# District Human Development Report - 2017

## Madurai District

State Planning Commission
Tamil Nadu

# MADURAI

## DISTRICT HUMAN DEVELOPMENT REPORT 2017

**District Administration, Madurai and**
**State Planning Commission, Tamil Nadu**
**in association with**
**DHAN Foundation**

# Contents

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## MESSAGE

Tamil Nadu is a pioneer in implementing welfare programmes. The State's Twelfth Five Year Plan insists upon the betterment of Human Development status. Tamil Nadu is on the path of development for achieving accelerated, innovative and inclusive growth.

The State Planning Commission had earlier published Human Development Reports for the State and 8 districts. The analysis on the inter district and intra district disparities has led to policy recommendations and formulation of specific schemes like State Balanced Growth Fund to address backwardness. As a sequel, State Planning Commission has taken up the preparation of Human Development Reports for all districts.

This report is prepared with an objective to address Human Development concerns at the block level. An in-depth analysis on the Human Development status through Health, Education, Standard of living, Gender, Demography, Social Security sectors has been made to study the performance of blocks at the sub-district level. This could play as an effective tool for grassroots level planning.

I take this opportunity to place on record my sincere appreciation to the District Collector and Line Department Officials for sharing data on various parameters for the preparation of District Human Development Report. I thank all the stakeholders for their contributions to this report.

ANIL MESHRAM
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# Preface

Tamil Nadu Vision 2023 aims at making the state "Numero UNO" State in India to achieve the levels of Human Development on par with the developed countries. The Human Development reports brought out by the state has brought the achievements and intra district disparities in human development attainments which demands to create basic infrastructure at the habitation level for addressing the specific issues. It calls for innovative programs which require inputs for addressing the backwardness and mainstreaming those backward areas. The preparation of DHDR would form a basis for the preparation of Perspective plan with a human development perspective to have contextualized interventions.

Human Development is a continuous process of enlarging people's choices relating with, to lead a long and healthy life, to acquire knowledge and to have access to resources needed for a decent standard of living. The present report strives to measure, compare and document the extent of development in blocks relating with above said choices to the local community. It has captured the status of Human Development of Madurai District through Human development index (HDI), Gender Inequality Index (GII), Child Development Index (CDI) and Multidimensional poverty index (MPI), which is a composite index highlighting the benchmarks and concerns in the district.

The range observed across the blocks in HDI value is 0.67 (Thirupurankundram (0.63) to Kottampatti (0.30), the range lower in case of GII is (0.13) and highlights the industrial backwardness. Gender equality in district is better than that of Human Development. The report calls for consideration of two more blocks i.e. Chellampatti and Kottampatti as backward blocks besides the four blocks namely T.Kallupatti, T.Vadipatti, Kallikudi and Sedapatti under State Balanced Growth Fund. The process of preparation of the DHDR has enabled the district administration to have core committee to review the progress and to moot proposals under State Balanced Growth Fund. I thank State Planning Commission for this opportunity and place on record the appreciation for District Planning Cell and DHAN Foundation, in preparation of the report with the latest data (2013-14) through systematic process of validation with the line departments and State Planning Commission.Having completed the District Human Development Report, the challenge is to build ownership among stakeholders through goal setting for each block and set systems and process at the district and block level for tracking. I look forward for all the departments and stakeholders to take advantage of the investment made by disseminating the findings and to build their capacities by mooting innovative proposals and build convergence with the existing schemes to improve the human development index resulting in a model district for the State.

25/2/2015

**(L.SUBRAMANIAN)**

# Acknowledgement

We take great pleasure in acknowledging the contributions of the stakeholders which has enabled us to prepare Madurai District Human Development Report.

We express our sincere gratitude to State Planning commission and District Administration in identifying us as a resource institution for preparing the prestigious District Human Development Report. Our thanks to **Tmt Santha Sheela Nair, IAS, (Retd**) Former Vice Chairperson, State Planning Commission, Government of Tamil Nadu for visioning the possibilities of preparing the DHDR first of its kind in the whole country and **Thiru M.Balaji, IAS**, Former Member Secretary who provided the software for this vision.

Our thanks to **Dr.Sugato Dutt, IFS**, Former Member Secretary i/c, State Planning Commission who gave valuable suggestions and guidance in exploring the facts to substantiate the data through case studies while preparing the report. We thank **Thiru Anil Meshram, IAS,** Member Secretary, State Planning Commission for reviewing the final draft and setting the time frame for completion of the report.

Our thanks to **Thiru P.Selvarajan,** Head of Division, Rural Development and District Planning, State Planning Commission who added value during the review process which has enabled us to shape the report. Our special thanks to **Selvi S.Namagiri,** Senior District Planning Officer, State Planning Commission, who stood along with us from the initial stage to last with lot of challenges in building the capacities of resource institutions through regular feedback. We also thank **Dr. G.N.Krupa,** Planning Officer, for technical clarification on working the indices and also to **Tmt. D.Abirami**, Planning officer who extended her support by correcting grammatical mistakes and language flow page by page.

We are very much thankful to the District Collector, **Dr. L.Subramanian, IAS** who made DHDR to be functional by demanding to incorporate the latest data i.e. 2013-14 which was approved by State Planning Commission. Our special thanks to **Tmt. K.Vanadhi,** Former District Planning Officer, who facilitated the constitution of Core committee to enable the resource institution for preparing the quality report. We extend our thanks to **Tmt. G.Loganayagi,** District Planning Officer who operationally supported at field level to get factual information to substantiate the case studies and **Thiru M.Bhoominathan,** Statistical Inspector, District Planning Cell for his timely and tireless assistance particularly on facilitating data collection and validation from line departments and in organizing meetings at district level.

Our sincere thanks to all the concerned heads of the departments, officials of the Statistics, Agriculture, Health, Education (SSA and RMSA), Animal Husbandry, Mahalir Thittam, DRDA, AD, Panchayat, Electricity board, PWD, District Employment Office, General Manager, Lead Bank, Social welfare, ICDS and all line departments of Madurai Corporation for their cooperation in providing the data and participating in various meetings for the preparation of the report.

Our sincere thanks to **Thiru M.P.Vasimalai,** Executive Director, DHAN Foundation, for his consistent follow up of our work and provided strategic guidance in writing the report. We thank the team constituted by the DHAN Foundation under Centre for Research namely **Thiru A.Madhankumar,** Programme Leader, **Tmt**. **A.Umarani**, Programme Leader, **Tmt. P.Dheivanai**, Senior Project Executive, **Thiru S.Sivanandhan**, Team Leader and **Thiru Arun Jai Peter Pradeep**, Programme Assistant who were instrumental in validating the data, drawing the quality inference, and for providing logistics support to complete the report.

We look forward for the continuous support and guidance from the district in preparing the perspective plan for the backward blocks banking on the investment made in preparing the DHDR.

Once again we thank State Planning Commission for providing us this great opportunity and also guiding us in successful completion of DHDR for the district.

**Tmt. R. Sasikala**
**Team Leader**
**DHAN Foundation,Madurai**

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# CHAPTER 1
# MADURAI DISTRICT - A PROFILE

# 1. District Profile

Madurai is the third largest city in Tamil Nadu located on the banks of river Vaigai. It has been a major settlement for two millennia and one of the oldest continuously inhabited cities in the world. Madurai has been an academic centre of learning for Tamil culture, literature, art, music and dance for centuries. Madurai's cultural heritage is 2,500 years old, the city has been an important commercial center and has conducted trade as far as Rome and Greece since as early as 550 BCE. The city is popularly known as the "Temple City". It is also known as the city of Jasmine.

## Topography

Madurai is a heritage city linked by rail, road and air to all major cities of the State and Country. It is the third largest city in Tamil Nadu. It is located on $90^0$ 55' North latitude and $78^0$07' East longitude. It stands on the banks of the River Vaigai and is the headquarters of Madurai district. The City has grown around Meenakshi Amman Temple. It has an area of 51.96 square kilometres with an urban periphery and since 2012 it has now been extending over as much as 130 square kilometres. Madurai city is located at 9.93°N 78.12°E. It has an average elevation of 101 metres. The city of Madurai lies on the flat and fertile plain of the river Vaigai, which runs in the northwest-southeast direction through the city, dividing it into two almost equal halves. The Sirumalai and Nagamalai hills lie to the north and west of Madurai.

The soil type in central Madurai is predominantly clay loam, while red loam and black cotton types are widely prevalent in the outer fringes of the city. The land in and around Madurai is utilized largely for agricultural activity, which is fostered by the Periyar Dam. Madurai lies in the southeast of the Western Ghats, and the surrounding region occupies the plains of South India and contains several mountain spurs.

The total geographical area of the district is 3.74 lakh hectares. The area under forest during 2004-05 was 48473 hectares and it accounted for 13.0 and 2.3% of the total geographical area of the district and State respectively. About 18.6% of the total geographical area was under non-agricultural uses. It is due to the increasing urbanization witnessed in the present time.. The net area sown is 1.08 lakh hectares accounted for 37.0% of the geographical area, which is less than the State's average of 39.1%. It clearly indicated that the land available for cultivation was shrinking. Paddy, sugarcane, cotton grows in black soil, pulses, horticultural crops grows in red soil. The Net sown area is 1.08 lakh hectares. Rainfall is irregular and intermittent, with an average of 85 cm per annum. The wind blows from Northeast direction during January –

February, and from Southwest direction during May to July.

Madurai is hot and dry for eight months of the year. The hottest months are from March to July. The district experiences a moderate climate from August to October, tempered by heavy rain and thundershowers, and a cool climate from November to February. Fog and dew are rare, occurring only during the winter season. Being equidistant from mountains and the sea, it experiences similar monsoon pattern with North east monsoon and Southwest monsoon with the former providing more rain during October to December.

Temperature during summer generally reaches a maximum of 40 °C and a minimum of 26.3 °C, although temperatures up to 42 °C are not uncommon. Winter temperatures range between 29.6 °C and 18 °C. A study based on the data available with the Indian Meteorological Department on Madurai over a period of 62 years indicate a rising trend in atmospheric temperature over Madurai city, attributed to urbanization, growth of vehicles and industrial activity. The maximum temperature of 42 °C for the decade of 2001 – 2010 was recorded in 2004 and in 2010.

## History of Madurai

Madurai has a very long and well recorded history. Madurai was the capital city of ancient Southern civilization. The city has been variously referred to as "Madurai", "Koodal" (or Koodal Nagar) and "Thirvalavai" (or Alavai). Many theories have been suggested for the name Madurai. The mythological history gives a unique account of Madurai. Lord Shiva being pleased by the services of King Kulasekara Pandyan for constructing a Lotus temple around Swayambhu (self born) lingam which was worshipped by Lord Indhiran at Kadambavanam dropped nectar (Mathuram) on the town and hence it later came to be called Madurai.

Archaeological evidences confirm the birth of the city before 2000 years. The excavated urns and Roman coins on the banks of river Vaigai confirm the interconnectivity of this city to outside world. The dating also matches with the Sangam and post Sangam age (from 3rd century B.C to 3rd century A.D) when the city was a commercial and cultural capital of the southern zone. Many travellers and historians Pliny the Younger, Ptolemy, Strabo, Morcopolo and Ibin Battuta from the countries viz., Rome, Greece, Middle East Asian Countries and Morocco respectively have given their account about their visits to Madurai shows and their narration shows a rich, diverse, ethnic, socio cultural and religious set up.

Its settlement pattern has its basis on caste, religion and occupation system giving a distinctive quality to the town. It was also a centre for promoting Tamil Language. Around 9$^{th}$ century A.D

it became the capital of the Tamil Zone under the Pandya Kingdom. Chronology of Rulers of Madurai is provided below:

**Chronologies of Rulers of Madurai**

| Timeline | Kingdom |
|---|---|
| 10th Century BC to 3rd Century BC | Pre-Sangam Era – Megalithic age with Tamil-Brahmi inscriptions |
| 3rd Century BC to 3rd Century AD | Sangam age Pandyas |
| 3rd Century AD to 6th century AD | Kalabhras - No literature evidence |
| 6th Century AD to 9th Century AD | Early Pandyas |
| 9th Century AD to 11th Century AD | Chola Pandyas |
| 11th Century AD to 12th Century AD | Medieval Pandyas |
| 11th Century AD to AD 1334 | Later Pandyas |
| AD 1334 to 1371 | Madurai Sultans |
| AD 1371 to 1529 | Vijayanagar rulers/Vaanaathirayaas |
| AD 1529 to 1736 | Madurai Nayaks |
| AD 1736 to 1801 | Chanda Sahib, Arcot Nawab and Muhammed Yusuf Khan (Marudhanayagam) |
| AD 1801 to 1947 | British rule |

Madurai is known for its rich treasures which made rulers keep an eye on it. In particular, the Muslim rulers from Delhi were particular to plunder the wealth treacherously. The rule of Thirumalai Nayak was instrumental in building magnificent structures like Rajagopuram of Meenakshi Amman temple, Pudhu Mandapam and Thirumalainayakar palace etc. In 1801 the British East India Company took direct control of Madurai and brought it under the Madras Presidency. In 1837, the city was expanded to accommodate the growing population by demolishing the fortifications around the temple which became the most important streets of Madurai city. The city was constituted as a municipality in 1866.

