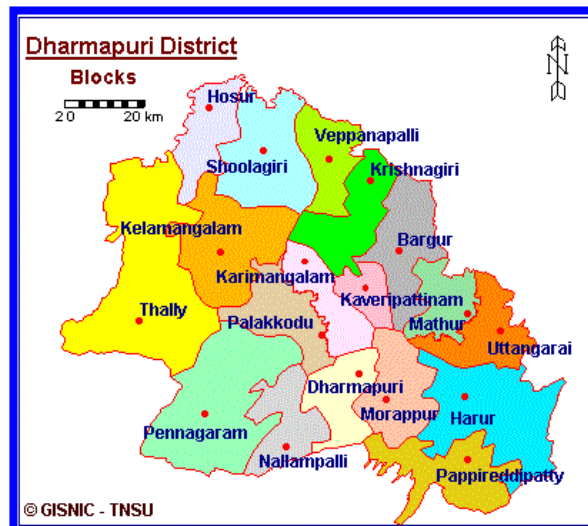
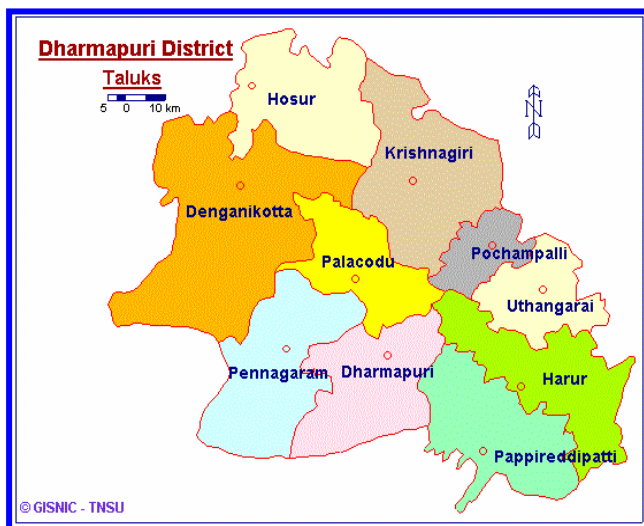


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Environment Profile for Dharmapuri District



Chapter
1

1.0 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 essential for sustainable development in all sectors. Effective resources management 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 indicate that the health of such systems are threatened by serious levels of

degradation. Though different Government Departments / Agencies are responsible for management of resources under their jurisdiction, information relating to the individual sector lie fragmented.

To manage the environment in a holistic manner and to develop an environment friendly sustainable development perspective, it becomes necessary to identify the gaps in the present management of resource bases. Such intervention would be realistic only if there is a strong database with data collected from the primary/secondary sources, compiled and presented in the form of district environment profiles. Thus the **AIMS Research (A Joint Venture of TCW/ICICI, IDBI and ICICI)** - the country's leading consultancy and research organisation has been engaged for the preparation of such a report. This reports will form the basis for developing **District level Environmental Management Plans** that 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 Environment Profile for Dharmapuri 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.

Chapter

2



2.0 Background

The district formed an integral part of the adjoining district of Salem till 2nd October 1965. Since the Salem district was very extensive and unwieldy with a total area of 18262.6 sq. kms. proper attention could not be bestowed towards the development of the northern parts of the district. Government, therefore, felt that a separate district should be formed with the northern parts of the Salem district so that the authorities could focus their attention to the intensive development of these areas and brings it on a par with other sister districts in this state. Dharmapuri district was organised on October 2, 1965. It constitutes the northern portion of the former composite district of Salem and was known as North Salem. The district is situated in the interior of the southern

Peninsula bounded on the east by the North Arcot and South Arcot districts, on the west by Bangalore and Mysore districts of Karnataka State, on the north by Karnataka State and the Chittoor district of Andhra Pradesh and on the south by Salem district. Krishnagiri, Harur and Dharmapuri. Total area of the district is 9607.65 sq. kms. The district headquarters is located at Dharmapuri.

Fairs and Festivals: Famous festival in Dharmapuri taluk is Adiperukku. It is celebrated for 3 days in the month of August. Koothapadi village conducts this famous event. Pongal is celebrated at Budihalli village. Angalamman festival, which lasts for two days in the month of February, is celebrated in Kaveripatnam.

Languages and Religion: The people hailing from this district speak different languages. The Palacode area consisting of Hosur and North Western portion of Krishnagiri taluk is a multilingual area where Kanarese, Telugu, Tamil and Hindustani speaking people are found. The predominant communities living in these areas are the Kapus, Lingayats, Okkaligas, Balija Chetties, Oddars, and Scheduled Castes of Holeyas and Madigas. The weavers in this area mostly belong to Sali Chetties. The Baramahal area comprising the eastern parts of Krishnagiri taluk, Hosur and Dharmapuri taluks has Telugu speaking communities and Tamil speaking communities who constitute the majority. The predominant communities living here are the Vanniars, Kongu Vellalas, Gollas, Telugu Chettiars, Okkaligas and Senaikudyars. The 'Malayali' tribal people are found in the Chitheri hill areas. The Adi-Dravidas and Arunthathiars form, the bulk of the Scheduled Castes and they are scattered throughout the district. Main languages spoken in the district are Tamil, Kannada, Telugu and Urdu.

2.1 History

The earliest known Chieftain who ruled Tagadur (present Dharmapuri) during the Sangam Era, is Adigaman Neduman Anji whose patronage sustained the famous poet Avvaiyyar. The next we hear is in the 8th century when the northern parts of Salem district were probably under the Pallavas regime. Subsequently, we hear of the Ganga Pallavas having way over the western parts of Salem district. The Western Gangas also are mentioned as having ruled baramahal area during the end of the 8th century. In the beginning of the 9th century, the Rashtrakutas rose to power and influenced the history of the district for the next two centuries. During the period, the Cholas also rose to power in the south and Aditya-I conquered the Kongunad in 894 AD. In the year 949-950 A.D., the Cholas suffered a defeat from the Rashtrakutas whose decline however started later after the death of their powerful king Krishna - III. The Chalukyas then came to power and seized large areas held by the Western Gangas. In 985 A.D. Raja Chola-I ascended the throne and he overran the Kingdoms of the Western Chalukyas, Nolambas, Coorg and the Eastern Chalukyas. During this time, the entire areas in Salem district came under the rule of the Cholas. It is said that Gangaadi was then annexed to the Chola territory and placed in charge of an Adigaman Tagadur. The 12th century witnessed the decline of the Chola Empire when the Hoysalas rose to power and routed the Cholas from Gangavadi. They are said to have captured Kolar, sacked Kotayur and overran the western parts of Kongunad. The Baramahal and Talagat areas apparently still remained with the Cholas. But the Adigamans seem to practically become free and owed only nominal allegiance to the Cholas.

The history of the 13th century resolves itself into dual between the Hoysalas and the

Pandyas. When the Yadavas, the retreated towards the south in Kongunad, drove them away from the North. It is stated that Jatavarman Soundara Pandyan-I helped to drive away the Hoysala King Vira Someswara out of the Chola territory. But it is doubtful whether he made himself master of the Talaghat area, as there are records to show that Vira Someswara's son Vira Ramanatha later ruled the whole of Salem district and the Pandyas were then eclipsed by the Moham-madan emissaries of the Delhi Sultanate.

The 14th century saw the rise of the Vijayanagar Kings. In 1365-66 A.D. Bukka-I turned his attention towards the south to overthrow the Mohammedan Sultanate of Madurai. One of these campaigns must have brought Salem district under the Vijayanagar Kings. They ruled these parts till 1565 A.D., when the glory of the Vijayanagar Kings was laid in dust by the combined armies of the Deccan Sultans on the field at Talikota. Hosur, Denkanikottai and Salem become capitals of princelings, while Jagadeva Raya of Chennapatna ruled the Baramahal along with Mysore. Meanwhile, the ascendancy of the Madurai nayaks reached its zenith during the time of Tirumala Nayak who came to power in 1623 A.D. and this tract was placed in charge of Poligars owing allegiance to him. Ramachandra Nayaka, one of his Poligars was in charge of Talaimalai, a hill overlooking the Cauvery in the south Namakkal taluk. The Namakkal fort is said to have been built by them. The Gatti Mudaliars were in charge of the most dangerously exposed province of the Nayak Kingdom with Kaveripuram on the right bank of the Cauvery as their strategic capital commencing one of the principal passes to the Mysore Plateau. The centre of their power seems, however, to have been Taramangalam where they have built a grant edifice of a temple. It is said their domination extended as far as Talaivasal to the east, Dharapuram in Erode district in the west and Karur district in the south. The forts of greatest strategic importance held by the Gatti Mudaliars were Omalur and Attur. By about 1635 A.D., the Muslim Sultans of Bijapur and Golkonda made inroads into the south when the power of Tirumalai Nayak had wanted palacode area came under Bijapur. Meanwhile Kantirava narasa Raja of Serangapatnam took several places in Coimbatore from Gatti Mudaliars in 1641 A.D. Eleven years later he seized baramahal including Virabhadradurg, Pennagaram, Dharmapuri and Denkanikottai. In 1654 A.D. he took over Hosur from Chandra, Sankar. Dodda Devaraja the Mysore King wrested Omalur from the Gatti Mudaliars and thus erased them out of the political scene. The aggression of Marattas, however, checked the power of the Mysore Kings. For a time baramahal and Talaghat passed under the Maratta hands. In 1688-89 A.D. Chikka Deva Raya of Mysore felt strong enough once again to invade baramahal and wrested Dharmapuri, Manukonda, and Omalur and paramathi. Chikka Devaraya also retrieved Kaveripatnam and Attur; the whole Salem district was in his hands before he died in 1704 A.D. Meanwhile Adul Nabi Khan, nawab of Cuddapah, extended his possession southwards and by 1714 A.D. he had made himself master of the Baramahal. By about 1750 A.D., Haider Ali was in Power in Mysore. Baramahal came under his sway in 1760 A.D. By 1767 A.D., the British Government at Chennai planned an attack on Haider Ali and seized kaveripatnam without serious opposition. Krishnagiri was then besieged. Meanwhile reinforcements came from Haider Ali and they drove away the British. Kaveripatnam was recaptured. Some months later the British planned another invasion of the baramahal. They took several places including Hosur. Further south Dharmapuri, Salem, Attur, Sendamangalam and Namakkal surrendered to the British without a blow. The victory, however, was short

lived because Haider soon recovered Dharmapuri, Denkanikottai, Omalur, Salem, and Salem district was in the hands of Haider.

