam municipality and the Thevathanapatti town panchayat have 36 lakh litres per day respectively. Cumbum municipality has 40% of the maximum

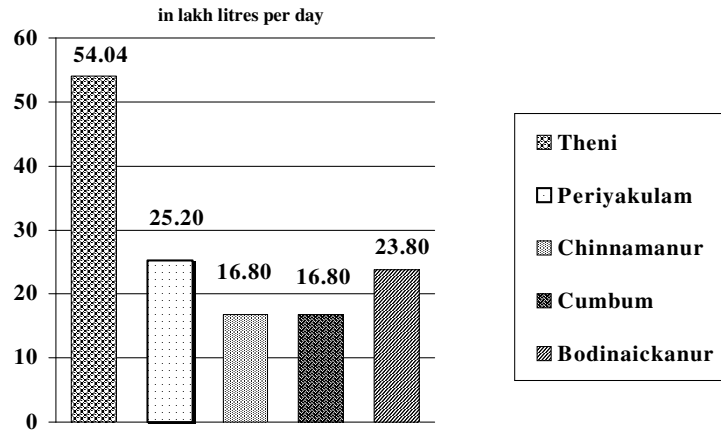
and the town panchayat of highway has 45% each at the maximum of percentages of population uncovered for water supply (Refer Table No:47).



4.2.3 Domestic waste water generation and treatment

The estimated sewage generation is 136.64 LLD among municipalities and 76.29 LLD among town panchayats. The district does not have any organised disposal of sewage. Nature of disposal and quantity through river is 112.84 LLD in municipalities and 17.43 LLD in town panchayats. Nature of disposal and quantity through land is 82.66 lakh litres in the district. The district has complete open drainage system (Refer Table No: 48).

Sewerage generation in Theni district - major towns



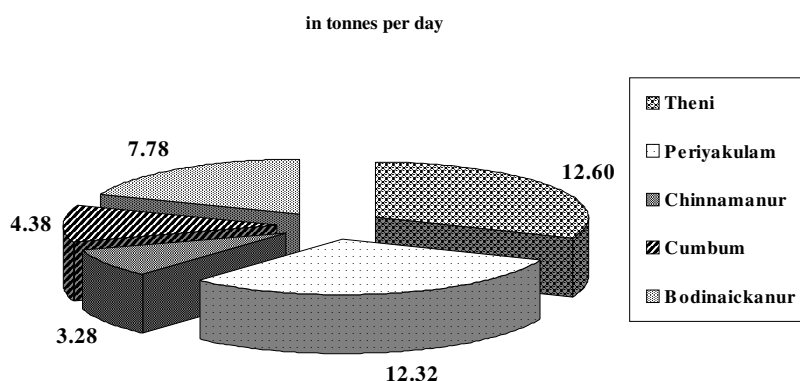
4.2.4 Municipal solid waste generation

The solid waste generation of municipalities and town panchayats of 40 towns and 46 towns respectively. The solid waste collection of municipalities and town panchayats are 34 towns and 37 towns respectively. Overall the solid waste generated addition up to 86 towns with collection efficiency of 82.11% with manpower of 572 on Solid Waste Management (Refer Table No:49).

4.2.5 Composition of solid waste

Computable matter covers 42% and other composition like wooden matter, rubber and leather and others cover 48% in Theni district (Refer Table No:50).

Solid waste generation in Theni district - major towns



4.2.6 Coverage of Problem Villages

There has been coverage of problem villages 183 before the year 1986. Balance number of problem villages was not available in Theni district (Refer Table No:51).

4.2.7 Reported cases of water borne diseases

Gastro-enteritis, Dysentery cases were reported in 1997-98. Besides 6 Cholera cases in 1997 and 563 Meningitis cases in 1998 were also reported. Deaths of gastro-enteritis were reported in the years 1997 and 1998. The details are given in Table No: 52.

4.2.8 Facilities under Indian system of medicines

Allopathy and Siddha are the most commonly practised system of medicine in the district and facilities like beds; registered practitioners are also available. There is in addition, one Homeopathy dispensary and one Homeopathy registered practitioner is also available in the district. The details are given in the Table No: 53.

The following table provides information on types of medical facilities available in the towns of this district including those of beds facility:

Name of town	Medical institutions	No. of Beds
1. Andipatti	Dispensary - 1	2
2. Bodinayakkanur	Hospital - 1	50
3. Chinnamanur	Health Centre - 1	6
4. Gudalur	Health Centre - 1	4
5. Kambam	Hospital - 1	55
6. Periyakumlam	Hospital - 1	-
	Dispensary - 1 & Others - 1	-
7. Theni Allinagaram	Hospitals - 2	172
	Dispensary - 5	-
8. Uttamapalaiyam	Hospital - 1	24

4.2.9 Population below poverty line

There has been no information available regarding the population below the poverty line in the district in 1996. But under there 87631 no. of Families poverty line in the district. (Refer Table No:54).

4.3 Transportation

The district is well served by roads and railways. Being linked with Madurai with metre gauge line of the southern railways, it is connected with all major towns and cities of India. Madurai is the nearest airport, from where Indian Airlines flights connect the town with Chennai and Bangalore taking one hour 20 minutes and one hour 15 minutes respectively. The district is enjoyed with comparatively good weather-conditioned roads.

4.3.1 Development of roads, bridges

No information is available for roads in the district. Over and above, there are 6 major bridges and 709 minor bridges and culverts in the district. Relevant information is provided in Table No:55.

4.3.2 Growth of vehicle population

There has been a significant increase of two, three and four wheeler vehicles in the district over the past 5 years. The total number of two, three and four wheelers in 1996 is 2275, 170 and 399 respectively. The details on the growth of vehicle population are given in Table No:56.