Madurai came into limelight during the struggle for independence because of Mahatma Gandhi's decision to switch to wear a loin cloth after seeing agricultural labourers wearing it, representing the common man's socio economic condition. Many freedom fighters had their roots in Madurai namely N.M.R. Subbaraman, Mohammad Ismail Sahib and Meer Niyamatullah Ibrahim Sahib. On independence, Madurai remained second largest city (till 2001). In 1971, it was constituted as a Municipal Corporation.

The city presently shows the physical-historical evidences of the Italian and British architecture which is unique to the entire region. The temple complex occupies nearby 8.5% of the total city

area.

## Administration and politics

Madurai district has got 3 municipalities, 9 town panchayats, 13 blocks and 10 taluks respectively. The municipality of Madurai was constituted on 1 November 1866 as per the Town Improvement Act of 1865. During the early years of independent India, the Madurai municipality was dominated by reformists of the Indian National Congress. Madurai was upgraded to a municipal corporation on 1 May 1971 as per the Madurai City Municipal Corporation Act, 1971. It is the second oldest municipal corporation in Tamil Nadu, after Chennai. Madurai Corporation comprises of 72 wards and now it has been extended to 100 wards in the city. The functions of the municipality are devolved into six departments: General, Engineering, Revenue, Public Health, Town planning and the Computer Wing. All these departments are under the control of a Municipal Commissioner, who is the supreme executive head. The legislative powers are vested in a body of 100 members, one each from the 100 wards. The legislative body is headed by an elected Mayor assisted by a Deputy Mayor. The corporation received several awards in 2008 for implementing development works.

The city of Madurai is represented in the Tamil Nadu legislative assembly elected members, one each for the Madurai East, Madurai West, Madurai North, Madurai Central and Madurai South constituencies. Madurai is also a part of the Madurai Lok Sabha constituency and elects a member to the Lok sabha, the lower house of the Parliament of India, once every five years. Law and order is enforced by the Tamil Nadu Police, which, for administrative purposes, has constituted Madurai city as a separate district. The district is divided into four sub-divisions, namely Thallakulam, Anna Nagar, Thilagar Thidal and Town, with a total of 27 police stations. The Madurai city police force is headed by a Commissioner of police assisted by Deputy Commissioners. Enforcement of law and order in the suburban areas are handled by the Madurai district police. The city is also the seat of a bench of the Madras High Court which started functioning in July 2004.

## Language, Culture, Art and Architecture

The main language spoken by the people of Madurai is Tamil. It is spoken in its pure form. The Sourashtra language is spoken by the people of Sourashtra community, which is significantly present in the city. People also speak a host of other regional languages like Telugu, Malayalam, Hindi and Urdu.

Madurai is an example of cultural diversity. Owing to its glorious past, the richness of its culture is visible in everything. This includes its architectural majesty, customs and traditions, religious sanctity, magnificent art work, handicrafts, ballads, folk dances, dramas, songs, festivals and ceremonies. The city has very-well blended its ancient cultural heritage, with the fast paced technological advancements. Madurai is expanding rapidly and is one the major commercial centers of South India. The growing number of educational institutions and industries in Madurai are live examples of its progress.

Madurai is built around the Meenakshi Amman Temple, which acted as the geographic and ritual center of the ancient city of Madurai. The city is divided into a number of concentric quadrangular streets around the temple. Vishwanatha Nayak (1159–64 CE), the first Madurai Nayak king, redesigned the city in accordance with the principles laid out by sanskrit: (śilpa śāstra,) related to urban planning. These squares retain their traditional names of Aadi, Chittirai, Avani-moola and Masi streets, corresponding to the Tamil month names and also to the festivals associated. The temple Prakarams outer precincts of a temple) and streets accommodate an elobrate festival calendar in which dramatic processions circumambulate the shrines at varying distances from the centre. The temple chariots used in processions are progressively larger in size based on the size of the concentric streets. The city's axes were aligned with the four quarters of the compass, and the four gateways of the temple provided access to it. The wealthy and higher echelons of the society were placed in streets close to the temple, while the poorest were placed in the fringe streets. With the advent of British rule during the 19th century, Madurai became the headquarters of a large colonial political complex and an industrial town; with urbanization, the social hierarchical classes became unified.

Madurai has been an academic centre of learning for Tamil culture, literature, art, music and dance for centuries. The American College is the oldest college in Madurai and was established in 1881 by American Christian Missionaries

## Archaeological, Historical and Architectural significance

The Architectural diversity in the temple and other historical buildings shows fusion of different styles. The town planning layout followed the ancient planning systems like Rajdhani and Sarvatobadhra (Manasara). The carvings of Jainism, the rock cut caves found in fifteen places around the region clearly exhibits its importance in early centuries. The Sangam (3rd century B.C to 3rd century A.D) literature like Silappathikaaram also focuses Madurai as a great cultural and trade centre. The city has been the Political capital of the Pandyas and Nayaks for centuries. The findings near the Maadakulam tanks and on the Vaigai River bed exhibits its relationship with

European countries.

## About Tamil Sangam

The Tamil Sangams form one of the main parts of history for the Tamil people. It is a tradition that they cherish and have been passing it on from generation to generation. Nobody knows exactly what it means and how it came about. According to some it was a literary academy where the scholars or poets met to discuss and criticize various things including literature in Tamil sangham. It is mentioned in a commentary on the Iraiyanar Ahapporul.

It is said to have been composed by the sangam poet Nakkirar. According to tradition it was a literary academy established and supported by the Pandyan Kings. The first sangam or Talai sangam was established at Ten Madurai the capital of the Pandyan kings on the Indian Ocean shores. When a deluge destroyed then Madurai the capital was shifted to Kapatapuram and the second sangam called the *idai sangam* was established there. After sometime when Kapatapuram too was destroyed by the sea the capital was shifted to present day Madurai away from the sea on the banks of the Vaigai. Madurai became the latest capital of the Pandyan kings and third sangam or Kadai sangam was established there. The Pandiyan king who ruled during the period of establishment of the Third sangam was Mudattirumaran who was lame. His other name was Ariyappadaikadanda Nedunjeliyan. He was contemporary of Karikalan Cholan and Senguttuvan Cheran and Elangai Gajabahu. Nevertheless, legends of the Sangams played a significant role in inspiring political, social, and literary movements in Tamil Nadu in the early 20th century.

## Culture and social significance : Chithirai Thiruvizha

In the past Chithirai thiruvizha was celebrated as two separate events as Meenakshi festival by Saivites and Alagar festival by Vaishnavites in different months. During the rule of King Thirumalai Nayakar both the festivals were merged as one single event to unite the people of two groups (Saivism and Vaishnavite). From that period this is celebrated as one grand event during the Tamil month of Chithirai and this gives the celebration its famous name Chithirai Tiruvizha.

This event is celebrated in the month April–May every year which attracts one million visitors to the city. The events which take in place in Chithirai thiruvizha are Kodiyetram, Pattabhishekam, Dikvijayam, Meenakshi Thirukalyanam,Ther Thiruvizha,Etir sevai, Alagar Vaigai Elunthuarulal. The city has a great social dimension in terms of bringing the Saivism and Vaishnavism together through the celebration of Alagar festival (April and May) which brings rural and urban together culturally united. Each and every social group has its own role to play in these festivals.

**Arts and Crafts:**

The arts and crafts practiced by the social groups such as Sungudi weaving by Sourashtras also add value to the region. Jallikattu is one of the most popular historical sport in Tamil Nadu, and is a part of the Pongal festival (harvest festival) celebrated during January. The bull taming event is held in the villages surrounding Madurai and people from the neighboring villages throng to the open grounds to watch man and bull pitting their strength against each other. Santhanakoodu thriuvizha celebrated on various days during the Islamic calendar year to commemorate Islamic saints.

### Box 1.1: Madurai Malli

Jasmine is one of the oldest fragrant flowers cultivated by man. The flower is used for various purposes viz., making garlands, bouquet, decorating hair of women, religious offering etc. It is also used for production of Jasmine concrete that is used in cosmetic and perfumery industries. Farmers from the Madurai, Theni, Dindigul, Sivagangai and Virudhunagar districts are cultivating "Madurai Malli". In Madurai district Jasmine is grown in about 900 acres of land area bounded by Aruppukkottai in South, Natham in North, Melur in East and Tirumangalam in West. This area is demarked based on the soil type which helps ordinary Jasmine as special 'Madurai Malli' with the best qualities. Total annual average Jasmine production from Madurai district is 489 tonnes.

In Madurai, flower garlanding is the major livelihood for thousands of slum dwelling ladies. Women are involved in flower garlanding as a part time livelihood after completion of their house works. All the vendors depend on the women for flower garlanding. During the peak season a lady will earn minimum of Rs.30 and maximum Rs.100 per day from flower garlanding.

**Jasmine yield**

Flowering instigates after 6 months of planting. Fully developed unopened flower buds should be picked in the early morning i.e. before sunrise. Flowering commences in March-April. Commercial yields are obtained after six months of planting. The yield depends upon the cultural practices pursued by the cultivator. During the first year, 750 kg of flowers could be obtained, and it increases to 2000 kg in second year, 2500 kg in third year and 3500 kg per acre from the fourth year onwards.

**Gross income**

The flowers have the good demand in the local market as well as it is being exported to some of the South East / Middle East Asian countries. The sale price of the flower fluctuates from Rs.50 to Rs.1000 per kg depending on demand and the season, and an average price of Rs.70 per kg is assumed for working out the economics. Accordingly, the gross income would be Rs.52500 per acre in the first year, Rs.140000 in the second year, Rs.175000 in third year and Rs.245000 from the fourth year onwards.

**Geographical Indication Tag:**

With its heady fragrance, exclusive size and shape, the 'Madurai Malli's uniqueness has a distinct reputation universally. The Geographical Indication (GI) tag was given to Madurai Malli Farmers Association promoted by DHAN Foundation with the technical support of Tamil Nadu Agriculture University on January 16, 2013. The GI tag will reinforce Madurai Malli's identity in the global market. The tag will help preserve the biodiversity of the area consists of old undivided Madurai District comprising of Madurai, Theni, Dindigul, Sivagangai, Ramanathapuram and parts of Pudukottai district and protect the legitimate rights of jasmine farmers.

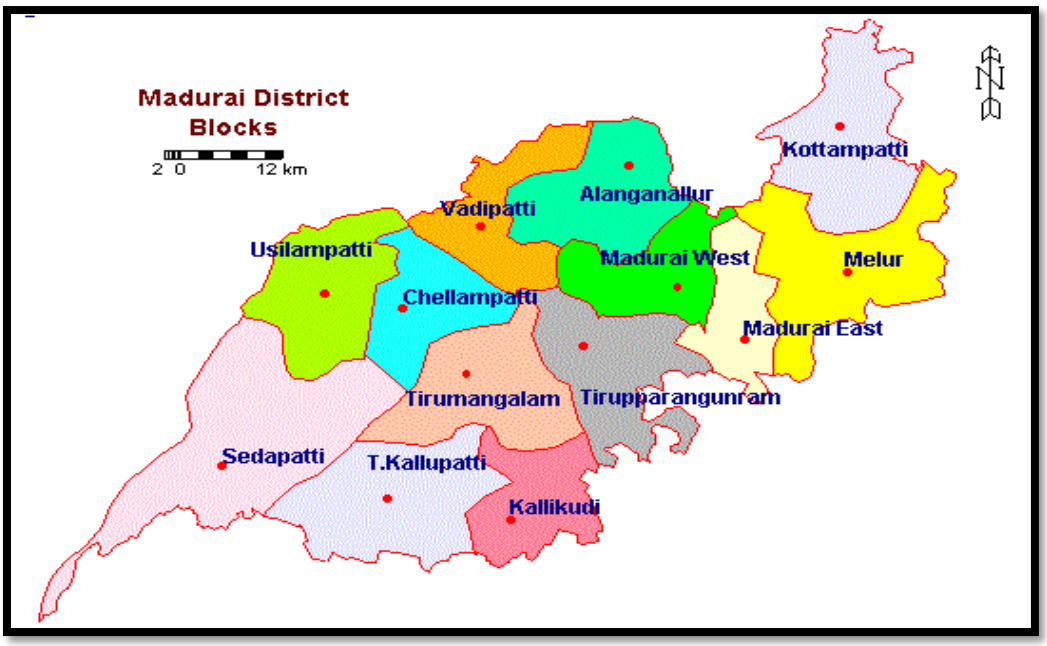



**Table 1.1: District Basic Demographic Indicators**

| S. No. | Indicators | 2001 | 2011 |
|---|---|---|---|
| 1 | Population | 2578201 | 3038252 |
| 2 | Decennial Growth (%) | | 17.8 |
| 3 | Density of population per sq.km. | 698 | 819 |
| 4 | Urban population (%) | 56.01 | 60.78 |
| 5 | Sex ratio | 978 | 990 |
| 6 | Percentage of 0-14 year old | -- | 23.81 |

Source: Census 2001 and 2011

## Economy

### Agriculture

Madurai has historically been an agricultural district; it has been dependent on river water and monsoon rain. South west of the Madurai purely depends on rainfed agriculture and north depends on river water for agricultural activities. The major food crops are rice, maize, millets, cholam, oilseeds and pulses are bengal gram, green gram, horse gram, and black gram. Cash crops include sugarcane, coconut, chillies and cotton. Major horticulture crops cultivated in this district are fruits crops like mango, banana and vegetables like okra, gourds, tomato, brinjal, onion and chilles, plantation crops like cashew and betel vine, and flower crops like jasmine and tuberose.