Tippu succeeded Haider and proved to be a formidable power. In order to curb Tippu's power the English formed an alliance with the Marthas and the Nizam and started the third Mysore war in 1790 A.D. A wing of the British forces stationed itself fully reinforced at Kaveripatnam. Tippu rushed up to this place with full force but could not dislodge the British. A number of alterations took place between the contending forces in the Baramahal area. In 1791, the British took Hosur, Annett, Nilagiri and Rathnagiri. Royakotta also fell to the British soon and eventually many other small forts fell without much of resistance. In October 1791, Tippu sent a force from the south along the Toppur pass. The British force met this contingent at Pennagaram and forced surrender. In March 1792 A.D., a peace treaty was signed between Tippu and the English. A half of the dominion of Tippu was taken away from him. The whole of Salem district, except the Balaghat and a portion of Hosur came into the hands of the British. The first British Collector had his headquarters at Krishnagiri on strategic consideration. The last Mysore war in 1799 added up several places in Hosur taluk like Nilagiri, Ametti Durgam, Rathnagiri and Kalamangalam, which were recaptured to the British possession. After the fall of Srirangapatnam in which Tippu lost his life, the Palacode area was also added to Salem district. The present Dharmapuri district was then the part of Salem district. They completed the British conquest of the tract. The British of their victory over Tippu had control over this area since 1792 A.D. During the British rule in the country and even till the year 1947 there was no separate district, except Dharmapuri as one of the taluks of Salem district. It actually became a separate district in the year, 1965 as its headquarters at Dharmapuri itself.

2.2 Geographical Location of the District

Based on its historical background the district can be divided into three natural tracts such as Balaghat, the Baramahal and the Talaghat. The Balaghat comprises of Hosur taluk and the northwestern portion of Krishnagiri taluk. The average elevation of this area is about 3000 feet above the sea level, which dips towards Cauvery in the southwest. The Baramahal consists of an extensive basin with an elevation of 1300'. It consists of the entire taluk of Dharmapuri, greater part of Krishnagiri and Hosur taluks. The remaining southern portions are called Talaghat. The remaining district has vast expanse of hilly and rocky areas with undulating plains.

Dharmapuri district was carved out of Salem with the four northern taluks of Hosur, Krishnagiri, Harur and Dharmapuri. Dharmapuri District is bounded by Karnataka State and Andhra Pradesh State in the North, Karnataka State in the West, Salem District in the South and Vellore District and Tiruvannamalai District in the East. The District lies between $12^{\circ} 95'$ and $11^{\circ} 90'$ north latitude and $77^{\circ} 50'$ and $78^{\circ} 80'$ east longitude. The general geographical information of the district is simple and flatted as well as hill area. Chinnar River, Kesari Kudahalli River, Thoppar River and Nagavathi River are flowing in the district which are dry during the summer season. Dharmapuri District consists of Ten Taluks, namely 1.Harur, 2.Hosur, 3.Palacode, 4.Pennagaram, 5.Dharmapuri, 6.Krishnagiri, 7.Denkanikottai, 8.Uthangarai, 9.Pappireddypatti and 10.Pochampalli. The total geographical area of the district is 9607.65 sq.km. The Dharmapuri District is

divided into 18 Blocks. The details of the name of the taluks and area has been shown in the following Table:

S. No.	Name of Taluks	Area in Sq.Km.
1	Harur	1483.41
2	Hosur	1018.17
3	Palacode	773.26
4	Pennagaram	679.41
5	Dharmapuri	1188.04
6	Krishnagiri	1022.81
7	Denkanikottai	2049.15
8	Uthangarai	682.24
9	Pappireddypatti	231.88
10	Pochampalli	479.28
District Total		9607.65

2.3 Administrative Arrangement in the District

Dharmapuri District comprises 10 Taluks, 18 Blocks and 1106 Villages. As regards the hierarchy of administrative arrangement, there are 3 Municipalities, 17 Taluk Panchayats and 588 Village Panchayats in the District. The details regarding the number of blocks, villages, village panchayats, town panchayats and municipalities with regard to each taluk are given in Table No:1.

2.4 Meteorological Information

The Hosur plateau and Chetteris with great elevation occupy almost the entire forest areas of Palacode and Harur ranges respectively and provide cool and pleasant climate for nine months of the year.

During the 3 months from middle of March to middle of June, when the Southwest Monsoon sets in, the weather becomes markedly warmer. But even on the hottest day the temperature seldom reaches beyond 37.10°C. In the cold season i.e. during December - January the minimum temperature is often below 18°C whereas the maximum rarely exceeds 31°C.

The Southwest portion of the district comprising mostly of Dharmapuri range falls in Cauvery valley. Here the altitude drops down to below 300 meters and the climate becomes oppressively hot in summer when temperature shoots up to 37.10°C.

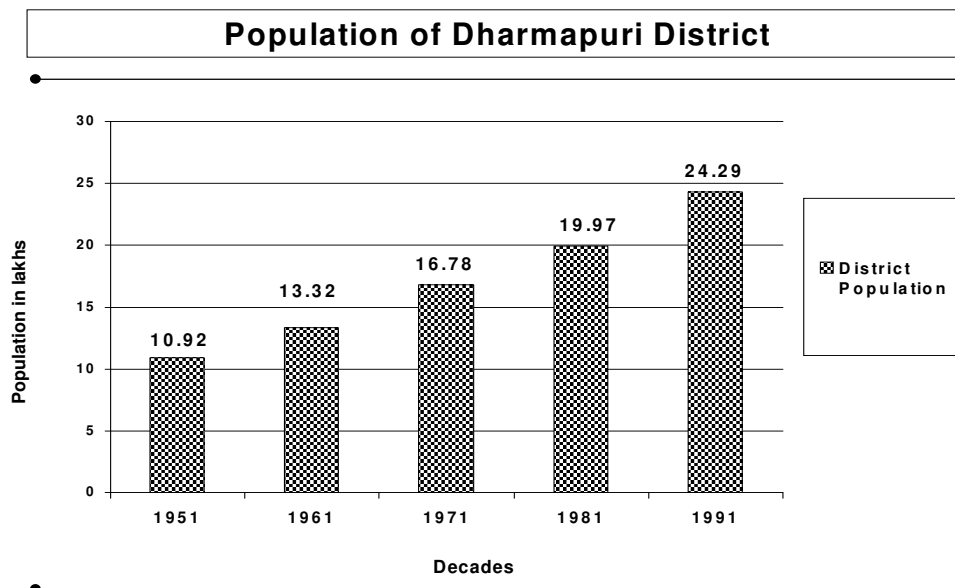
The monthly distribution of rainfall shows a pronounced maximum in October with a secondary maximum in September. Rain first comes usually in the form of thundershowers in the latter half of April and followed by heavy falls in May. The average number of rainy days, mean maximum temperature, mean minimum temperature and mean relative humidity for the period 90-96 are in Table 2.

2.5 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 and 5.