4.4 Industrial development and environmental status

Vermiculite used for manufacturing cement and paints are available in Cumbum valley area. Once famous for its agricultural products, it retains its agricultural tint of economy and remains backward industrial area. Industrial estates have come up with orientation for small scale and cottage industries. This clubbed with liberalised financing by nationalised banks and new entrepreneurial stimuli, a dimensional change in the district's economy is visible in the last decade. Handloom weaving is the major household industry in the district. Other important items of making toys and dolls, processing of food articles, manufacturing of safety matches and its allied articles etc are worth to mention. Core blankets are made Periyakulam taluk. Tribal women of this area generally use this. Wax printing is done at Periyakulam. This was prevalent on a large scale during olden time. This art is slowly declining due to mechanical printing.

4.4.1 Number of industries

There have been 3 Red Category, 4 Orange Category and 33 Green category industries are under large scale industries in the district, which are classified based on their polluting capacity by TNPCB (Refer Table No.57).

4.4.2 Emission Inventory of major industries

M/s. Rajashree Sugars & Chemicals India Limited has been identified with the highest emission level in terms of SPM ($204 \mu\text{g}/\text{m}^3$),

SO ($3.33 \mu\text{g}/\text{m}^3$), NO ($46 \mu\text{g}/\text{m}^3$) while the emission rates of CO and HC are not available from the authorities. However all the emission inventoried industries of the district are found to be having the emission rates well under the set standards (Refer Table No.58).

4.4.3 Air pollution stressed area

There are no areas identified so far by District Environmental Engineer in TNPCB. (Refer Table No: 59).

4.4.4 Ambient air quality status

Survey not conducted this district by the district environmental engineer in TNPCB. (Refer Table No: 60).

4.4.5 Water quality

The surface water sources are quite inadequate for both irrigation and drinking purposes, the ground water is heavily tapped by lift irrigation mostly by diesel/electrified pumpsets and borewells. But recharging those ground water sources are curtailed by frequent dry seasons and failure of monsoons, the water table is going down every year. The minimum and average depth of water table in this district is 5 metres in favourable localities adjoining river and canal system and abutting tanks, which the water table is going very deeper upto 50 to 60 Metre.

Under MINAR's scheme, TNPCB is monitoring the quality of water from a sampling station of Vaigai riverbed in Tirupuvanam waterworks at the outskirts of Madurai Corporation. Ph value of water is slightly exceeding the standard value. Disposal of sewage into the Vaigai River is identified to be the main reason to affect the quality of water. (Refer Table No. 61).

4.4.6 Wetland habitats, their use and problems

There have been 8 reservoirs spreading in 2871 ha where as through these tanks water-spreading area were about 4524 hec. The water use and problem identified are given in the Table No: 62.

4.4.7 Industrial sewage discharge in the coastal waters

There has been no industrial sewage discharge in the district (Refer table no 63.)

4.4.8 Noise levels

There have been survey not conducted in the district (Refer table no 64)

5

Environmental Institutions

5.1 Environmental education and research institutions

There has been one environmental education and research institution in the district name of horticultural research institute with activities undertaken of education and research. The details are given in Table No: 65.

5.2 Environmental NGOs

There have been eight NGOs dealing with environmental related issues in the district activities undertaken by the self employment for women, education, free eye camp, free legal aid, awareness training, fire, rain, cyclone, pollution control, wildlife, support rural and urban youth employment, women liberty, leadership and service activities, cultural, educational, health, economic and ecological and environment development & awareness etc., The details are given in Table No: 66.

6

Summary of Observations

On the basis of identified key environmental problems in the district, environmental improvement measures are suitably suggested. The key observations of the Environmental Profile of Theni district are briefed below:

Geographical details

The growth rate of population has been in an increase at about 3.23 per annum during the period of 1981-91.

It is encouraging to note that the female literacy rate has significantly increased in the past 15 years.

Land resources

Utilisation of land area for cultivation in Theni district is upto 40.33%. 2.60% of the land area remains as cultivable wasteland.

The total use of chemical fertilisers, and the total use of bio-fertilisers and urea have been given in metric tonnes.

Red loam soil (37.48%) is the main soil type in the district, followed by other soils (sandy soil) 36.59% and red sandy soil 14.53%.

1567 new constructions of wells and check dams are done in the district for irrigation purposes moreover, cropping area where soil conservation works are undertaken in the district is 84268 hec.

Forest reserves

The forest area in Theni district is about only 33.70%. Green cover classification of forest area extents in 80,686 ha in the district. The man made forest plantations have been restricted to the existing forest area in the district.

Tourism

There have been 3 tourist places in the district. Both domestic and foreign tourist arrivals have had steadily increased.

The inland fresh water area of the district is 7395 hectare. This shows that the district has high potential for inland fishing. However, the total fish production over the past four years in the district shows an increasing trend in quantity and value.

Urbanisation pattern

Urbanisation process in Theni district has been taking place at a higher rate.

There is an increase in urban slum population in Theni district for the past five years.

Transportation

There has been a significant growth of two, three and four wheeler vehicles in the district over the ten years. Thus resulting in an increased quantity of the emission of suspended air particles.

Environmental institutions

There has been one environmental education institutes in the district of Theni.

Environmental NGOs may be involved in protecting environmental of the district.

Participative planning for environment management, creation of a management information system, environment management training to officers of the stake-holding government departments would go a long way in the environment planning efforts of the **Directorate of Environment, Government of Tamilnadu** in fulfilling its corporate objectives.