## Sectoral Distribution of Gross District Domestic Product

### Status of Madurai in GDDP

As a heritage city, Madurai showed fluctuated performance over the last 7 years in the primary sector. It has grown at an average growth rate of 10.42% over the years in 2010-11. 2007-2008 seems to be low while 2010-2011 there is increased performance in the district. That too tertiary sector average 10.95 is almost nearing to State's average of 11.28%. This shows that the income through manufacturing unit, electricity, gas and water supply is more which had created an impact on per capita of secondary sector.

**Table 1.2: Sector wise Gross State/District Domestic Product at Constant price (Rs. in lakhs)**

| Sl. No. | Year | Primary sector | | Secondary sector | | Tertiary sector | |
|---|---|---|---|---|---|---|---|
| | | Madurai | State | Madurai | State | Madurai | State |
| 1 | 2005-2006 | 74841 | 2914561 | 268332 | 7751784 | 704759 | 14290360 |
| 2 | 2006-2007 | 77373 | 3286591 | 418957 | 8807824 | 823410 | 16658553 |
| 3 | 2007-2008 | 73636 | 3150807 | 293403 | 9151736 | 894732 | 18213138 |
| 4 | 2008-2009 | 78178 | 3079411 | 289976 | 8962975 | 978237 | 20136950 |
| 5 | 2009-2010 | 72158 | 3279727 | 364985 | 10857492 | 1042331 | 21525966 |
| 6 | 2010-2011 | 79676 | 3516987 | 419605 | 12542302 | 1177102 | 24282284 |
| 7 | 2011-2012 | 84771 | 3872767 | 444807 | 13039248 | 1268355 | 26411788 |

Source: Department of Economics and Statistics

### Industry

The District has a very few reputed organizations in the private sector like M/s.T.V.Sundaram Iyengar & Sons, Madura Coats, Fenner (I) Ltd., George Oaks Ltd. etc. which are engaged in the production of variety of goods like tyres and tubes, machineries, textile, conveyor belt etc. and also provide employment opportunities.

The District offers ample scope for the field of textiles, readymade garments, bakery units, and floriculture, dairy and cold storage units, Agro and Herbal products, Granite stones, Blue metal (jelly), Chamber bricks, Rubber and plastic based industries. Thiagarajar Mills is known for production of three distinct count groups - Fine Count Combed Cotton Yarn, Hosiery Yarn & Coarse Count Combed Cotton Yarn is in Madurai. There is also a very good scope for starting food processing and agro based industries.

In South India, Madurai is also one of the districts where rubber based industries operate on a scale in the district. These industries are involved in the production of gloves, sporting goods, mats, other utility products and automobile rubber components. TVS Srichakra (tyre

manufacturing), Sundaram Industries (Rubber Division, Coach Division), Fenner India, Hi-Tech Arai Limited and Lanxess India are some of the rubber based industries in the city. The major consumers for the components in the city are automobile producers like General Motors, Ford, Toyoto and Honda. The city is home to one of the top motorcycle manufacturers in India, the TVS Group. There are many textile, granite and chemical industries operating in Madurai.

Madurai has been promoted as a second-tier city for IT. Software companies like Honeywell Technology Solutions operate their offices in Madurai. Software Technology Parks of India, an agency of the Government of India has authorized several such companies to receive benefits under its national information technology development program. The State Government proposed two IT-based Special Economic Zones (SEZ) in Madurai and these have been fully occupied by various IT companies.

## Per capita income for Madurai

Per capita income measures the average income earned per person in a given area in a specified year It is often used to measure a country's economic prosperity. The per capita income of Madurai has shown an average growth rate of 10.09% between 2005 and 2011.

**Table 1.3: Per capita income for Madurai/Tamil Nadu State (GDDP at constant price)**

| Sl. No | Year | District | | State | |
|---|---|---|---|---|---|
| | | Per capita Income | Growth rate | Per capita Income | Growth rate |
| 1 | 2004 - 2005 | 35034 | -- | 33998 | -- |
| 2 | 2005 - 2006 | 39864 | 13.7 | 38435 | 13.05 |
| 3 | 2006 - 2007 | 50023 | 25.48 | 43941 | 14.33 |
| 4 | 2007 - 2008 | 47671 | -4.70 | 46293 | 5.35 |
| 5 | 2008 - 2009 | 50720 | 6.40 | 48473 | 4.71 |
| 6 | 2009 - 2010 | 55590 | 9.60 | 53359 | 10.08 |
| 7 | 2010 - 2011 | 62842 | 13.05 | 59967 | 12.38 |
| *8* | *2011 – 2012* | *67258* | *7.03* | *63996* | *6.72* |
| *Average growth rate* | | | *10.09* | | *9.52* |

Source: Department of Economics and Statistics

The average growth rate of Per capita income of district is higher than that of State's average. In 2007-2008, there is a decline in growth rate because there was a negative growth rate (-4.70), in the same year in secondary sector also there was a negative growth rate of 29.97%. This has influenced the per capita income of the district to fall. The income of 2010-2011 shows a better growth rate after 2007 as there was an increase in the primary, secondary and tertiary sector of

the district.

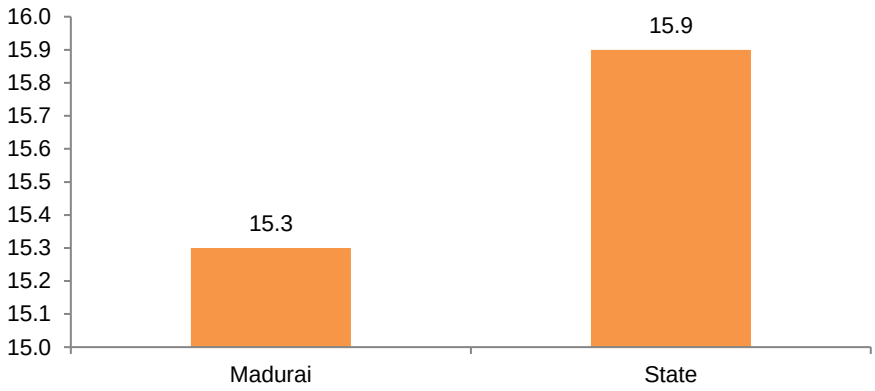
## Social sector

### Health

There is inequality in health status among different socio-economic groups defined in terms of income, education, land ownership, and housing. Madurai district consists of 10 taluks: 13 community development blocks and 670 revenue villages. There are 42 primary health centres of which 13 are main PHCs and 29 are additional PHCs. According to 2011 Census, enumerated population were 30.38 lakh people in the district of which 11.91 lakhs were in rural areas and 18.47 lakh were in urban areas. IMR rate at district level is 25.6 in 2009 and in 2013-14 it has been reduced to 16.13.

Trends in crude birth rate, crude death rate, maternal mortality ratio, infant mortality rate and their gaps across blocks are discussed in the subsequent chapters. As per 2013-14, CBR in Madurai district is 15.30 and it influences human development. The performance of Madurai in the aspects of health lies among the bottom 5 districts in the aspect of life expectancy as per the State Human Development report 2003. The crude birth rate has decreased in Madurai district when compared to 16.6 in 2009.

**Chart 1.1: Crude Birth Rate-2013-14**




Source: Deputy Director of Health, Madurai

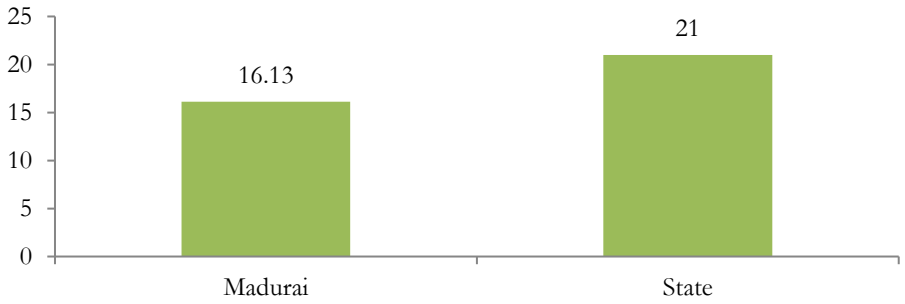
In 2013-2014, CBR has reduced to 15.3 which is lower than the State. The district has taken family planning measures in controlling birth rate because increasing trends in CBR is not a positive sign for our country as it is already highly populated. Increase in population naturally affects the economy where there is difficulty in fulfilling the basic amenities, seeking for nutritious food, etc. Hence the district administration had made sincere efforts in controlling

birth rate of the district.

### Infant Mortality Rate

IMR is considered as a core indicator of human development because it reflects not only just the state of health, nutrition and caring, provision of medical facilities available to infants below one year of age, but also of the general well being of the society.

**Chart 1.2: Infant Mortality Rate-2013-14**




Source: Deputy Director of Health, Madurai

IMR at district level was 25.6 in 2009 and in 2013-14 it had reduced to 16.13. Mainly through NRHM project, registration is done and regular follows ups are influencing the reduction in IMR. As per the year 2013-14, IMR of the district is lower when compared to the State's IMR of 21.

## Literacy and Education

Average literacy rate of Madurai in 2011 were 83.45 compared to 77.82 of 2001 whereas gender wise literacy, male and female literacy were 89.72 and 77.16 respectively which has increased when compared to census of 2001 male (86.17) and female (69.35). The Gross Enrollment Ratio for primary education in Madurai is 100.16 and for secondary education are 97.22. Enrollment in the district shows the positive growth where 99% is recorded in primary and upper primary level. The existing system of education is observed. The trend shows though the enrolment is satisfactory where quality of education and infrastructure facilities has to be enhanced as it influences human development.

The Lady Doak College established in 1948 is the oldest women's college in Madurai. Thiagarajar College, Madura College, Fatima College and MSS Wakf Board College are among the old institutions of the city. Madurai Kamaraj University (Originally called Madurai University), established in 1966, is a State-run university which has 109 affiliated arts and science colleges in Madurai and neighboring districts. There are 47 approved institutions of the

university in and around the city, consisting of autonomous colleges, aided colleges, self-financing colleges, constituent colleges, evening colleges and other approved institutions. There are seven polytechnics and five Industrial training institutes in Madurai, with the Government ITI and the Government Polytechnic for Women being the most prominent of them all. There are two Government medical institutes in Madurai, such as Madurai Medical College and Homoeopathic Medical College, Tirumangalam. There are also 11 paramedical institutes. There are seven engineering colleges in Madurai affiliated to Anna University with the Thiagarajar College of Engineering being the oldest. The Madurai Law College, established in 1979, is one of the seven Government law colleges in the State. It is administered by the Tamil Nadu Government Department of Legal Studies, and affiliated with the Tamil Nadu Dr. Ambedhkar Law University. There are three teacher training institutes, two music colleges, three management institutes and 30 Arts and Sciences colleges in Madurai. The agricultural college and research institute in Madurai, started in 1965 by the State Government, provides agricultural education to aspirants in the southern districts of Tamil Nadu. Total schools in the district are about 2028 among which Government, private aided and private unaided schools are included.

## Other sector

## Tourism

Madurai is popularly called Thoonga Nagaram meaning the city that never sleeps, on account of the trade activities. It was declared as "Heritage city" under JnNURM. The city attracts a large number of tourists from within the country and abroad. About 91,00,000 tourists visited Madurai in 2010, including 5,24,000 foreigners. People from adjoining districts are travelling to Madurai Government and private hospitals to receive medical, dental and surgical care because of adequate infrastructure, affordability or a higher level of quality of care.

Sites of cultural, heritage and religious significance attract tourists from all over the world for its architectural features. Important sites namely Sri Meenakshi Amman Kovil, Koodal Azhagar Perumal Kovil, Alagar Kovil, Pazhamuthircholai, Sri Mariyamman Kovil, Sri Muktheeswarar Kovil, Tirupparangunram, St. Mary's Church, St. George Church, Goripalayam Dharga, Big Mosque, Gandhi Museum, Thirumalai Nayak Mahaal and Theppakkulam are well known for their significance which brings a floating population of 2 lakh every day. At the city outskirts, the hills viz., Tirupparangunram hill, Samanar (Jain) hill – Keezhakkuyilkudi, Puzhiyangulam hill, Alagar Malai and Yaanai Malai where there are natural caves, Brahmi inscriptions of third century BC, Bass sculptures of Jain Theerthankarars attract foreign travellers, archaeologists and historians.

Madurai is surrounded with 9 important hills which exhibits the history and heritage very strongly. The hills are Anaimalai, Alagarmalai, Arittapatti, Karadipatti, Meenakshipuram, Samanarmalai, Tirupparangunram, Thiruvadavur etc.

In the district next to Chitrai Festival, Pongal Festival adds value to Madurai city through Jallikkattu (Taming Bulls). This Jallikkattu is conducted in two villages nearby Madurai city. Many foreign and domestic visitors like to watch taming of bulls. More than 100 bulls from Southern districts participate in these contests.