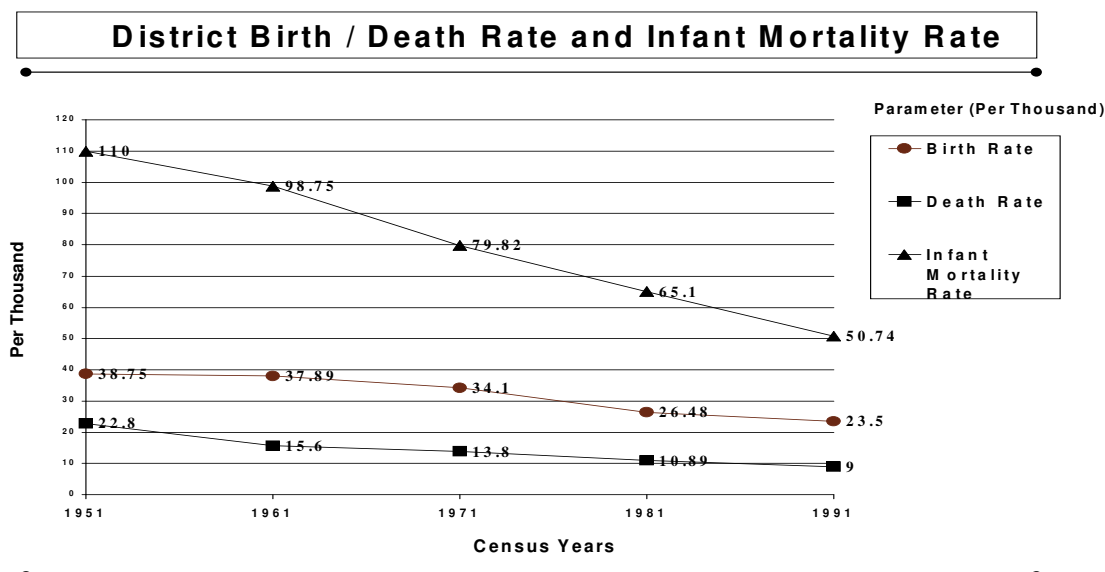
2.5.1 Population

The population of Dharmapuri District has grown from 16,77,775 in 1971 to 24,28,596 in 1991. The growth rate indicates that there has been a significant increase during the 1981-91 decade with the average growth rate being 2.16 % per annum during this decade. According to the 1991 census of Krishnagiri taluk is the most thickly populated and Pennagaram 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.



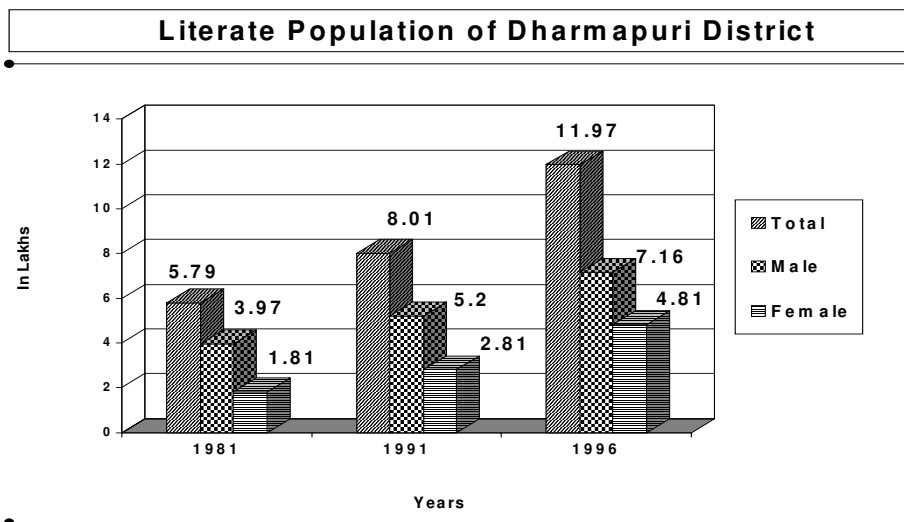
2.5.2 Trend in Birth/Death Rate and Infant Mortality Rate

Birth rate, Death rate and Infant Mortality rate have been reduced significantly from 38.75 in 1951 to 23.50 in 1991, 22.80 in 1951 to 9 in 1991, 110 in 1951 to 50.74 in 1991.



2.5.3 Literacy Level among the Population

The literacy level of Dharmapuri district according to figures available for the year 1996 is 45.57% with male literacy level being more than the female literacy level. It is also observed while the male literacy level has grown steadily from 32.97% in 1981 to 52.80% in 1996, there has been a significant increase of female literacy level from 18.60% in 1981 to 37.85% in 1996. The information on literacy level of the district is given in Table No:5.



Education

The Following University and Colleges are functioning in this district. They are Adhiyaman College of Engg. Hosur, Sri Padmavathi College of Nursing, Dharmapuri. Sri Padmavathi College of Physiotherapy, Dharmapuri. Sri Padmavathi College of Pharmacy, Dharmapuri. Govt. Arts College, Dharmapuri. Govt. Arts College, Krishnagiri, Dharmapuri. MGR-College, Hosur, Dharmapuri. Bishop Thorp College, Dharmapuri.





Chapter
3

3.0 Resources – Availability, Use and Environmental Status

3.1 Land Resources

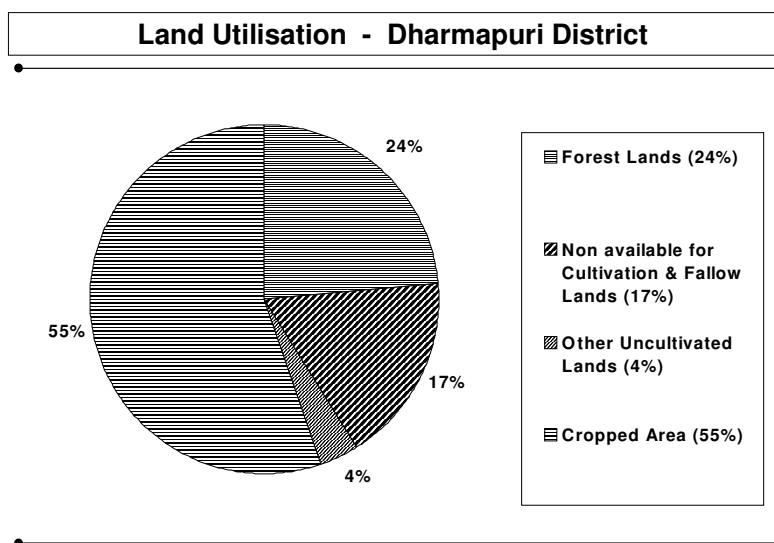
Resources of the district, their availability, use and environmental status is discussed in the following chapters.

3.1.1 Agriculture and Horticulture

Cauvery and South Pennar are the two major rivers flowing through the district. The Cauvery though perennial flows on the northwestern portion of the district for a total distance of 67 kms. without directly irrigating any land in the district. The seasonal rivers in the district which remain dry for most of the period are (1) Chinnar, (2) Vanniar, (3) Thoppiar, (4) Palar, (5) Kallar, (6) Varathiyar and (7) Pambar. Only 16 per cent of the net sown area are irrigated in the district as against the average of 43.2 percent of the state. The backwardness of the district in agriculture is primarily due to the relative inadequacy of its facilities and potential. Even with the execution of further irrigation schemes, only about 25 percent more of the cultivated area can be expected to be brought under irrigation.

i. Land Utilisation

The total geographical area of the district was 9607.65 sq.km. in 1995-96. Cropped area accounts for about 55.24% of the total area. Forestlands cover about 23.62% of the total land. A significant portion (17.42%) of the land falls under the category of 'non available for cultivation' and 'fallow lands'. About 3.72% fall under the category of uncultivated land. The land utilisation pattern in Dharmapuri District (Block-wise) is given in Table No:6.



ii. Trend in Production and Productivity of Important Crops

Paddy and Millets are observed to be the two important crops produced in the district. The productivity pattern indicates that the productivity of Pulses and Millets have fluctuations over 15 years and 5 years respectively. Another significant feature is the increase in the area under production for Pulses and Millets in the years 95-96. The details on the productivity performance in relation to Pulses and Millets for the past 15 years are in Table 7.

iii. Horticultural and Plantation Crops

Mangoes are grown in 10,631 hectares, bananas in 2170 hectares, grapes in 261 hectares and tamarind in more than 1,358 hectares. The mulberry cultivation has taken a lead and more than 3200 hectares are under mulberry cultivation. The cultivable acreage is considerably increasing under cotton, mango, tamarind, coconut, mulberry etc. Thus, there is vast scope for setting up of fruit processing, cotton and silk-based industries.

There were Fruit Crops with a yield of 2,11,470 tonnes, Vegetables Crops of 74,760 tonnes and Plantation Crops of 11,25,040 tonnes cultivated in 31,919 ha., 16518 ha. and 1,34,23 ha. respectively in the years 1996-97. The details pertaining the crops are given in Table No:8.

iv. Consumption of Fertilisers and Pesticides

About 34988 metric tonnes of Chemical Fertilisers were used in 1995-96, out of which more than 50% constitutes the Nitrogenous fertilisers. There has also been an intensive use of Pesticides in the district, followed by Bio-Fertilisers in 1995-96. Moreover, 25,092 tonnes of Urea were used in the district. The details on the total of consumption with Block wise details of Chemical Fertilisers, Urea, Bio-Fertilisers and Dust & Liquid Pesticides are given in Table 9.

v. Trend in consumption of Fertilisers and Pesticides

The usage of Dust and Liquid Pesticides has had fluctuations from 1980-81 to 1995-96. 34,988 tonnes of Chemical Fertilisers and 3,31,258 pockets bio-Fertilisers were used in the years 1995-96. The increase in percentage of Dust Pesticide is 3.57 and the decrease in percentage of the Liquid Pesticide is 3.85. The details with regard to the trends in the consumption of fertilisers and pesticides over the past 15 years are given in Table No:10.

vi. Soil Types

Yellow red to red, Loam sand are the predominant Soil type in this district accounting for 62.19% followed by Dark brown reddish brown sandy clay loam of 17.65%. The details of other types of soils are given in Table No:11.

vii. Soil Problems

Different types of soil such as black or mixed loam red ferruginous and gravel are found in the district. The black or regar loam is very fertile due to its moisture absorbing character. The red ferruginous soil is equal to loam for plant growth. Red and sandy soil is seen in Hosur and Harur taluks. Considerable stretches of good loam and black soil are found both in Dharmapuri and Krishnagiri taluks. In general, the

soil in the district is quite deep, loose and friable with its colour varying from red to dark reddish brown. The soil has low nitrogen and phosphate content, with no marked variations as between the different taluks. About 3312 ha. of the land available for Cultivation suffer from Salinity/Alkalinity. The details in this regard are given in Table No:12.

viii. Status of Soil and Water Conservation Programs

Construction of New wells for irrigation, Check dams / stop dams and Soil conservation works of cropping area were done in every block of the district. Harur block was at the maximum of 5 new wells for irrigation and 5 check dams / stop dams. Soil conservation works for cropping area were undertaken for soil and water conservation programmes in the district are given in Table No:13.

ix Animal Husbandry

The district has a poor livestock population. The livestock and poultry population accounts for 5.9 percent and 4.6 percent respectively to the states total livestock population. According to the latest census, the livestock poultry and sheep population of the district numbered 13,84,810; 591435 and 3,63,464 respectively.