## Conclusion

Madurai has significant potential to play a major role in the future development of Tamil Nadu. The city is growing rapidly, creating challenges in ensuring the provision of adequate infrastructure, housing, and basic services to meet the growing demands of its residents. Serving an extensive rural hinterland, Madurai is the most important trade and commerce centre in southern Tamil Nadu and has become the State's second largest city. The heritage assets which have made the city famous, and its role as a religious and pilgrimage centre and tourist gateway city to southern India generates an estimated 2,10,000 visitors to the city every day. Tamil Nadu State recognizes the important role that Madurai could play in helping it to realize the State's future growth potential and its objectives of boosting per capita income, enhancing levels of social development and providing high quality infrastructure comparable with the best in the world.

# CHAPTER 2

# STATUS OF HUMAN DEVELOPMENT

# 2. Status of Human Development In Madurai District

## Introduction

The Human Development Index (HDI) is a composite statistic of life expectancy, education, and per capita income indicators, which are used to rank countries into four tiers of human development. A country scores higher HDI when the lifespan is higher, the education level is higher, and the GDP per capita is higher. GDP and Human Development Index (HDI) are important to assess the performance of the country. HDI is an important factor to rank the countries in the aspect of human development. In the first Human Development Report, development was measured by using combined indicators of life expectancy, educational attainment and income. On a whole it is said that the index is the summary measure which captures several dimensions.

## Human Development Index in Madurai

In District Human development Report 2014 preparation, index computation and ranking the block takes the important place. Four indices computed to measure the inter-block disparity, viz., Human Development Index (HDI), Gender Inequality Index (GII), Child Development Index (CDI) and Multidimensional Poverty Index (MPI). Based on these four indices, the inter - block disparity was analyzed.

Human development index and child development index are positive index: where a Higher index value denotes a higher rate of human development and the value closer to the one had higher human development.

Gender inequality index and Multidimensional poverty index are negative indices. Here, closer to the zero denotes lesser inequality and poverty. The overall status of index value of 14 blocks is given in this chapter including the corporation.

Human development is a multidimensional feature. This includes 3 dimensions and 11 indicators. The dimensions are standard of living, health and education. These three dimensions have 11 indicators which crucially contribute to human development of the block.

| **Dimensions** | **Indicators** |
|---|---|
| Standard of living | Access to cooking fuel<br>Access to toilet facilities<br>Access to drinking water<br>Access to electricity<br>Access to Pucca houses |

| Dimensions | Indicators |
|---|---|
| Health | Infant Mortality Rate<br>Maternal Mortality Ratio<br>Under 5 Mortality Rate |
| Education | Literacy rate<br>Gross enrollment in Primary<br>Gross enrollment in secondary |

## Human Development Index- Inter Block Variations

The HDI has been constructed for 14 blocks in the district. As per the 11 indicators given it can be seen that the HDI is 0.50, and this value varies from 0.30 to 0.97 among the blocks. Corporation takes the top position, while Kottampatti is placed at the bottom. Being urban based it is natural for the Corporation to come first; concentration has to be given by the district administration in the rural areas where the standard of living has to be increased. Under HDI, Kottampatti has come under the backward block in the district so attempts have to be made in improving the condition of rural backward blocks. The remote Kottampatti block in Madurai district has come under official scrutiny as nearly 15% of eligible mothers in this block reportedly prefer to have more than two children, thus deviating from the family planning norm.

Kottampatti is an area of concern for officials on health aspects because three children or more has become the trend for families here, putting it among the 14 blocks identified as falling under the Higher Order Birth (HOB) category.

An overview has been given to represent the status of human development in the blocks with respect to each of the indicators separately. The best performing five blocks and least performing five blocks have been identified.

**Table 2.1: Top and Bottom Three Blocks in Human Development Index**

| Top 3 block | Value |
|---|---|
| Madurai Corporation | 0.97 |
| Tirupparangunram | 0.63 |
| Madurai West | 0.61 |

| Bottom 3 block | Value |
|---|---|
| Kottampatti | 0.30 |
| T.Kallupatti | 0.31 |
| Alanganallur | 0.37 |

If we see the level of achievement in the three indicators of human development it gives some insights on the interrelationships. To achieve the standard of living, we need more income, which gives people the ability to buy goods and services which paves way to go for higher consumption options. In top 5 blocks, there is interrelation among the three indicators such as standard of living, Health and Education namely, Madurai Corporation, Madurai West, Madurai

East, Melur and Tirupparangunram scored high values than the rest of the blocks. All these blocks are urban based blocks which positions them better in the performance of HDI. This shows that accessibility of education and health services for the people in rural blocks are poor. There is a need to improve their status in the aspect of human development.

As far as HDI is considered, first three blocks are Corporation (0.97), Tirupparangunram (0.63), and Madurai West (0.61), the bottom three blocks are Kottampatti (0.30), T.Kallupatti (0.31) and Alanganallur (0.37). HDI assesses the Standard of living, Health and Education which shows the interblock disparity. The rank shows that urban areas are better than the rural areas which have got the lower rank. The top performance of three blocks is due to high standard of living particularly access to the basic needs and education facilities which can be well related with the high income which gives ability for the people to access those basic facilities. As far as rural blocks are considered field reality says that lack of awareness prevails among the villages which is the major reason for their backwardness in education and health sector. While discussing with the community it came that still in many rural villages in the blocks of Kottampatti, Kallikudi, Chellampatti, T. Kallupatti and Sedapatti are giving their children in early marriage, which has an impact on both education and health. Awareness needs to be given from school level, which will really create a positive impact in the future. Regarding the standard of living drinking water, access to cooking fuel also commonly prevails where people still depend on firewood for cooking which spoils their health as well as the environment. Affordability to LPG, Pucca house, Toilet also lack in these blocks which naturally affects the status and standard of living and has the impact on human development also.

## Gender Inequality Index

The Gender Inequality Index (GII) is a new index for measurement of gender disparity that was introduced in the Human Development Index by the UNDP. The new index was introduced as a trial measure to remedy the deficiency of the previous, and the Gender Development Index (GDI) and the Gender Empowerment Measure (GEM), both of which were introduced in the year 1995 Human Development Report. GII helps to measure and compare the status of gender development. It is also helpful to compare GIIs and HDIs to assess the extent of gender inequality. The dimensions and the indicators are given below.

| **Dimensions** | **Indicators** |
|---|---|
| Health | Maternal Mortality Ratio<br>Share of institutional delivery<br>Share of Antenatal coverage |

| Dimensions | Indicators |
|---|---|
| Empowerment | Female literacy rate<br>Male literacy rate<br>Share of female children 0 – 6 years<br>Share of male children 0 – 6 years<br>Share of male elected representatives in RLBs and ULBs<br>Share of female elected representatives in RLBs and ULBs |
| Labour market | Female work participation rate<br>Male work participation rate<br>Female work participation rate in non Agri. Sector<br>Male work participation rate in non Agri. sector<br>Female Agri. wage rate<br>Male Agri. wage rate |

As far as Health, Empowerment and Labour are considered among the 14 blocks, Madurai West ranks first among the top 3 blocks. Here also urban factors influence the blocks where naturally it comes to the first and Tirumangalam the worst. The other blocks which are better in GII are T.Kallupatti, Vadipatti and Corporation.

**Table 2.2: Top and BottomThree Blocks in Gender Inequality Index**

| Top 3 blocks | Value |
|---|---|
| Madurai West | 0.06 |
| Tirupparangunram | 0.06 |
| Chellampatti | 0.07 |

| Bottom 3 blocks | Value |
|---|---|
| Tirumangalam | 0.19 |
| Madurai East | 0.12 |
| Melur | 0.12 |

Similarly, the antenatal coverage is 95% in all the blocks which shows the increased awareness of the people in accessing the Government and private healthcare services and the reach of institutional services to the women. The major concern of high MMR, exists more in blocks such as Alanganallur, Kallikudi, Tirumangalam and Sedapatti. In literacy part, the blocks T.Kallupatti, Kallikudi, Chellampatti, Sedapatti have to concentrate on increasing female literacy, the major reason for a decrease in female literacy mainly falls on early marriage, poor economic conditions where either girl children are sent for wage employment in textile mills in Tirupur or to mill work in the outskirts of Madurai. In all the backward blocks, focus on female literacy is low which shows the lack of awareness among the people, and in a few pockets of the backward block due to less transport facility and distance of educational institutions which in term impacts female literacy.

## Overall Gender Inequality Index of the blocks

The GII of the blocks on average is 0.09, almost all the blocks range from 0.06 to 0.19 as GII value. In the case of top 5 blocks, Madurai West and Tirupparangunram which has scored due to the urban influence.. Rural blocks have concentrated on the upliftment of women. The Government must prioritize the needs of weaker groups in planning its investments and outreach. The poorest blocks of the district and most vulnerable groups including women, children, and people with disabilities must be focused while planning for infrastructure and allocating resources.

Madurai stands better in GII but interblock gaps needs to be addressed. Gender discrimination and violence against women still prevails in rural blocks and slum areas, though the issues have started to get reduced still women status had to be increased. But there are broader opportunities now available for women like mechanization of industry, agriculture, education which enables women to compete with men successfully. Inspite of the progress made, rural women have to be given importance as they are yet to achieve even their basic rights. For eg: the participation of women in politics is not only the consequence of lack of resources, but it shows the status of women in the community. On an average, the district shows 34.77 share of female representatives in Rural Local Body (RLB) and ULB's.

The modern world has brought changes in gender roles of men and women. During the earlier period, it was that - man was the provider of basic necessities for family and women the child bearer and care taker of home. This is no longer valid in the changing social structure and economic compulsions. Overall, in the district it was found that the low MMR, low female work participation rate in agriculture, high female participation in non-agriculture sector and gender gap in literacy rates are the contributing factors for GII in the district, which needs attention.

## Analysis on Child Development Index

Child Development Index (CDI) is an index combining performance measures specific to children – education, health and nutrition. The indicators which make up the index are chosen because they are easily available, commonly understood, and clearly indicative of child well – being. Here, the two dimensions used for measuring Child Development Index are Health and the second one is Education for which the indicators are given below.

| Dimensions | Indicators |
|---|---|
| Health | U5MR<br>Child sex ratio<br>Percentage of malnourished children |
| Education | Gross enrollment ratio in primary<br>Gross enrollment ratio in secondary<br>Children never enrolled in schools<br>Transition rate from primary to upper primary<br>Transition rate from upper primary to secondary |

Chellampatti have poor status, as the block has high U5MR (21.42%), child sex ratio (888) is low and there are around 20.12% of malnourished children in the block. Gross enrollment in Secondary (69.72%) is very low which naturally pushed Chellampatti to the 14th rank of the index. Corporation stands better in terms of health. Kallikudi, Chellampatti, Usilampatti, Melur, Sedapatti have declined in juvenile sex ratio, which indicates concentration and development towards girl children has to be strengthened. It means protective measures to be taken to lower IMR and MMR in particular blocks. Almost all the rural blocks have a higher percentage of malnourishment. However special focus to be given to Madurai East (28.70%), Melur (25.87%), Chellampatti (20.12%), and Usilampatti (22.53%). These factors have close contact with child development. Constant efforts need to be taken by the district administration to address the issues in rural blocks.

Gross enrollment and transition rate seems to be satisfactory in Madurai district. State Governments have brought many initiatives in ensuring 100% attendance at primary level. So, naturally these indicators perform well in the blocks.

In Madurai, Corporation, Madurai West and Vadipatti comes to first three positions in Child Development Index. These are urban based blocks which have higher influence over the parameters given.

| Top 3 blocks | Value |
|---|---|
| Corporation | 0.91 |
| Madurai West | 0.72 |
| Vadipatti | 0.68 |

| Bottom 3 blocks | Value |
|---|---|
| Chellampatti | 0.37 |
| Kottampatti | 0.41 |
| Sedapatti | 0.45 |

The least performing blocks in CDI are Chellampatti (0.37), Kottampatti (0.41) and Sedapatti (0.45). These are rural blocks which lacks in terms of health and education. There is a disparity among the blocks where the value ranges from 0.91 to 0.37. This shows that urban based blocks are performing well in the given indicators. Steps have to be taken and implementation has to be improved in rural blocks.

## Multidimensional Poverty Index- an analysis

The Multidimensional Poverty Index (MPI) is a new measure designed to capture the severe deprivations that people face at the same time. The MPI reflects both the incidence of multidimensional deprivation and its intensity – how many deprivations people experience at the same time. It can be used to create a comprehensive picture of people living in poverty; MPI builds on recent advances in theory and data to present the first global measure of its kind, and offers a valuable complement to traditional income-based poverty measures. Three dimensions are used to measure the poverty in Madurai district, viz., health, education and living standard with ten indicators.

| **Dimensions** | **Indicators** |
|---|---|
| Health | IMR<br>Higher order birth rate<br>Malnourished children |
| Education | Drop out of the primary<br>Drop out in secondary |
| Standard of living | Access to cooking fuel<br>Access to toilet facilities<br>Access to drinking water<br>Access to Pucca houses<br>Access to electricity |

Kottampatti has poor status, as the block has a higher HOB (16.86%), IMR (21.70) and 10% of malnourishment, the dropout rate in the secondary is also higher in the block and access to toilets is only 38.46%. All the factors have close connection with poverty. Malnourishment is also one of the factors contributing to poverty. Melur has the highest percentage of 27.0 followed by Usilampatti and Chellampatti, where efforts need to be taken to have control and regularity in providing nutritious food has to be ensured.