Dairy: As the Tamil Nadu Dairy Development Corporation is established a milk powder plant in 1983 and also a chilling plant (in addition to the chilling plant already established) at Krishnagiri, entailing an increased target for procurement of supply of milk from about 40,000 litres per day to 1,00,000 litres per day, more care can be given to a time-bound Calf Rearing programme in the district. The partial failure of this programme under DPAP scheme in the past could be attributed to the failure to supply adequate cattle feed which can support the programme more effectively. Suitable steps should henceforth be taken to expand production of cattle feed effectively support a Calf-Rearing Programme.

Poultry: There has been no concrete attempt in developing poultry in this district as an allied activity to agriculture. However, the potential for establishing poultry units in certain selected blocks is high. For framing an effective plan for poultry development on a significant scale, Government will have to provide the necessary infrastructural facilities. A well-established poultry farm has taken an initiative in the large-scale sector to set-up a hatchery unit (for layers and broilers) at Kelamangalam. With the availability of high quality chicken from this farm, poultry activities can be significantly increased in the district, provided enough encouragement is given to entrepreneurs willing to take to this activity.

Sheep: Sheep rearing has been one of the ventures, which have been very successful in this district. A further fillip to the scheme of sheep rearing is possible, only if the Government establishes veterinary facilities on a larger scale.

3.1.2 Forest Resources

In Tamil Nadu, Dharmapuri is the only district, which satisfies the optimality for the forest area, with 23.62 per cent of its geographical area under forests. The district accounts for 14.3 per cent of the total forest area of the state and thus offers large

scope for planning and implementing schemes like social forestry programmes for a fuller development of the forest potential. Two forest divisions, one at Dharmapuri and the other at Hosur administer the entire forest area in the district. The area under forest in the district is 3.17 lakh hectares or 23.62 percent of the total area of the district as already said above. The forest produce is mainly sent out of the district with a minimum processing, because the necessary industries do not exist in Dharmapuri, Krishnagiri or any other taluk headquarters. Forest based industries constitute a major segment of their economic structure.

i. Forest Area

There are 280 forest areas in Dharmapuri District constituting a total area of 3,14,730.82 (3147.30 Sq.Km) hectares. 198 areas fall under the Reserve Forest category with 2,98,274.75 (2982.74 Sq.Km) hectares and 82 under Reserve Land category with 16,456.07 (164.56 Sq.Km) Ha. The details regarding the classification of forest area with their extent are given in Table No:14a..

ii. Green cover Classification of Forest

Total area of forest under green cover classification is 363786 Ha. in this district. Dense and Sparse forests are 1,24,143 Ha. and 113449 Ha. respectively. Degraded forest area in this district is 10222 Ha. The details are given in Table: 14b.

Details of forest types are available for Dharmapuri Forest Division. The southern tropical dry mixed deciduous forest extent is 48,640.96 ha., which is 29.39% of the total area of forest. The minimum of 0.82% is tropical dry ever green Shola forest with extent of 1,350 Ha.. and other areas about 14.36% of the total. Details are in Table No.15.

iii. Trend in Per Capita Forest Area

The Per capita forest area has shown a continuously decreasing trend from 1951 to 1996. The details are given in Table No:16.

iv. Man Made Forest Plantations

The Man Made Forest Plantations have been restricted to the existing forest areas in Dharmapuri district. About 10,473 Ha. of Man Made Forest Area are available in the district.. Necessary details are in Table No:17.

v. Trends in Production of Forest Produce

No information was available for trends in the production of forest produce in Dharmapuri district except minor reserve forest produce and sandalwood in the year 95 (Refer Table 18).

vi. Details of Villages Abutting Forest Area

The details regarding the villages abutting the forest area and their Population are not available in the district. [Refer Table No:19].

vii. Tribal Villages

There are seven Revenue Villages and 39 Tribal Hamlets in Dharmapuri District. The highest Population in Harur was 26388 and the lowest population in Hosur Taluk was 1209 in 1995-96. The total area of tribal villages / hamlets in the district is 1851 hectares in 1995-96. The details are given in the Table No:20.

viii. Forestry Area Diverted for Non Forestry Purposes

There is no forest area diverted for non-forestry purposes in this district (Refer Table 21).

ix. Conservation of Biological Resources, Wild life Census, Rare/Threatened Species of Flora and Fauna

Sandal and bamboo, the two economically most valuable species are found extensively in this forest. *Dendrocalamus strictus* by far the commonest of the two species is found in the higher hill slopes-whereas *Bambusa* confines itself to stream banks and the lower reaches in the valley. Tamarind an economically valuable species is found mostly on the foothills and occurs only thinly scattered in the higher slopes.

Bamboo's *Dendrocalamus strictus*, *Bambusa* bamboo's are the floras available in the forest of this district.

Shrubs: *Dodonaea viscosa*, *Lantana* species, *Acalypha fruticosa*, *Randia dumetorum*, *Pavetta indica*, *Carissa carandas*, *Carissa opaca*, *Mundulea suberosa*. *Solanum torvum*, *Fluggea leucopyrus*, *Webera corymbosa*, *Jasminum rigidum*, *Helicteres isora*, *Gmelina asiatica*.

Herbs: *Cassia tora*, *Sida acuta*, *Mimosa pudica*, *Crotalaria* species, *Desmodium* species, *Phyllanthus* species, *Indigofera* species, *Euphorbia* species.

Grass: *Aristida depressa*, *Aplode mutica*, *Eragrostis* species and other grasses.

Climbers: *Acacia connicina*, *Acacia pennata*, *Pterolobium indicum*, *Zizyphus oenoplia*, *Toddalia asiatica*, *Abrus precatorius*, *Ichnocarpus frutescens*, *Derris scandens*, *Asparagus racemosus*, *Ventilago maderaspatana*, *Capparis sepiaris*, *Dioscorea oppositifolia*, *Cassia spinosa*. Epiphytes such as species of *Loranthus*, *Viscum* and *Elytranthe* are quite common. Orchids are uncommon, except for occasional species like *Vanda tessellata*. Herbs and grass Herbs are very scanty. Grasses of *Heteropogon contortus* and *Aristida* species are found here and there.

The following are the most important amongst the species of wild life found in the District.

The bird life of the division is varied and colourful eventhough it is represented in small numbers. The reasons for the decline in the number and variety of wild life in the division are due to the civilisation.

Elephant (*Elephas maximus*):- Elephant, the most important wild life found in the division, inhabits the forest fringing the western boundary of the division down to Hogenakal. It is found to frequent the most part of the forests overlooking the Chinnar and its perennial tributaries, which cater to its needs for plenty of water and fodder. A concentration of these animals can be seen round about Hogenakal in summer due to the drying up of water sources in the rest of its habitat. Wild life census in Dharmapuri district indicates that 416 elephants are protected in the district.

Panther (*Panthera pardus*). – It has become indeed rare, confined to pockets of areas here and there in Theethamalai and Chitteri hills.

Gaur (*Bos gaurus*).-A few herds are reported to occur in the Chitteri hills.

Sloth bear (*Melursus ursinus*). – This species is found to a limited extent in the division through chitteri and Theethamalai hills on the south-east and Marandahalli hill, and Hudedurgam forests on the north-west are believed to harbour a greater proportion of them.

Deer (*Cervilate*): - The four species of deer met with in the division are: -

- Samhur (*Cervus unicolor*)
- Spotted deer (*Axis axis*)
- Barking deer or jungle sheep (*Nuntiscus muntjak*)
- Mouse deer (*Tragulus maminna*)

Of these, the common is the spotted deer enjoying widest habitat covering the entire division. On the other hand sambhur which requires heavier cover is confined to thicker jungles of Harur, Morappur and Dharmapuri ranges.

Other animals – Other species of mammalian fauna found in the forests of the division include Indian Percupine (*Hystrix indica*), Leopard cat (*Felis bengalensis*), Jungle cat (*Felis chans*), Wild dog (*Cuon alpinus*), Jackal (*Canis aureus*), the stripped hyena (*Hyaena hysena*), the common mongoose (*Rerpeates edwardsi*), the malabar squirrel, the small Indian civet (*Viverricula indica*), the blacknaped hare (*Lepus nigricollis*)

The commonly found monkey is the bonnet macaque (*Macaca radista*), the common langur (*Proshytis entellus*) being met with not so commonly in the division. The black buck and the wolf reported to have been found in the division.

Reptiles - The more prominent amongst the reptiles on land found in the division are Python inhabiting most well wooded localities monitor lizard (*Varanus monitar*) found all over the division. The rest of their ptyalin fauna of the division includes the Cobra (*Naja tripudians*) Russels viper (*Vipera russelli*), Krait, whip snake, rat snake and the garden lizard.

Aquatic animals - Macrones, Wallage, Pangassius, Opeccophius are the various species of fish found in the river Cauvery to name only a few. The common Otter (*Lutna butna*) and Crocodile (*Crocodilus palaustris*) occur in the Cauvery. The eggs of Crocodile are collected on the banks of Cauvery near Mamarathumaduvu, Rasimanal and Kavallimaduvu up the river from Hogenakal every year and they are reared in the Crocodile farm at Hogenakal.

Crocodile (Mugger) is only prominent species protected in the district. A Crocodile farm was started during 1976 at Hogenakal under wild life division and since then it is serving as a hatchery. One Crocodile Rehabilitation centre was established in Hogenekkal 170 individuals reared and a mini zoo. This is having nine spotted deer, three Jackals, some birds (Painted stork phefowl, municada) and pythons. One Biodiversity park and a Children park maintained by Department of Forest at Hogenakkal. Generally the eggs of crocodile were collected from Cauvery banks for this purpose. Necessary information is furnished in Table No: 22, 23 & 24.

3.1.3 Mineral Resources

The important minerals available in the district are crystalline limestone, Kankar, Vermiculite and Magnetise quartz, Dolerite dyker, known as black granite and syrite, are reported to be available in Krishnagiri, Harur and Hosur taluks. It can as well extend its area of operation to other minerals. There is good demand for polished granite stones in foreign countries, particularly Japan. Government of Tamilnadu has taken over this industry and a state owned Corporation viz., **TAMIN (Tamilnadu Minerals Limited)** is engaged in quarrying, polishing and exporting granite stones to other countries. TAMIN was organised in the year 1978 with the idea of exploring the ores in the entire area of land in TN in finding out the mineral wealth of the state and promote the export activities by eliminating the unemployment problems. Accordingly its activities were extended to this district. The mining activities of TAMIN at the outset commenced with operation of the quarries the following:

1. Ajjanahalli/Pennagaram taluk.
2. Bevanur/Pennagaram taluk.
3. Jamnahalli/Pennagaram taluk.
4. Donnakuttahalli/Pennagaram taluk.
5. Gopinathampatti/Harur taluk.
6. Badrahalli/Pennagaram taluk.
7. Chendarapalli/Krishnagiri taluk.
8. Sulamalai/Krishnagiri taluk.

The following major minerals are located in Dharmapuri district:

i. Appetite

The appetite is located in Reddipatti (near Samalpatti) and in Uttamalai (near Hogenekkal). The apatite found in Reddipatti is very small occurrence, associated with carbonate body. Since the occurrence is very small, it is considered to be of insignificant economic value. Two apatite bands are located in Uttamalai near Hogenekkal. The first band is traced out for a length of 3 kms. from the hill NNW of Uttamalai up to 1 km. east of 744. The second apatite band is traced out for a distance of 14 kms. from the hill NNE of Uttamalai to about 1.5 kms. south of Kempakarai. The total inferred reserves of apatite analysing 36 per cent P₂O₅ are about 50000 tonnes based on the assumption that apatite makes 2 to 5 percent of carbonate rocks for a depth of 30 Mts. The size of the appetite in this area ranges from 0.1 mm. to 3.7 mm. The large crystals of apatite found in the pure calcite veins.

ii. Copper Ore

In Bairanayakkanpatti of Harur taluk, the copper ore is found. The detailed prospecting work did not reveal any ore body. Investigations were carried out for any workable occurrences of copper ore, associated with dunties, syenites and carbonates around Onnakkarai and Samalpatti. The content of the copper is less than 0.1 per cent in and around Onnakkarai and has no economic value.

iii. Corundum

The occurrence of corundum is widely distributed in Papparapatti and Palacode villages of Dharmapuri taluk. The important occurrences of corundum are given below :

1. Varathapallam - about 2 miles, South West of Papparapatti.

2. Tambaram hill and surroundings.
3. Around Kalavur hamlet on top of the Papparapatti hill.
4. The area around Tirumalavadi.
5. Erraguthamalai and
6. Around Palacode.

The corundum in this area has been mined for a long time back and the mineral was almost completely removed. It is reported, that about two tonnes of corundum was collected from the cultivated lands in and around Papparapatti and Palacode. Since the corundum available in the surface was already mined, the present availability of the corundum is very limited and widely scattered.

iv. Gold

Indications for gold occurrences were noticed in Narapalli R.F. near Maharajagadai of Krishnagiri taluk. The rock and soil samples were collected to find out the percent of gold value in the samples. Surface rock sample, gave the gold value ranging upto 7.0 g/t & the trench sample gave the value ranging to 2.0 g/t. A detailed assessment work is in progress.

v. Iron Ore

Three bands of magnetise quartzite (Iron ore) are located in Thirthamalai of Harur taluk. The total reserves of the magnetise quartzite (Iron ore) is estimated about 67 million tonnes. About 28 million tonnes of iron ore is calculated as minable reserves in this area. The iron ore in this area is medium to low grade.

vi. Limestone and Kankar

The crystalline limestone is located in the following areas in Dharmapuri district.

Gummanur: Limestone is located east of Gummanur near Samalpatti railway station. The limestone is greyish in colour. The reserves of limestone estimated are about 700000 tonnes. The content of the calcium carbonate in the limestone varies from 70 to 75 percentage. The pure limestone is also noticed as pockets along the band. They are being mined for fillers in fertiliser and insecticides.

Tippampatti: Limestone is fine grained rather impure. The estimated reserves are about 50000 tonnes.

Sinnampatti: A band of impure limestone is found cutting across the numerous granite and pegmatite veins. It is reported the limestone occurrence is already mined & exhausted.

Kanjanur: Kankar is located to the north of Kanjanur village, near Uthangarai, which is half to one metre in thickness. The reserves are estimated roughly as about 2 million tonnes.

vii. Magnetise

Very small veins of magnetise are located in Kanjanur village of Uthangarai taluk. It has no economic value since the occurrence is very limited.

viii. Nickel

The nickel content in ultrabasic rocks in Kanjanur area near Uthangarai taluk was

studied. The chip samples to find out the nickel content, which varies from 0.12 to 0.15%.

ix. Quartz

The occurrences of quartz are located in Binnamangalam and Panchapalli (R.F.) in Denkanikottai taluk. Binnamangalam village is located about 20 kms. Southwest of Hosur town. The quartz in this area is a good grade with SiO₂ ranging between 99.66 percent to 99.88 per cent. The total reserves of quartz are estimated to about 101520 tonnes. The quartz is traced in a hill situated in Panchapalli R.F., which lies 12 kms. Southeast of Denkanikottai. The total reserves in this area are estimated as 93750 tonnes. The presence of vertical and horizontal joints of this occurrence will be advantageous during mining. The surface shows faint brownish and black stains, which have resulted due to weathering. The stains can be easily removed by acid washing.

x. Vermiculite

The vermiculite in Dharmapuri district is located in Jaginikkalmedu, which is about one km. south of Olaipatti in Uthangarai taluk. The total reserves of the occurrence are estimated about 20000 tonnes. The vermiculite has an expansion of 13 times of its original volume on heating to 900 to 950 degrees C. The raw vermiculite from Olaipatti is dark in colour with brownish tinge and it turns too silvery to light golden yellow colour on exfoliation. The concentration of vermiculite in the host rock is poor and the reserves are also limited. In the following areas, the minor minerals are located in Dharmapuri district.

xi. Black granite

Dharmapuri district is one of the leading districts as far as black granite occurrences are concerned. The black granite deposits are available in almost all the taluks of Dharmapuri district. It has a very good demand in the world market. The black granites can be cut into blocks and exported to the foreign countries. In Pennagaram area, the black granite deposits in this area are widely scattered. Among them, Ajjanahalli, Bevanur, (R.F.), Donnakuttanahalli etc. are the important villages. The total reserves in Pennagaram area are roughly estimated to about 20 lakhs cu. Mts. In Harur area, the black granite deposits are located in Gopinathampatu. Morappur, Polayampalli, Kerkodihalli, Reddipalli, Matadahalli, Chintalapadi, Basuvapuram, Keeraipatti, Jamanahalli, Menisi, Pallipatti etc. The reserves in this area are estimated to about 6 lakhs cu. Mts. Palacode area. The deposits found in Palacode taluk are limited and confined to Chikkadornabettam and Somanoor villages. Among the deposits, the deposit found in Chikkadornabettam is an important occurrence. The total reserves in this area are calculated roughly to about 18000 cu. Mts. Denkanikottai area, The black granite occurrences lie near Denkanikottai itself. The occurrences are noticed in Magadi, Maradanapalli, Anniyalam and Javulagiri. The occurrences found in Magadi and Javulagiri are limited. The reserves are calculated roughly to about 15600 cu. Mts.

xii. Grey granites

The grey granites are widely scattered in Krishnagiri taluk of Dharmapuri district. The granites are polished like black granite. They are cut into blocks and are exported to the foreign countries. The grey granite is located in Nathahalli of Dharmapuri taluk. In Krishnagiri taluk, the grey granite is located in Nagajanahalli, Jagadevipalayam, Aikondakottahalli, Pasinayanahalli, Sentharapalli, Kaveripatnam, Kottapatti,

Kondappanayanapalli, Jagadevi and Bynapalli. In Denkanikottai and Uthangarai taluks, the grey granites are located in Roykottai and Nagapatti villages respectively. Their reserves of grey granites are not estimated. The mineral production in the district is very much limited.