Drop out in the primary school is comparatively low in all the blocks as the State had taken steps in ensuring primary education to children. As a result of this, there is not much problem in the primary level of education, but in the case of secondary education Tirumangalam, Tirupparangunram, Kallikudi, Madurai East and Corporation have a higher percentage of drop outs which has to be prevented. The reason for drop outs in the secondary education may be the affordability to face the education expenditure, going for labour work, early marriage of girl children, less importance to higher education, in remote villages.

The common expectation is to have better standard of living. As far as this indicator is considered rural blocks have less access to cooking fuel, toilet and pucca house. Urban based blocks are having better opportunities towards standard of living. So, focus to be given for the indicators which have the greatest influence in human development.

**Top and Bottom Three Blocks in Multidimensional Poverty Index**

| Top 3 blocks | Value |
|---|---|
| Corporation | 0.09 |
| Tirupparangunram | 0.33 |
| Tirumangalam | 0.39 |

| Bottom 3 blocks | Value |
|---|---|
| Kottampatti | 0.63 |
| Kallikudi | 0.60 |
| Sedapatti | 0.57 |

Tirupparangunram, Corporation and Tirumangalam show better performance in terms of MPI. There is a difference between urban and rural based blocks. This shows that based on the indicators given -health, education and standard of living in urban blocks have better status than the rural blocks. Standard of living, health and education are taken for multidimensional poverty index computation. Out of five indicators, access to cooking fuel, toilet facilities and pucca house perform lower which contributes for the status of poverty, while other two indicators – access to drinking water and electricity perform extremely well among the blocks. In general, the standard of living dimension is better in urban blocks.

## Overall Index

Based on the four indices and its values, ranking have been done for all the blocks according to the index values. In HDI and CDI, Corporation comes first where urban factors influence more in corporation to come first. The indicators which is given under and HDI and CDI favours more for the urban block.

**Table 2.3: Overall Index Ranking**

| S.No | Block | HDI | | GII | | CDI | | MPI | |
|---|---|---|---|---|---|---|---|---|---|
| | | Overall Index | Rank | Overall Index | Rank | Overall Index | Rank | Overall Index | Rank |
| 1 | Alanganallur | 0.37 | 12 | 0.08 | 8 | 0.50 | 8 | 0.46 | 6 |
| 2 | Chellampatti | 0.44 | 8 | 0.07 | 3 | 0.37 | 14 | 0.52 | 10 |
| 3 | Kallikudi | 0.38 | 11 | 0.09 | 9 | 0.47 | 11 | 0.60 | 13 |
| 4 | Kottampatti | 0.30 | 14 | 0.10 | 11 | 0.41 | 13 | 0.63 | 14 |
| 5 | Madurai East | 0.55 | 6 | 0.12 | 12 | 0.56 | 6 | 0.39 | 5 |
| 6 | Madurai West | 0.61 | 3 | 0.06 | 1 | 0.72 | 2 | 0.39 | 4 |
| 7 | Melur | 0.57 | 4 | 0.12 | 13 | 0.52 | 7 | 0.49 | 8 |
| 8 | Sedapatti | 0.42 | 9 | 0.10 | 10 | 0.45 | 12 | 0.57 | 12 |

| S.No | Block | HDI | | GII | | CDI | | MPI | |
|---|---|---|---|---|---|---|---|---|---|
| | | Overall Index | Rank | Overall Index | Rank | Overall Index | Rank | Overall Index | Rank |
| 9 | T.Kallupatti | 0.31 | 13 | 0.07 | 4 | 0.49 | 9 | 0.57 | 11 |
| 10 | Vadipatti | 0.57 | 5 | 0.07 | 5 | 0.66 | 3 | 0.46 | 7 |
| 11 | Tirumangalam | 0.40 | 10 | 0.19 | 14 | 0.57 | 5 | 0.38 | 3 |
| 12 | Tirupparangunram | 0.63 | 2 | 0.06 | 2 | 0.59 | 4 | 0.32 | 2 |
| 13 | Usilampatti | 0.54 | 7 | 0.08 | 7 | 0.49 | 10 | 0.49 | 9 |
| 14 | Corporation | 0.97 | 1 | 0.08 | 6 | 0.91 | 1 | 0.09 | 1 |

Kottampatti which is backward in two indices such as HDI and MPI lies in the worse situation. The district administration should take efforts to improve the status of living in most rural blocks. Chellampatti falls lower in CDI where still lack of awareness prevails among the people.

## Conclusion

The Human Development deals with the diversity of human needs where it highlights people to enjoy, cherish and a sense of belonging to one's own community apart from the income they earn. Efficiency, Equity, Freedom and Empowerment are the main four characteristics which are necessary to achieve human development outcomes.

The prosperity of the rich alone doesn't show the progress in human development, but how well the poor and socially disadvantaged are faring in society is most important. Implicit in this perspective is not only a strong concern for equity and social justice, but also a strong conviction that improvements in the wellbeing of the poor are fundamental to ensuring a better life.

The performance of Madurai on HDI indicators such as health, income and education, the district is found one of the top 5 districts in terms of income and combined enrolment ratio. Female literacy is found to be low in Chellampatti (58.91%), Sedapatti (56.28%), Kotampatti (60.65%) where focus on girl children to be given and issues of literacy problem to be sorted out. The other major concern is high MMR exists in few blocks such as Alanganallur, Kallikudi, Tirumangalam and Sedapatti. Kottampatti is an area of concern for officials on health aspects because the family size is three and falls under the Higher Order Birth (HOB) category.

Among the 32 districts of the State, Madurai stands in 24th place in per capita income. This district predominantly depends on agriculture and presently the scenario is getting changed. Madurai is now becoming an important industrial and education hub in South Tamil Nadu. In order to attain prosperity at all levels especially in terms of human development, certain indicators in the aspect of standard of living, education, health has to be concentrated in rural

blocks. Government of Tamilnadu has constituted State Balanced Growth Fund( SBGF) to reduce the regional disparities in sectors like Health, Education, Poverty, Industrial density and Irrigation facilities across the blocks. Accordingly, in Madurai District, four blocks have been identified as most backward areas in the above said sectors, by State Planning Commission for the implementation of SBGF Scheme. Through addressing these regional disparities Madurai can improve in the aspect of human development in the forthcoming period.

# CHAPTER 3

# EMPLOYMENT, INCOME AND POVERTY

# 3. Employment, Income and Poverty

## Introduction

The population employed in productive work, the quality of opportunities available and the pay received by the working population are significant determinants of human development. It is well known that employment, income and poverty are interrelated and they have significant influence over human development. So analyzing changes related in these aspects is very important to understand what is happening regarding human development. This chapter undertakes a detailed analysis of employment, income and poverty situation in the district and changes which had taken place in the recent past.

## Employment

Over the years there has been a drastic change in employment and its composition in the district.

### Size of Workforce and Work Participation Rate

Generally the workers are classified as main and marginal workers on the basis of their work. Main workers are defined as those who had worked for the major part of the year (i.e.) 183 days or more. Those who had worked less than 6 months or less than 183 days in a year are termed as marginal workers.

**Table 3.1: Total Workers and Non workers**

| S. No | Block | Total worker | | Main workers | | Marginal workers | | Non workers | | Total Population | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 |
| 1 | Alanganallur | 50679 | 57814 | 44276 | 48086 | 6403 | 9728 | 50686 | 53813 | 101365 | 111627 |
| 2 | Chellampatti | 49865 | 50633 | 38261 | 38475 | 11604 | 12158 | 34860 | 36499 | 84725 | 87132 |
| 3 | Kallikudi | 38703 | 41321 | 34687 | 36482 | 4016 | 4839 | 26060 | 32092 | 64763 | 73413 |
| 4 | Kottampatti | 50437 | 59564 | 38468 | 46449 | 11969 | 13115 | 49419 | 54775 | 99856 | 114339 |
| 5 | Madurai East | 72877 | 98837 | 58521 | 83272 | 14356 | 15565 | 96295 | 125871 | 169172 | 224708 |
| 6 | Madurai west | 69074 | 108919 | 56873 | 94360 | 12201 | 14559 | 111074 | 160868 | 180148 | 269787 |
| 7 | Melur | 72199 | 81522 | 55331 | 69927 | 16868 | 11595 | 79864 | 95537 | 152063 | 177059 |
| 8 | Sedapatti | 55188 | 64248 | 43505 | 50092 | 11683 | 14156 | 47805 | 47680 | 102993 | 111928 |
| 9 | T.Kallupatti | 42869 | 47396 | 36824 | 40720 | 6045 | 6676 | 40977 | 41186 | 83846 | 88582 |
| 10 | Vadipatti | 48404 | 60244 | 43292 | 48988 | 5112 | 11256 | 61429 | 62597 | 109833 | 122841 |
| 11 | Tirumangalam | 62509 | 75266 | 54201 | 63998 | 8308 | 11268 | 68812 | 80966 | 131321 | 156232 |
| 12 | Tirupparangunram | 113604 | 161145 | 104441 | 143468 | 9163 | 17677 | 161136 | 212970 | 274740 | 374115 |
| 13 | Usilampatti | 44682 | 56408 | 35918 | 46052 | 8764 | 10356 | 49825 | 52216 | 94507 | 108624 |
| 14 | Corporation | 317453 | 391315 | 304947 | 363533 | 12506 | 27782 | 611416 | 626550 | 928869 | 1017865 |
| **Total** | | **1088543** | **1354632** | **949545** | **1173902** | **138998** | **180730** | **1489658** | **1683620** | **2578201** | **3038252** |

Source: Census 2001 and 2011

While looking at the trend, the percentage of total workers in Madurai has increased from

42.22% to 44.59% during 2001 – 2011. Though it shows a positive trend in employment in the district, the increase in total workers in 10 years has been very less.

The 2011 census shows that the share of main workers to total workers is found to have reduced to 86.66% when compared to 2001 which was 87.23 %.. This shows that there was inconsistency in getting a regular job continuously, on the other side marginal workers has increased to 13.34% which shows the insecurity of the working population. Percentage of increase in marginal workers may be a reason for the increase in worker participation of the district.

**Table 3.2: Work Participation Rate Rural/Urban**

| Rural/Urban | 2001 | 2011 |
|---|---|---|
| **Rural** | 51.30 | 52.69 |
| Male | 58.41 | 60.04 |
| Female | 44.05 | 45.19 |
| Persons | 51.30 | 52.69 |
| **Urban** | 35.09 | 39.36 |
| Male | 55.02 | 58.55 |
| Female | 14.69 | 20.10 |
| Persons | 35.09 | 39.36 |
| **Total** | 42.22 | 44.59 |
| Male | 56.51 | 59.14 |
| Female | 27.61 | 29.89 |
| Persons | 42.22 | 44.59 |

Source: Census 2001and 2011

The work participation rate in rural area is more (52.69%) when compared to urban WPR of urban (39.36%), this shows that WPR is higher in rural areas, but if the rate of growth in rural areas is just 2.7% whereas in urban it is around 12.16%. This pattern of growth indicates that employment opportunities are growing, more in urban, migration from rural areas will also be one of the reasons as now in Madurai textiles, industries, are rooting more. Discussions with the community revealed that due to lack of rainfall agricultural works are getting reduced where people are migrating to nearby cities for daily earnings. In the context of female workers, there is increasing trend and in urban, it shows the fastest growth rate. As a result of the fast growth of female WPRs, and male WPR in urban area, there is an increase in the percentage of total workers in the district which has increased from 42.22 in 2001 to 44.59 in 2011. The overall work participation rate is nearing the State's average of 45.6%.

**Table 3.3: Work Participation Rate**

| S. No | Name of the Block | % of Male workers | | % of Female workers | |
|---|---|---|---|---|---|
| | | 2001 | 2011 | 2001 | 2011 |
| 1 | Alanganallur | 60.26 | 61.18 | 39.56 | 42.26 |
| 2 | Chellampatti | 60.29 | 60.28 | 57.26 | 55.83 |
| 3 | Kallikudi | 61.53 | 60.57 | 58.03 | 51.99 |
| 4 | Kottampatti | 58.60 | 60.21 | 42.65 | 43.93 |
| 5 | Madurai East | 56.82 | 59.17 | 28.84 | 28.45 |
| 6 | Madurai west | 54.16 | 57.17 | 22.11 | 23.54 |
| 7 | Melur | 57.33 | 57.47 | 37.51 | 34.40 |
| 8 | Sedapatti | 57.85 | 60.99 | 49.19 | 53.74 |
| 9 | T.Kallupatti | 57.05 | 59.87 | 45.21 | 47.23 |
| 10 | Vadipatti | 57.54 | 60.42 | 30.49 | 37.66 |
| 12 | Tirupparangunram | 56.33 | 58.80 | 26.00 | 27.13 |
| 13 | Usilampatti | 56.22 | 59.47 | 37.89 | 44.11 |
| 14 | Madurai Corporation | 55.24 | 59.11 | 12.65 | 17.75 |
| **District** | | **56.51** | **59.14** | **27.61** | **29.89** |

Source: Census 2001 & 2011

Table 3.3 shows that there has been a decline in employment in the rural areas, led by a quick fall in the employment of rural females. There has been a marginal increase in urban employment mainly due to an increase in male employment, while female employment has come down in three blocks namely Chellampatti, Kallikudi and Melur. In total, there has been an increase in employment in both male and female when compared to the 2001 census, but the percentage of increase is not much. It shows that in spite of the implementation of the Mahathma Gandhi National Rural Employment Guarantee Act (MGNREGA) there is a decline in rural employment which indicates that there has been a sudden fall in rural work. On the other angle, women are pursing higher education which influences women WPR but as for Kallikudi and Chellampatti female literacy is not satisfactory so the reason for the backwardness has to be explored.