Reserve of important minerals in Dharmapuri district is given in Table 25.

3.2 Water Resources

3.2.1 Rivers, Canals and Waterways

The chief rivers in the district are the Cauvery and Pennar (South Pennar). The Cauvery enters the district at the south western corner of Denkanikottai taluk, takes a southern course, falls to a small height at Hogenekkal, a famous tourist spot of waterfalls and flows down to the Mettur Dam in Salem district. The South Pennar River has its origin near Nandidurg in Karnataka State. It flows through Hosur, Krishnagiri, Harur and Uthangarai taluks. Its chief tributaries are the Vaniar and the Markandanadhi. A reservoir has been constructed near Krishnagiri across this river popularly known as K.R.P Dam, which irrigates 9000 acres of land. However in its course, this river empties into Sathanur Dam in North Arcot district.

There are many streams and river traversing through the forests of this division. The most important amongst them are the Cauvery and her tributaries (i) Chinnar and Thoppaiyar and (ii) the Ponnaiyar, which are all perennial. Chinnar is flowing for the most part amidst forested hills almost throughout the entire length of the western wing of the district. It is reliable and never failing source of water for people and cattle and most of the cattle pens in the division are situated on its banks. After its confluence with the Cauvery the latter renders similar service in the valley of its brief sojourn in the district. Ponnaiyar flows past many of the ex-panchayat forests of Morappur range. The waters of Thoppiar and Chinnar, the tributaries of Cauvery and the river Ponnaiyar are well tackled for irrigation purposes throughout their course. There are a number of other streams, which form part of one or the other of the above two river systems, which run their course partly of fully in the forests of the district. But the flow in the most of them is seasonal. However there are semi-perennial major streams flowing from six to nine months in the year.

3.2.2 River Basins and their Catchment Areas

i. Catchment Area of River Basins

Catchment Area of River Basins in the district is Chinnar River, Kesar Kudahalli River, Thopplar, Nagavathi, Vellar, Ponnaiyar. Area of the basins in the district and the total length within the district has been shown in the Table No: 26.

ii. Basin wise status of the Ground Water Availability

Certain areas in Uthangarai taluk, Denkanikottai taluk and in and around Dharmapuri town are having moderate to poor quality water contributed by the geological formation. Some parts in Krishnagiri have high salinity due to the industrial pollution (Marikampalli) in Krishnagiri reservoir area due to water logging conditions. Ground water recharge of 115474 ha.m and balance ground water available for development of 33311 ha.m in the district. Basin wise status of the Ground Water Availability was not available. (Refer Table 27).

iii. Details of Dams and Reservoirs

All rivers and Dams/Reservoirs are using for Irrigation purpose only. Krishnagiri river water has been used for both irrigation and water supply. The details of Dams and Reservoirs in this district have shown in Table No: 28 and available water spread area in the district in Table No. 29.

iv. Irrigation by Different Sources

The total cropped area is 5,30,755 Ha. and the percentage of irrigated area to cropped area is 25.37. The gross area irrigated by canals and tanks are 8,668 Ha. and 19,607 Ha. respectively. The details on irrigated area by different sources are given in Table No: 30.

v. Incidence of Drought, Flood and Cyclone

There are 10 Taluks and 18 Blocks in the district. It has been ascertained from the available information that all the taluks and all the blocks were affected by Drought from the years 1985-86 to 1995-96. There were no Cyclone and Flood in the district during 1985-1996 period. The details are given in Table No: 31.

3.2.3 Fisheries Production

Inland fisheries are the only possibility in Dharmapuri district as there is no coastline. The Krishnagiri reservoir and the Hogenekkal falls of the river Cauvery are the chief sources for inland fishery. The newly constructed Chinnar reservoir can also be utilised for fishing. There are two provincialised waters in the district, viz. Barur big tank in Kaveripatnam block spreading over an area of 271.51 hectares and Penukondapuram tank in Uthangarai block spreading over an area of 219.17 hectares. The fisheries of the provincialised waters are annually leased out to fisherman co-operative societies on an average rent basis. Total inland fresh water spread area available in the district is 24,487 Ha. The fish production fluctuates both in quantity and value and had an increasing trend from 1991 to 1996. The details are given in Table No: 32.

i. General Fish Seed Production

The Fish Seed production of Standard Fry fluctuates from 1986 to 1996 and the highest production is in the year 1994-95. The inland fish production has also fluctuations between 1986 and 1996 in the district. Details on fish & fish seed production are given in Table No: 33.

3.3 Heritage Resources

i. Protected and Conserved Monuments

One village of Dharmapuri has monuments namely Ancient inscription engraved on a hillock, maintained by Govt. of Tamilnadu & 2 villages of Dharmapuri and one village in Krishnagiri have monuments maintained by the Dept. of Archaeology. The details are in Table 34.

ii. Places of Tourist Attraction

Places of religious, historical or archaeological importance in villages and places of tourist interest in Dharmapuri district are as below:

a. Hogenekkal: It is a place of tourist interest and famous for the waterfalls on the river Cauvery. It is at this point that river Cauvery enters Tamilnadu from Karnataka state. The Government has developed Hogenekkal as a district excursion centre in this district. Tamilnadu Tourism Development Corporation took interest and has constructed

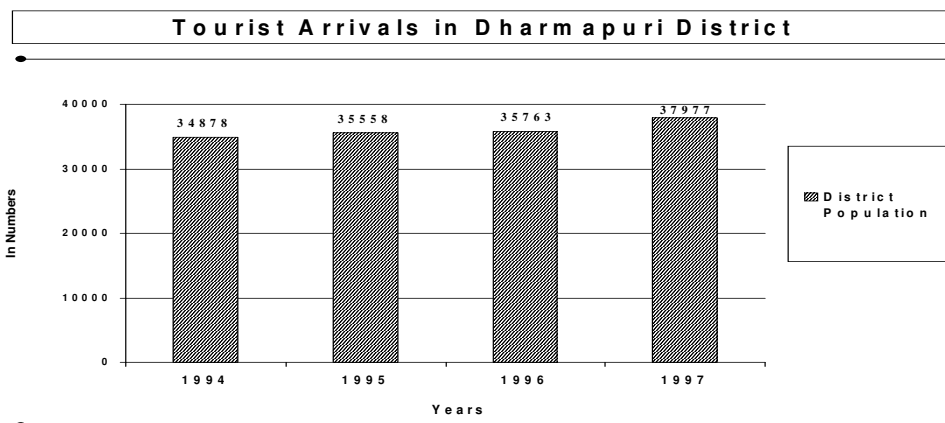
a Tourist Bungalow called "Hotel Tamil Nadu" and a youth hostel at Hogenekkal. Besides these, there are also Highways Travellers Bungalow and Forest Rest Houses, which are available around this place. About 5000 public/tourists are visiting during weekends.

b. Dharmapuri: This town is the district headquarters, which is located at a distance of 60 kms from Salem on the way to Bangalore. Moderate and standard hotels and lodges are available for tourists in Dharmapuri besides the Public Works Department Circuit House, Highways Inspection Bungalows, etc.

c. Krishnagiri: It is the second biggest town in the district and an historical place. An old fort called Syed Padsha Hill Fort is famous and attracts many tourists apart from the reservoir. The Dam site is a picnic spot. The Tamilnadu Tourism Development Corporation has constructed a hotel called "Ruby" at Krishnagiri on the National Highways.

d. Athiyamankottai: The place is located at a distance of 8 kms. From Dharmapuri on the Dharmapuri - Salem Highway. The Central Archaeological Department has taken over the site for maintenance. At the centre of the Fort site, an old temple called Chennakeswar temple is located which is believed to have been constructed both by the King Krishna Devaraya (Telugu) and Hoysala Kings (Karnataka). Paintings depicting Ramayana and Mahabharata scenes are found inside the temple. All the painting are belonging to 13th century. The Brahmin priests from Dharmapuri conduct Poojas every Saturday. The place acquires its name after the Tamil King Athiyaman Neduman Anji who ruled the Thagadur (the present Dharmapuri) area and Kottai meaning fort. The main villages of Athiyamankottai is located on the eastern side of the Salem- Bangalore Highway about one km. from the Fort. Tourists on weekends and holidays visit only the fort area, which includes the temple.

There are 5 tourist places located at 6 villages/towns in the historical / cultural / natural area. The special significance of the area is Waterfalls of Dharmapuri, Pennagaram and Krishnagiri dam, Heritage place of Harur, Fort temple of Nallampalli and temple of Hosur. Tourist arrival both domestic & foreign has fluctuations. These tourist spots are visited throughout the year except falls of Dharmapuri & included in tourist circuits identified by the dept (Table 35 & 36).



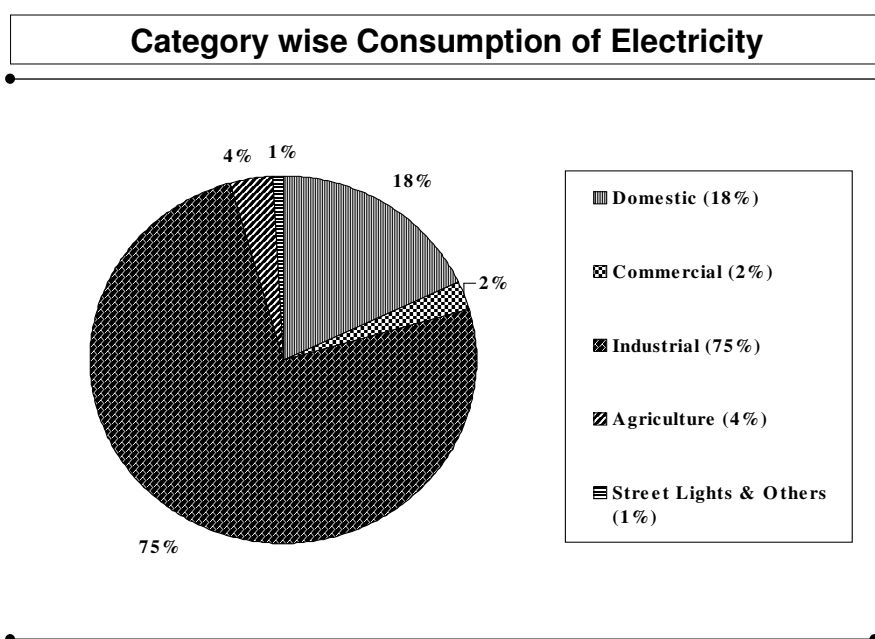
3.4 Energy Resources

i. Installed Power Projects

There have been no installed Power Projects in the district (Refer Table No: 37).

ii. Consumption of Electricity

There were 7,06,146 electrical connections with a total consumption of 7,30,044.67 kW/h as on 1995-96. Industrial consumption has the maximum accounting for 75.02% of the total consumption followed by domestic consumption of 17.95% and commercial, agriculture and streetlights are 2.49%, 3.75% and 0.27% respectively. The category wise consumption of electricity is given in Table No: 38.



iii. Electrification of Villages

Dharmapuri district has achieved 100% electrification prior to 1986. 1106 villages in the district are electrified. The status on electrification of the energised pumps was not available. for blockwise but district figures are given in Table. [Refer Table No. 39].

iv. Non Conventional & Renewable Energy Sources Utilisation

No estimates on non-conventional and renewable energy sources utilisation. (Table 40).

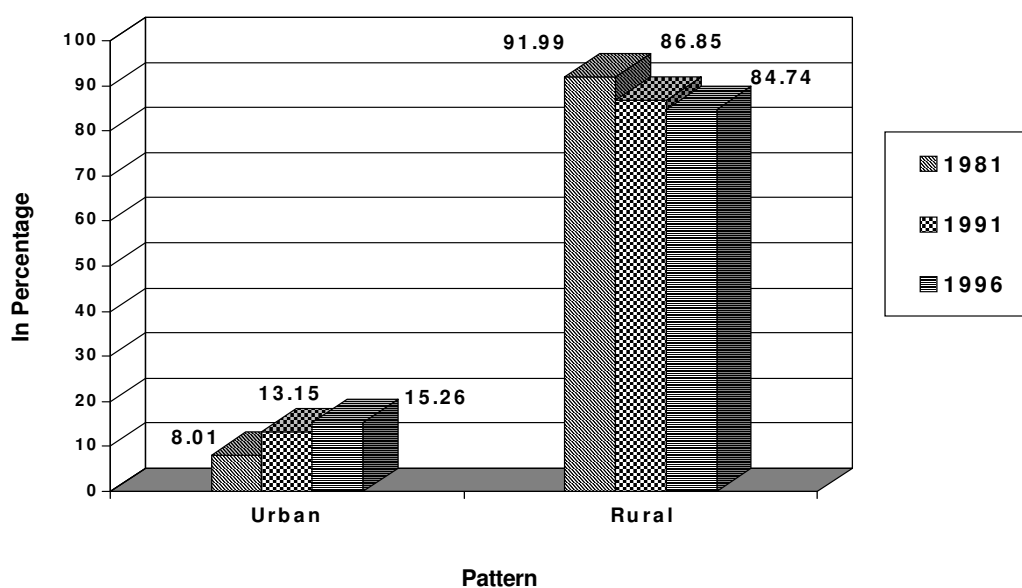
Chapter

4

4.0 Infrastructure**4.1 Urbanisation****4.1.1 Urbanisation pattern**

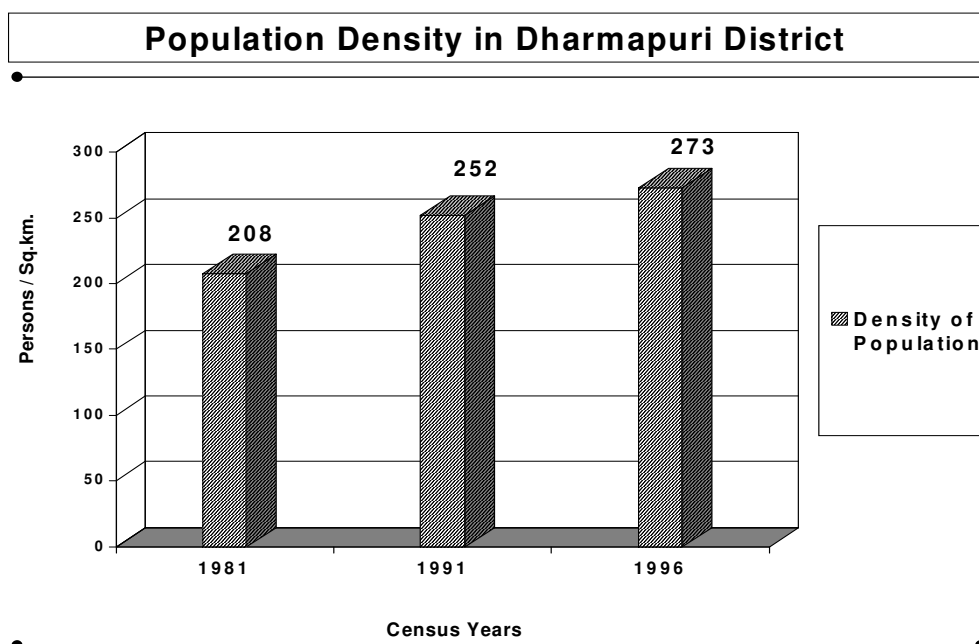
The proportion of urban population to total population has increased during 1981-96 from 8.01% to 15.26%. Among the urban areas, Krishnagiri Municipality accounts for a greater share of urban population while compared to the other urban areas. The proportion of Rural to Total Population has decreased from 91.99% to 84.74% in the years 1981-96. The urbanisation pattern of the district is in Table 41.

Urbanisation Pattern of Dharmapuri District

**4.1.2 Density of Population**

The overall density of population has increased from 208 persons/Sq.Km.. In 1981 to 273 persons / sq.km. In 1996. The density in urban area has increased from 2264 persons/Sq.Km.. in 1981 to 5611 persons/Sq.Km. in 1996 and the density of rural area

has also increased from 192 persons/Sq.Km.. in 1981 to 233 persons/sq./km. in 1996. The details on density are given in Table No: 42.



4.1.3 Decadal Growth rate in urban centres

The decadal growth rates in Municipalities have increased from 1971 to 1996. The population of the district has grown from 1.44 lakhs in 1961 to 4.01 lakhs in 1996. The decadal growth rate indicates that there is a considerable growth in Municipalities and Town Panchayats of the district. Krishnagiri Municipality has registered the maximum growth rate and Harur has the maximum growth rate among the Town Panchayats. The details of decadal growth rate are in Table 43. The Decennial growth rate for both urban and rural population over the past few decades has increased steadily from 1961 to 91 (Table 44).

4.1.4 Urban Slum Population

No information was available for slum population in the district. (Refer Table No: 45).

4.1.5 Trend in urbanisation and slums

The Urban population has increased from 8.01% to 15.36% in 1981 to 1996 period. The identified slum population of district was not available. The details are given in Table No: 46.

4.2 Infrastructure Services and Environmental Status

4.2.1 Occupied Housing units

The total occupied housing units of urban and rural were 47395 and 455865 respectively in the year 1991. Piped water supply in inside and outside of houses in urban areas were

28075 and 19320 respectively and in rural areas were 28205 and 427660 respectively in the year 1991. Nearly 19695 of the 27700 urban households and 22130 of the 433735 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: 47).

4.2.2 Urban Services

Surface water and ground water are the major sources for protected water supply system in municipalities and town panchayats. The Percapita water supply for municipalities and town panchayats is 41 LPCD and 32 LPCD respectively. The average water supply is around 37 LPCD for the district. The Municipality of Dharmapuri has the highest consumption of 49 lakhs litres, while the Town Panchayat of Harur, Uthangarai and B.Malapuram have 35 LPCD, 15 LPCD and 20 LPCD respectively. The Town Panchayats, Kambainallur, Marandahalli & Kelamangalam have 50% each of population uncovered with water supply. Details on water supply services are in Table 48.