**Box 3.1: Child Labour decline in district**

Child-labour is usually defined as participation in any gainful activity by children in ages of five to fourteen. Children are usually employed in multiple industries, labour works including hotel servers, cleaners, sweepers, and construction labourers. According to the SSA survey 2003, 132 child labours are identified in Madurai district. (Source: Sarva Shiksha Abhiyan – Survey, 2003 (Commissioner of labour). The district administration was on the verge of declaring Madurai as a child labour free district. The continuous effort by Labour Welfare Department eliminated child labourers in Madurai. In Sarva Shiksha Abhiyan (Education for all movement) programme the focus was given for enrolling children in primary school through Residential Speacial Training Centre (RSTC) and Non Residentail Special Training Centre

## Distribution of Workers

The NSSO gives details with regard to age-specific worker population ratio. The worker Population ratio is defined as the total number of persons employed as a percentage of the population. The WPR's in rural and urban area in respective of all age groups are relatively higher in Tamil Nadu than the other States in the nation.

The concept of 'work' as defined in the census of India has been broadly the same in the past five censuses, but the scope of the definition has been extended from time to time. The work has been defined as participation in any economically productive activity with or without compensation, wages or profit. In 2001, a fourfold classification of workers has been carried out: Cultivators, Agricultural labourers, Workers in Household Industry and other workers.

**Table 3.4: Distribution of Worker**

| Sl. No. | Block wise/ District /State | Total workers | | Cultivators | | Agri. Labourers | | Others | | Household workers | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 |
| 1 | Alanganallur | 50679 | 57814 | 6896 | 5646 | 21846 | 31338 | 18120 | 19820 | 893 | 1010 |
| 2 | Chellampatti | 49865 | 50633 | 16982 | 9051 | 15589 | 30729 | 18296 | 9915 | 987 | 938 |
| 3 | Kallikudi | 38703 | 41321 | 9094 | 5479 | 18540 | 22974 | 13157 | 12088 | 663 | 780 |
| 4 | Kottampatti | 50437 | 59564 | 14287 | 10730 | 15445 | 34202 | 21480 | 12908 | 1560 | 1724 |
| 5 | Madurai East | 72877 | 98837 | 5394 | 4401 | 14011 | 20930 | 27120 | 68540 | 5086 | 4966 |
| 6 | Madurai west | 69074 | 108919 | 4216 | 3255 | 8914 | 16793 | 22802 | 86087 | 1615 | 2784 |
| 7 | Melur | 72199 | 81522 | 17166 | 15426 | 22699 | 37502 | 35032 | 26951 | 1365 | 1643 |
| 8 | Sedapatti | 55188 | 64248 | 13208 | 7485 | 19905 | 42564 | 17137 | 12769 | 1320 | 1430 |
| 9 | T.Kallupatti | 42869 | 47396 | 9411 | 5071 | 15297 | 24590 | 18586 | 16018 | 2054 | 1717 |
| 10 | Vadipatti | 48404 | 60244 | 5060 | 4585 | 25346 | 32923 | 18291 | 21307 | 855 | 1429 |
| 11 | Tirumangalam | 62509 | 75266 | 9778 | 5201 | 18138 | 30127 | 35270 | 38483 | 1263 | 1455 |
| 12 | Tirupparangunram | 113604 | 161145 | 6567 | 5323 | 14935 | 19791 | 44496 | 123071 | 9771 | 12960 |
| 13 | Usilampatti | 44682 | 56408 | 9104 | 9454 | 17418 | 25571 | 5691 | 19819 | 1608 | 1564 |

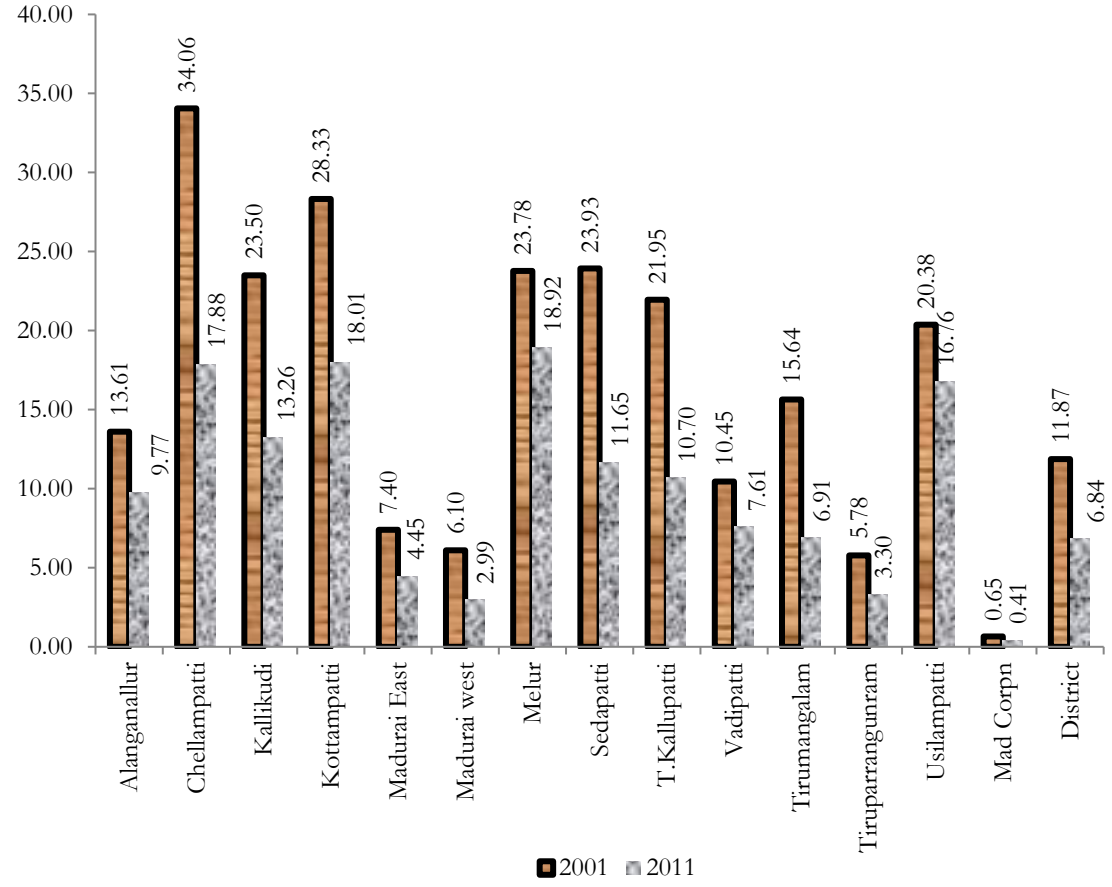
| Sl. No. | Block wise/ District /State | Total workers | | Cultivators | | Agri. Labourers | | Others | | Household workers | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 |
| 14 | Corporation | 317453 | 391315 | 2077 | 1612 | 2336 | 2794 | 302320 | 374016 | 10720 | 12893 |
| | **District** | **1088543** | **1354632** | **129240** | **92719** | **228083** | **372828** | **295478** | **841792** | 39760 | 47293 |

Source:Census 2001 and 2011

Table 3.4 reflects the status of workers in each category.

**Cultivators** are usually defined as a person who are considered working as a cultivator, if he or she is engaged either as an employer, single worker or family worker in the cultivation of land owned or held from Government or from private persons or institution for payment in money, or in kind or on the basis of sharing of crops.

**Chart 3.1: Percentage of Cultivators**




Source: Census 2001 and 2011

The data shows that in almost all the blocks the percentage of cultivators has drastically reduced. This shows the constraints of farmers in continuing their profession as a farmer. Poor rainfall, cost of cultivation, low productivity might be the reason for drastic reduction in cultivators.

Chellampatti, Kottampatti, Sedapatti, T. Kallupatti and Kallikudi are the blocks where cultivators are drastically reduced. Of these blocks, T.Kallupatti and Sedapatti are already identified as backward blocks in terms of poverty, health, education and industrial backwardness. In this situation, the decline in cultivators shows the lack of resources in cultivating crops in their lands or their cultivable lands remains as such or it may be converted to housing plots.

**Agricultural labourer** is the second category; they are the person working on another person's land for wages, either in cash or in kind or a combination of both. The status of agricultural labourers has increased in certain blocks of Madurai. The data show that the growth rate from 2001 to 2011 in 5 blocks is in increasing trend.

## Status of agricultural labourers

| | |
|---|---|
| Chellampatti | 94.13 |
| Kottampatti | 87.51 |
| Sedapatti | 83.68 |
| T.Kallupatti | 45.40 |
| Tirumangalam | 37.95 |

In Chellampatti block the percentage of cultivators are reduced, but in the case of agricultural labourers the growth rate (94.13%) is higher when compared to the other blocks. This is because the net sown area for Chellampatti in 2001 and it has increased from 48.68% to 53.38% in 2011. It indicates that marginal farmers have increased in the blocks from 83.05% to 86.05% as a result; there is an increase in the case of agricultural labourers. In the case of Kottampatti, the net sown area has increased from 33.79 % to 39.34 %, in this block, there is no change in the case of marginal farmers, but small farmers have increased from 8.51 to 19.82 % which might have increased the growth of agricultural labourers. The same case exists in the case of Sedapatti where the net sown area has increased from 21.29 to 28.9% and marginal farmers have increased to 76.53 when compared to 71.31% of 2001. So naturally there is increase in agriculture labourers.

This shows that the increase in agricultural labourers has an impact on the aspect of marginal workers of the district, which is an increasing trend in the blocks.

**Household** Industry is defined as an industry conducted by the head of the household himself or herself and/or by the members of the household at home or within the village in rural areas and only within the boundary of the house where the householder lives in urban areas. Household industry relates to production, processing, servicing, repairing, making or selling of goods. Almost all the blocks in the district range from 1.75% to 3.29%.

**Others** are those who had been engaged in some economic activity during the year preceding numeration and who were not cultivators or agricultural labourers or household industry workers

were termed as "other workers" (OW). The type of workers that came under this category included factory workers, plantation workers, those in trade, commerce, business, transport, mining, construction, political or social work, all Government servants municipal employees, teachers, priests, entertainment artists, etc. Alanganallur, Kottampatti, Chellampatti, Vadipatti, T. Kallupatti have a decrease in the proportion of other workers while Usilampatti, Madurai East, Madurai West have increase in other workers.

## Gender wise Worker Composition

Participation of female agricultural workers was higher than that of male agricultural workers. In which, female agricultural labourers are nearly one fold higher than that of male agricultural labourers. In the context of other workers, male percentage is higher i.e. 71.02 than female of 44.39%. This shows that more men workers are working in factories, mining, and construction unit than female. The status of female workers in the district is socially and economically vulnerable. In case of non-agricultural sector, male other workers are more than that of female other workers.

**Gender wise Composition of workers**

| Cultivators | | Agri. Labourers | | Other workers | | Household workers | |
|---|---|---|---|---|---|---|---|
| Male | Female | Male | Female | Male | Female | Male | Female |
| 6.4 | 7.7 | 20.22 | 32.53 | 71.02 | 44.39 | 2.34 | 5.77 |

Source: Census 2011

**Box 3.2: Industrial tie-up for Employment Generation**

When some sizable members are involved in any activity like Agarbathi, tailoring and making consumable goods like eatables or snacks are linked with some companies. The members would get regular employment opportunities and wages throughout the year. The livelihood plan document can be prepared by analyzing the various livelihood interventions available and indigenous practices followed. Member orientation should be done in various livelihood options along with viability. Packaging of a set of livelihood interventions to suit a group of people or individuals should be designed to meet the need. The entire process should have a purpose facilitating focus moving from general lending into product based lending. Mechanisms of livelihood finance should be evolved which is unique to the family.

## Registration and Placement provided by Employment Office

Though many efforts have been taken and implemented, still in India many people remain unemployed due to seasonal fluctuations in the labour market. Some may be chronically employed and some intermittently unemployed. Any change in the condition of business, transport and industry reflects to urban employment level. Agricultural unemployment is the

major problem in rural areas. The problem of unemployment is more severe in urban areas as the rate of unemployment was considerably higher in urban than rural areas.

In Madurai, educated persons are increasing more in the district, but the pattern of unemployment is also getting started. There is a rise in the employment in the district when compared to 2007 to 2011. But in 2010 the registration is higher when compared to the other years. 2009 and 2010 shows decreasing trend and in 2011, 24.84% of them got employment.

**Table 3.5: Registration and Placement**

| Sl. No. | Year | Registration | Placement |
|---|---|---|---|
| 1 | 2007 | 3313 | 438 |
| 2 | 2008 | 3166 | 627 |
| 3 | 2009 | 4028 | 739 |
| 4 | 2010 | 57651 | 681 |
| 5 | 2011 | 10002 | 2485 |
| 6 | 2012 | 15660 | 925 |
| 7 | 2013 | 28000 | 1361 |
| 8 | 2014 | 42368 | 159 |

Source: Deputy Director, District Employment Office

From 2012-14, the placement of employment seems to be very low. Among the registered people with the employment exchange i.e. 42368, only 159 of them have got placement.

There are no specific data on the basis of male and female, social groups in terms of registration so there is no way to discuss here. On the aspect of agriculture, if we can see that the attention of youth in agriculture is diminishing day by day due to lack of encouraging atmosphere. Both educated and uneducated youth are interested to move towards city life rather getting involved in agriculture. Lack of awareness and skill in agriculture is also an important reason for deviating from agriculture. The youth who are doing agriculture are not organized systematically which in turn makes them unable to avail the entitlements.

The financial position of the youth decides the extent of availing opportunities. The generation gap between the elders and youngsters are getting expressed in the form of non-acceptance, trust erosion and lack of space for youth in village forums. Alcoholism across youth group is common in all villages which disturb the elders and they lose their confidence and recognition over youth. Besides this the youth is also addicted to tobacco and smoking which are injurious to health. It is also obvious that the youth is crazy on city life and hence there is a phenomenon of migrating towards the city. They lack interest in concentrating on agriculture in their native villages is increasing day by day. But due to urbanization and education people are moving towards

software companies which are being initiated and go on well. Many more industries and textiles are also there which provides employment to the youth.

**Box 3.3: MGNREGA and its impact**

"MGNREGA is the successful programme of the poverty alleviation." The MGNREGA, which came into existence on Feb 2nd, 2006 was initially implemented in 200 districts of the country in the first phase. In the second phase, it was further extended to 130 districts in 2007-2008, it was extended across the country in April 2008. The basic objective of the MGNREGA Act is to enhance livelihood security in rural areas by providing at least 100 days of guaranteed wage employment on demand. This work guarantee can also serve other objectives: generating productive assets, protecting the environment, rural empowerment of women, reducing rural-urban migration and fostering social equity, development initiative, public investments for creation of durable assets, decentralized implementation, demand driven and so on.

**MGNREGA at a Glance-Madurai:** The scheme has provided job to 2,44,944 household which covers 99% of the whole district out of 2,46,181 households demanded employment. The past track shows that the scheme has generated 103.28 lakhs mandays during 2012-13, out of which 79.9 % were provided to the women folk, 24 % were provided to the SC/ST community. The district stands first in providing more employment to women workforce, it has provided 30 % more than the National average (49.25) and 3 % more than the State's average (76.83%).

**Nature of Assets created under MGNREGA in Madurai District (Rs. in Lakhs)**

| Sl. No. | Name of the Work | No. of Works | | Labour Component | |
|---|---|---|---|---|---|
| | | 2012-13 | 2013-14 | 2012-13 | 2013-2014 |
| 1 | Rural Connectivity | 148 | 251 | 462.0744 | 415.5217 |
| 2 | Water Conservation and Water Harvesting | 87 | 182 | 443.4 | 834.4717 |
| 3 | Renovation of traditional water bodies | 1001 | 1590 | 4828.613 | 5729.109 |
| 4 | Irrigation Canals | 52 | 79 | 158.0072 | 205.016 |
| **Total** | | **1288** | **2102** | **5892.095** | **7184.118** |

The above table reveals that Madurai district has taken major works related to water conservation, only 11 % of works were taken related to road connectivity that to without any material component. The NREGA guideline instructs to take 40 % material component work to create more employment but the district has taken all works related to labour component. The Elected Panchayat and the Grama Sabha are giving more importance for renovating traditional water bodies. Around 78 % of works are taken up in this category and 81 % of amount was identified for this category during the year 2013-14. During 2009-10, 1288 works were taken but it has increased to 2102, during 2013-14. The financial allotment to execute this work has increased from 5892 lakh to 7184 lakh. The scheme will continue to supplement the income of the beneficiaries create durable assets and bring long term tangible benefits in rural India. In particular, it holds powerful prospect of bringing major changes in the lives of women.

## Income

Income per capita can apply to the average per-person income for a city, region or country and is used as a means of evaluating the living conditions and quality of life in different areas. It can be calculated for a country by dividing the country's national income by its population. Tamil Nadu is one of the most developed States in India. Its value of economic activity, the GSDP, stands at INR 4.28 lakh crore, making it the second largest economy in the country. Tamil Nadu is characterized as a State with high per capita income and an increasing standard of living.[1]

Per capita income is used as a crude measure of economic welfare. The level of per capita income depends upon two things – the size of population and the size of the economic pie. Per-capita income current prices stood at Rs.112664/- in Tamil Nadu during 2013-14. Tamil Nadu's per capita income is now well above the all India average.

## Per capita Income for Madurai

The Per capita Income of Madurai has shown a growth rate average of 10.09% between 2005 and 2012.

**Table 3.6: Per capita Income for Madurai (GDDP at 2011-12 constant price)**

| Sl. No. | Year | District | | State | |
|---|---|---|---|---|---|
| | | Per capita Income | Growth rate | Per capita Income | Growth rate |
| 1 | 2004 - 2005 | 35034 | -- | 33998 | -- |
| 2 | 2005 - 2006 | 39864 | 13.7 | 38435 | 13.05 |
| 3 | 2006 - 2007 | 50023 | 25.48 | 43941 | 14.33 |
| 4 | 2007 - 2008 | 47671 | -4.70 | 46293 | 5.35 |
| 5 | 2008 - 2009 | 50720 | 6.40 | 48473 | 4.71 |
| 6 | 2009 - 2010 | 55590 | 9.60 | 53359 | 10.08 |
| 7 | 2010 - 2011 | 62842 | 13.05 | 59967 | 12.38 |
| 8 | 2011 - 2012 | 67258 | 7.03 | 63996 | 6.72 |
| Average growth rate | | | 10.09 | | 9.52 |

Source: Department of Economics and Statistics

Per capita income is almost higher than the State average of 9.52. In 2007-2008, there was a decline in growth rate because there was a negative growth rate (-4.70%). In the same year in secondary sector there was a negative growth rate of (-29.97%). This has influenced the per capita income of the district. The key reason for this negative growth was the reduction in primary and secondary sector growth. In the primary sector, agriculture and allied activities production in 2006-07 has Rs.70560 lakhs reduced to Rs.66524 lakhs in 2007-08 in terms of constant price. Likewise, in the secondary sector, the reduction in production of manufacturing

[1] Vision Tamil Nadu

goods from registered sectors in 2006-07 is Rs.307442 lakhs, it declined to Rs.169252 lakhs in 2007-08 in terms of constant price. Madurai has historically been an agricultural district; it has been dependent on river water and monsoon rain. South west of the Madurai purely depends on rain-fed agriculture and north depends on river water for agricultural activities. Recently, due to low rainfall, the district has suffered agriculture and allied activities. The net cropped area of the district in 2001 is 10934 ha which reduced to 10373 ha in 2011, this shows that cultivable lands are left as fallow and most of the agricultural lands are getting converted to plots which is goes high in price for real estate business. But in the case of tertiary sector Madurai had groomed, well as service based activities have gone to a higher level in the district.

The Per capita income of Madurai district was Rs.67258 at constant prices in 2011-12 which is higher than the State per capita income of Rs.63996 at constant price. As per 2011-2012 data, Madurai ranks 13$^{th}$ rank in per capita income. This may be due to the income of the tertiary sector because comparatively with 32 districts of the State Madurai stands on 7$^{th}$ rank in the tertiary sector.

## Sectoral share of Gross District Domestic Product

Tamil Nadu is mainly driven by service sectors. The share of agriculture sector has been decreasing in its importance while manufacturing industry has retained its position. The industrial sector in the district is driven by manufacturing to mining and quarrying, electricity, gas and water supply contributing in small quantities. Automotive and textile are the most important under manufacturing.

Traders, Hotels, Restaurants are the biggest contributors to the tertiary (service) sector. Financial sectors have largely grown and penetrated well.

There are around a dozen textile mills in and around Madurai functioning for a long time, like M/s.Madura Coats, Thiyagaraja Mills. TVS Sundaram Iyengar sons & Ltd., has a Bodybuilding and automobile service units. Industries like TVS Sundaram groups, PRP groups and Fenner industries exist in Madurai.[2]

### Status of Madurai in GDDP

Madurai showed fluctuating performance over the last 7 years in the primary sector. It has grown at an average growth rate of 10.42% over the years in 2010-11. 2007-2008 seems to be low while in 2010-2011 there was increased performance in the district. Tertiary sector's average 10.95 is

[2] District Industries Centre, Madurai

almost nearing the State's average of 11.28%. This shows that the income through manufacturing unit, electricity, gas and water supply is more which had created an impact on secondary sector.

**Table 3.7: Sector wise Gross District Domestic Product at 2011-12 Constant Price (Rs. in lakhs)**

| Sl. No. | Year | Primary sector | | Secondary sector | | Tertiary sector | |
|---|---|---|---|---|---|---|---|
| | | Madurai | State | Madurai | State | Madurai | State |
| 1 | 2005-2006 | 74841 | 2914561 | 268332 | 7751784 | 704759 | 14290360 |
| 2 | 2006-2007 | 77373 | 3286591 | 418957 | 8807824 | 823410 | 16658553 |
| 3 | 2007-2008 | 73636 | 3150807 | 293403 | 9151736 | 894732 | 18213138 |
| 4 | 2008-2009 | 78178 | 3079411 | 289976 | 8962975 | 978237 | 20136950 |
| 5 | 2009-2010 | 72158 | 3279727 | 364985 | 10857492 | 1042331 | 21525966 |
| 6 | 2010-2011 | 79676 | 3516987 | 419605 | 12542302 | 1177102 | 24282284 |
| 7 | 2011-2012 | 84771 | 3872767 | 444807 | 13039248 | 1268355 | 26411788 |

Source: Department of Economics and Statistics

## Primary Sector

### GDDP and Agricultural growth in Madurai

Madurai has historically been an agricultural district; it has been dependent on river water and monsoon rain. South west of the Madurai purely depends on rain-fed agriculture and north depends on river water for agricultural activities. The major food crops are rice, maize; millets, Cholam, oilseeds and pulses are bengal gram, green gram, horse gram, and black gram. Cash crops include sugarcane, coconut, chillies and cotton. Major horticulture crops cultivated in this district are fruit crops like mango, banana and vegetables like bhendi, gourds, tomato, brinjal, onion and chillies, plantation crops like cashew and betel vine, and flower crops like jasmine and tuberose.

2007-2008 and 2009-2010 data shows negative growth rate where the income through agriculture is less in the primary sector. It may be because of low rainfall where the cultivation gets affected and it reflects in the income of the sector. Given the fact, that inputs like water and land are scarce and there has been no technological breakthrough since the Green revolution, the only alternative is to improve the efficiency/productivity of agriculture (i.e., potential utilization of existing resources).

**Table 3.8: Primary Sector: Gross District Domestic Product at 2011-12 Constant Prices (Rs. in lakhs)**

| Year | Agri and Allied activities | Forestry and Logging | Fishing | Mining and quarrying |
|---|---|---|---|---|
| 2005-06 | 67970 | 5253 | 840 | 778 |
| 2006-07 | 70560 | 5308 | 476 | 1029 |
| 2007-08 | 66524 | 5434 | 463 | 1215 |
| 2008-09 | 71377 | 5250 | 537 | 1014 |
| 2009-10 | 65176 | 5363 | 538 | 1080 |
| 2010-11 | 72428 | 5735 | 938 | 575 |
| 2011-12 | 76936 | 5858 | 987 | 990 |

Source: Department of Economics and Statistics

As more than 50% of work force depends on agriculture, analyzing the changes in wage over years would help in understanding the income situation of major section of families. Poor growth of wages indicates inadequate productivity, stagnation or decline in production, inadequate alternative employment opportunities and inadequate mobility of labour. The real growth of agriculture is likely to remain relatively low when compared to the other sectors. This will lead to further migration of people away from agriculture to non-agriculture activities and away from rural to urban areas. Growth in employment in primary sector has been negative in recent years while in the secondary and the tertiary sector, growth has been positive and relatively high. As per 2011-2012, Madurai ranks 24$^{th}$ place in primary sector at State level.

**Box 3.4: Impact of District Watershed Development Agency in Boodhamangalam**

The plight of the farmers of Boodhamangalam Village situated in IWMP – III Project under the block Kottampatti of Madurai District was resolved by the activities undertaken by the District Watershed Development Agency, Madurai. The ayacut farmers of the Adisundaram Kanmai in Boodhamangalam village were suffering a lot even when there is coupious rain because of the lack of check dam and supply channel. The rain water which runs through the Manimutharu Odai cannot reach the Adisundaram Kanmai as the Kanmai was located in a little higher elevation.