4.2.3 Domestic waste water generation and treatment

The estimated sewage generation is 51.65 lakh liters among municipalities and 5.05 lakh liters among town panchayats. The district does not have any organised disposal of sewage. The district has complete open drainage system. The details on domestic wastewater generation and treatment in the district are given in Table No: 49.

4.2.4 Municipal Solid Waste Generation

The solid waste generation of municipalities and town panchayats are 87 tonnes and 37.5 tones respectively. The solid waste collection of municipalities and town panchayats are 72.5 tonnes and 37.5 tonnes respectively as on 1995-96. Overall the solid waste generated adds up to 124.5 tonnes with a collection efficiency of 88.35% with a manpower of 450 on Solid waste management. The quantity of annual manure production for municipalities and town panchayats is 38 tonnes and 4.30 tonnes respectively. (Refer Table No: 50).

4.2.5 Composition of Solid Waste

Compostable mater covers 67% and other compositions like Rags, Wooden matter, etc. cover 33% in Krishnagiri municipality of Dharmapuri District (Refer Table No: 51).

4.2.6 Coverage of Problem Villages

It has been identified that about 39 villages out of the total 1106 villages in the district have had problems with regard to supply of Drinking Water. Information pertaining to problem villages was not available for 528 villages of 10 blocks. However 18 problem villages have been covered during the VII Five Year Plan (1987-92) and 20 villages covered during the VIII Five Year (1992-97). Necessary details are given in Table No: 52.

4.2.7 Reported cases of water borne diseases

Cholera cases were reported from the year 1993 to 1996 and the death of cholera cases was also reported from the year 1993-96. Information was not available for other water borne diseases. (Refer Table No. 53).

4.2.8 Facilities under Indian system of Medicines

195 villages (17.94%) have one or other type of medical institutions within the villages. Allopathy and Sidda are the most commonly practised systems of medicine in the district. In addition, one Homeopathy hospital is also available in the district. The details available under Indian System of Medicines are in Table 54.

4.2.9 Population below poverty line

About 1,70,834 families are below poverty line in the district (Table 55).

4.3 Transportation

The district is well connected by Rail and Road with all the important Commercial Centres in the country. All the important centres in the district are connected by a network of all weather Roads and Railways. A line of description of the progress made in this regard in the district is given below Roads. The National Highway from Salem to Bangalore passes through Dharmapuri, Karimangalam, Kaveripattinam, Krishnagiri, Shoolagiri and Hosur. Another National Highway connects Krishnagiri with Vaniyambadi of North Arcot district. The district has 4247 kms. of roads of all kinds of which 161 kms. are National Highways, 1376 kms. are major district roads. About 351 route buses, 470 lorries, 242 private carriers, 450 public carriers, 130 contracts carriers, 12 tractors are in operation in this district.

Salem-Bangalore Metre Gauge Railway lines serves the southern part of the district. This railway line cuts across the district, linking the district capital of Dharmapuri with Bangalore in the North and Salem in the South. The entire Railway line has been thrown open for passing a traffic in the month of January 1969. Dharmapuri, Palacode and Hosur are the important towns on this line. The Chennai Cochin Broad Gauge Rail line passes through the eastern part of the District namely Bommidu, Pappireddipatty, Morappur, Diddapatty and Samalpatty. The length of railway line passing through the district is 228 kms. comprising about 57 kms. in broad gauge and 171 kms. in metre gauge. There is a proposal to link Thoothukudi in the South and Poona in the North.

4.3.1 Development of Roads, Bridges

The district has 133 km. of National Highway, 15,753 km. of State highways, 831 km. of Major district roads and 1,806,948 km. of other district roads in 1996. Over and above, there are 35 major bridges and 5,196 minor bridges and culverts in the district in the year 1996. Relevant information is provided in Table No: 56.

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 10 years. The total number of two, three and four wheelers in 1996 is 15,105, 84 and 584 respectively. The details on the growth of vehicle population are in Table 57.

4.4 Industrial Development and Environmental Status

4.4.1 Number of Industries

There have been 44 Red Category, 19 Orange Category and 4 Green Category Industries

in Large category of Industries which are classified, based on their nature of hazardness by TNPCB. The details on the number of industries are given in Table No: 58.

4.4.2 Emission Inventory of Major Industries

Ashok Leyland Ltd., has been identified with the highest Emission rate in terms of SPM ($466.00 \mu\text{g}/\text{m}^3$), SO ($27.00 \mu\text{g}/\text{m}^3$), NO ($19.00 \mu\text{g}/\text{m}^3$) while the emission rates of CO and HC are not available from the authorities. However all the industries of the district are found to be having the emission rates well under the set standards (Refer Table No: 59).

4.4.3 Air pollution stressed area

Air pollution stressed area in the district is at Hosur taluk–SIPCOT-I & II. Major Air Pollution sources were due to Industrial emission, Air and Water in the district. [Refer Table No. 60].

4.4.4 Ambient Air quality Status

As for as the air quality status is concerned, the average SPM values and average NOX values of commercial and industrial categories seem to be with in the standards. Even the maximum value of these indicators is below the set standards. The ambient air quality status details are given in the Table No: 61.

4.4.5 Water quality

Information was not available for Water Quality in Dharmapuri District (Refer Table No: 62).

4.4.6 Discharge of Industrial effluents

There has been no discharge of industrial effluents in river basin/other water bodies in Dharmapuri district (Refer Table No: 63).

4.4.7 Noise levels

Data on residential noise levels were not made available (Refer Table No: 64).

4.5 Trade, Commerce and Export

Below table furnishes the list of most important commodities manufactured, imported and exported in all the town of Dharmapuri District.

Name of the Towns	Most Important Commodity		
	Manufactured	Exported	Imported
Denkanikottai	Tiles	Tamarind	Rice
Dharmapuri	Cotton Cloth	Tamarind	Cotton Thread
Harur	Starch	Cotton	Oil
Hosur	Silk Thread	Tamarind	Redgram
Kaveripattinam	--	--	--
Krishnagiri	Wooden Articles	Mangoes	Rice
Palacode	Jaggery	Coconut	Paddy

Chapter

5

5.0 Environmental Institutions**5.1 Environmental Education and Research Institutions**

There has been one Environmental Education and Research Institution in the district. This is involved in research activities in the field of soil. The details are given in Table No: 65.

5.2 Environmental NGOs

There have been 6 NGOs dealing with environmental related issues in the district. Activities of the NGOs are health training, environment awareness, sidha medicine, bio-diversity awareness, neem plantation, bio-pesticides use and awareness etc. The details are given in Table No: 66.

Chapter

6

6.0 Summary of Observations

The key observations of the Environmental Profile of Dharmapuri District are briefed below:

1. The growth rate of population has shown an increase at about 2.16 per annum during the period of 1981-91.
2. It is encouraging to note that the female literacy rate has significantly increased in the past 15 years.
3. Utilisation of land area in Dharmapuri district is upto 55.24%. 1.54% of the land area remain as cultivable wasteland.
4. The total use of Chemical Fertilisers and the total use of Bio-Fertilisers and Urea are 34,988 M.T., 3,31,258 Pockets and 25,092 M.T. respectively.
5. Yellow red to red loamy sand (62.19%), Dark brown to reddish brown sandy clay loam (17.65%), Black clay loam (4.77%) and other types (15.3%) are the soil types of the Dharmapuri District.
6. New constructions of wells and check dams and conservation works for cropping area for each block are done in the district for irrigation purposes.
7. The Forest area in Dharmapuri district is about only 23.62%. The total area of Southern tropical dry mixed deciduous forest and the Southern thorn scrub forest are 29.39% and 27.99% of total forest area respectively. The available man made forest plantations is 10,473 Ha. in the district.
8. Conservation of biological resources is to be strengthened by the district administration by constituting specially designated protection areas. Crocodiles (Mugger) and Elephants are protected.
9. The main sources of irrigation of the district happen to be canals and tanks. Nearly 31.44% of the total cropped areas are irrigated by these sources.
10. There have been 5 tourist places in the district. Both domestic and foreign tourist arrivals have had fluctuations.
11. The fish production both in quantity and value has fluctuations for the past 6 years. The inland fishes production and seed production has also fluctuations.
12. There has been a marginal improvement in the power generation sector. The demand for electricity has not met, owing to the steady population growth and higher rate of consumption. Non conventional and renewable energy source of utilisation is not very much identified.
13. Urbanisation process in Dharmapuri district has been taking place at a higher rate. However, certain essential needs of urban areas like drinking Water, Electricity, Public Convenience, drainage, approach Roads and Health Centre have not been increased keeping the pace with the process of urbanisation.
14. There has been no much improvement of urban services particularly protected

- Drinking Water and Solid Waste Management in the district.
15. There has been a significant growth of two wheelers followed by 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.
 16. The Red, Orange and Green categories of hazardous Industries are identified by TNPCB. Most of the Red category industries are very hazardous in nature. Ambient Air quality in monitored location is within standards.
 17. There has been one environmental Research institute in the district of Dharmapuri.
 18. Environmental NGOs may be involved in protecting environmental of the district for which action plans for better environment shall be made with NGOs participation.
 19. 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 Tamil Nadu** in fulfilling its corporate objectives.