The Kanmai is having an ayacut area of 48 Acres which were cultivated by nearly 25 farmers residing in Boodhamangalam Village. For nearly half a century the ayacut farmers managed to pump in the water running through Manimutharu Odai by blocking the water course with slabs and sand bags. This farmers were running pillar to post for constructing permanent Check dam across the Odai. All the efforts were futile till they met the officials of DWDA. The DWDA officials from IWMP – III after hearing their sufferings acted upon it immediately to construct a Check dam. The measurement were taken and a Major Check dam was constructed for Rs.2 lakhs. The farmers enthusiastically participated in the constrution work and have also contributed an amount of Rs.16,500/- by way of supplying cement and steel. The DWDA officials have also cleared the Supply channel at a cost of Rs.40,000/- and Desilted the Oorani at a cost of Rs.2 lakhs. After a dry spell of nearly three years, this year because of the normal rainfall received during North East monsoon, the farmers in that ayacut area were able to store the water in the Oorani which helped them in raising paddy in an area of nearly 53 acres.The farmers are thankful to DWDA saying

## Secondary Sector

### GDDP and industrial growth in Madurai

Tamil Nadu occupies the first position in having the number of factories and total number of persons engaged in the industrial process. In Madurai, average growth rate over the years is 12.3 which is lower than the State's average of 35.77%. The income originated from manufacturing sector has increased from 160700 lakhs to 276121 lakhs from 2005 to 2012.[3]But the other subgroup Electricity and water supply show negative growth while the construction sector shows an increasing trend from 91777 to 163572.

Table 3.9 on sector-wise contribution to the total GDDP at the constant prices reveals the position of the district in terms of secondary sector. Madurai occupies the 11th rank in secondary sector where the growth rate was affected in 2007-2009 in this sector.

**Table 3.9: Secondary Sector: Gross District Domestic Product at 2011-12 Constant Prices (Rs. in lakhs)**

| Year | Manufacturing | Electricity, Gas and Water supply | Construction |
|---|---|---|---|
| 2005-06 | 160700 | 15855 | 91777 |
| 2006-07 | 307442 | 15963 | 95552 |
| 2007-08 | 169252 | 11254 | 112897 |
| 2008-09 | 168772 | 2856 | 118348 |
| 2009-10 | 237795 | 3370 | 123820 |
| 2010-11 | 264419 | 4437 | 150749 |
| 2011-12 | 276121 | 5114 | 163572 |

Source: Department of Economics and Statistics

Out of four variables, manufacturing along with construction sectors contribution is high in Madurai district. While analyzing a series of data from 2005 to 2012, the growth rate of secondary sector shows fluctuation from 2006- 2009 in terms of constant price.

### Important Socio-economic Development in the District

The District has a very few reputed organization in the private sector like M/s.T.V.Sundaram Iyengar & Sons, Madura Coats, Fenner (I) Ltd., George Oaks Ltd. etc., which are engaged in the production of a variety of goods like tyres and tubes, machineries, textile, conveyor belts etc. and also provide employment opportunities.

[3] Source: Department of Economics and Statistics

The District offers ample scope in the field of textiles, ready-made garments, bakery units, and floriculture, dairy and cold storage units, Agro and Herbal products, Granite stones, Blue metal (jelly), Chamber bricks, Rubber and Plastic based industries. There is also a very good scope for starting food processing and agro based industries.

### Existing Industrial Scenario

In Madurai District, industrial development is at a slow pace and there are vast disparities between different areas and taluks in terms of industrial growth. The block-wise data of existing SSI units & LMI units as of 28-02-2002 is given in Appendix table 3.3

## Tertiary sector

### GDDP and Services in Madurai

In the recent years, the IT industry brought a change in the economy of Madurai. Software Technology Parks of India, an agency of the Government of India, has authorized several companies in Madurai to receive benefits under its National Information Technology Development program. But still advancement has to take-in and investment to be made in the respective growth of the industry.

Table 3.10 gives the trend in growth from 2005 to 2011 in the field of hotels, transport, banking storage, communication, etc. Transport, Communication, Public administration, Trade, Hotels / Restaurants seems to show higher growth in the given years. Overall the district average of Tertiary sector 10.95 is nearing to the State's average of 11.28. Madurai ranks 7$^{th}$ place out of 32 districts in Tertiary sector.

**Table 3.10: Tertiary Sector: Gross District Domestic Product at 2011-12 Constant Prices (Rs. in lakhs)**

| Year | Trade, Hotels/ Restaurants | Railway | Transport by other means | Sto-rage | Communi-cation | Banking & Insurance | Real estate | Public admn | Other service |
|---|---|---|---|---|---|---|---|---|---|
| 2005-2006 | 261083 | 7715 | 50142 | 247 | 31862 | 99138 | 108278 | 39696 | 106598 |
| 2006-2007 | 316892 | 8092 | 54361 | 404 | 39175 | 118373 | 122620 | 43969 | 119524 |
| 2007-2008 | 332632 | 8778 | 58345 | 318 | 45255 | 138944 | 137759 | 43701 | 129000 |
| 2008-2009 | 346915 | 10013 | 59394 | 313 | 60796 | 153386 | 150871 | 53519 | 143031 |
| 2009-2010 | 364666 | 11052 | 63233 | 418 | 76304 | 158201 | 156467 | 59208 | 159083 |
| 2010-2011 | 415211 | 10465 | 66333 | 429 | 97381 | 181627 | 166444 | 56611 | 182601 |
| 2011-2012 | 449557 | 8630 | 68951 | 493 | 105368 | 199508 | 182693 | 56093 | 197063 |

Source: Department of Economics and Statistics

Out of nine variables, Trade, hotels & Restaurant, transport by other means, communication, banking and insurance services, real estate, business services, public administration and other

services contributing much in Madurai district tertiary sector growth. As Madurai is a historical and heritage city naturally the growth rate in trade, hotels, and restaurants is in increasing phase. Due to the vast increase of cell phones higher growth is observed in communication of the district. Banking services have increased since the inception of SHG groups, Pudhu Vazhuvu project, Aadhar card and entry of Government funds has built the services of banks and insurance programmes.

## Poverty

Poverty is a state of deprivation. It is multidimensional and complex.

### Trends in Poverty level

Below Poverty Line is an economic benchmark and poverty threshold used by the Government of India to indicate economic disadvantage and to identify individuals and households in need of Government assistance and support. It is determined using various parameters which vary from state to state and within states.

As far as BPL is considered Madurai West and Vadipatti have the higher BPL families than the other blocks in the district. In the State Human Development Report of 2003, Madurai is placed as moderate poverty district in Tamil Nadu. Some of the characteristics of poverty are income, landlessness, homelessness, etc. The range of poverty among the blocks is from 19.58% to 42.50%.

| High performing blocks | Low performing blocks |
|---|---|
| Vadipatti | Tirupparangunram |
| Madurai West | Melur |
| Alanganallur | Madurai East |

### Extent of poverty

Table 3.11 states the percentage of BPL families in the district. The blocks like Alanganallur, Kallikudi, Kottampatti, Sedapatti, T.Kallupatti and Vadipati are having a higher proportion of social groups where the intensity of percentage of BPL families is more. They are rural based and agriculture based blocks. As monsoon failure is there, most of them are finding it difficult to survive with agriculture. Sedapatti is a dry block where it is difficult to find alternative source livelihood. Non-workers are more in the blocks which also has the influence of increasing BPL families. Non-workers range from 41.89% to 59.63%.

**Table 3.11: Percentage of BPL households**

| S. No. | Blocks | percent of BPL families |
|---|---|---|
| 1 | Alanganallur | 37.46 |
| 2 | Chellampatti | 30.76 |
| 3 | Kallikudi | 30.38 |
| 4 | Kottampatti | 36.67 |
| 5 | Madurai East | 27.94 |
| 6 | Madurai west | 42.20 |
| 7 | Melur | 27.19 |
| 8 | Sedapatti | 34.00 |
| 9 | T.Kallupatti | 32.55 |
| 10 | Vadipatti | 42.50 |
| 11 | Tirumangalam | 29.48 |
| 12 | Tirupparangunram | 19.58 |
| 13 | Usilampatti | 33.51 |
| | **District** | **31.49** |

Source : PO, DRDA-2013

One of the main causes of poverty is high population growth rate, while industries and service sector have grown more, agriculture rate has dropped out. The surplus of labour in agriculture has caused many people to go without appropriate jobs.

**Box 3.5: Vulnerability of the Urban Poor**

Poverty is not only a state of deprivation; it is also a state of vulnerability. Poor people face a multitude of risks in their lives which leads to vulnerability. Poverty measurements do not include the assessment of risks and vulnerabilities. Studying risks and vulnerabilities of the poor would provide insights for creating development policies for the poor and suggesting the solutions for the risks and it also includes future well being of them. The study on "Vulnerability of the Urban Poor" by ASKMI, the Tata Dhan Academy had done a study in the urban context for assessing the vulnerability of the poor. The study includes 5 group discussions and structured interviews with 148 urban poor households of self help group members from federations supported by DHAN Foundation in Madurai, India. In this study the aspects of vulnerability were divided into household characteristics, shocks faced, and coping mechanisms. Areas covered in the study are risks faced, vulnerability, impact of risk events, risk management strategies and its effectiveness and exploration of propositions / alternatives to reduce vulnerability. The findings of the study are given below:

1. Urban poor households are found to often experience health shocks and job loss, and cope with most shocks by taking loans.
2. Loans are taken for repaying old debts, regular consumption, to meet health expenditure, life cycle events, like marriage. Household income is highly related to expenses (a correlation of almost 0.6) and evens more to outstanding loans (0.686).
3. Households spend more than they earn, with up to 26 % of the expenses being spent on ceremonies and festivals.By taking loans the household spends money that it has not earned yet and in addition to that increases its expenses, which are already too high to support with their income, by having to pay interest.
4. Savings is used as a coping mechanism for shocks in life cycle events. The significant correlation between the costs of shocks, including marriage and savings used as a coping mechanism implying that households with higher education, higher income, and/or higher loans spend more on marriages, but not shocks that are less status sensitive.
5. Micro insurance products covering life and alleviate health risks and vulnerabilities to a desirable extent, but calls for innovative products to cover all risks and vulnerabilities.
6. The vulnerability of the urban poor could be greatly decreased is moving out of slums.Many risks are caused by living in the wrong house in the wrong place. Madurai Corporation has big plans to have a slum free city by the year 2016 and only notified slums are considered for development. These plans increase the risk of eviction for households living in the slums and especially the non-notified slums. These households could decrease their vulnerability by not investing in their houses any longer and exploring the possibilities to move out of the slums, for example by leasing a house. This will not only take away their risk of eviction and losing all that they are yet to invest in their houses, but will decrease many other slum related risks in addition. It will not be easy to repay the loan taken for a lease, but if the household succeeds in this, it can greatly decrease their vulnerability and that of generations to come as they are actually investing in building legal assets that cannot be taken away from them at any moment.

Source: Vulnerability of the Urban Poor- Working Paper series by Advanced Centre for Skill and Knowledge on Mutual Insurance (ASKMI), Tata Dhan Academy.

## Family Card Holders

Public Distribution System (PDS) is an important service delivery mechanism in rural development. The main objective of PDS is to provide essential needs that are available at reasonable prices to the public in both rural and urban areas. PDS is generally referred as the safety net for the rural poor. Distribution of essential commodities on family cards has been in vogue in Tamil Nadu since 1964. Through Public Distribution System namely wheat, rice, sugar,

imported edible oils and kerosene are supplied. During the year 1978, the Government took a policy decision to open a village shop in every revenue village to distribute essential commodities.

**Table 3.12: Family Card Holders**

| Sl. No | Name of the Block Village | No of AAY Cards Only | Total No. of Family Cards (Including Rice+AAY Rice+Sugar Option+Police Card+None Cards) | No.of Rice Cards (including AAY Cards) |
|---|---|---|---|---|
| 1 | T.Kallupatti | 3303 | 32357 | 31174 |
| 2 | Sedapatti | 3894 | 38312 | 37897 |
| 3 | Kottampatty | 2944 | 34192 | 33405 |
| 4 | Melur | 4443 | 42793 | 42067 |
| 5 | Tirupparangunram | 4046 | 44071 | 42598 |
| 6 | Chellampatti | 4119 | 37805 | 37615 |
| 7 | Usilampatti | 2703 | 25531 | 25058 |
| 8 | Vadipatti | 3482 | 35174 | 34766 |
| 9 | Alanganallur | 4331 | 33771 | 31410 |
| 10 | Kallikudi | 5940 | 53589 | 47627 |
| 11 | Tirumangalam | 3902 | 36333 | 36308 |
| | | **43107** | **408484** | **405369** |

Source: District Civil Supply Office

In Madurai, the District Supply Office is responsible for distributing the family cards to the needy and eligible families. Totally 408484 ration cards are provided in the district, among which Kallikudi holds the higher number of family cards and least is in Usilampatti where 25531 cards have been issued.

## Conclusion

Madurai which is agriculture and rural based district is now exposed to increasing urbanization, textile, construction, real estate and housing. The district has to concentrate on rural blocks which will also play great role in bringing up the economy. The basic challenge in the context of the changing structure of the economy and employment is to create the capacity to absorb the population migrating out of agriculture into industry and services with proper training and skill development. At the same time, productivity in agriculture should not be allowed to decline. Additional investment in agriculture is required. There is increase in total workers of the district due to increasing trend of urbanization, but in rural areas of certain blocks, female WPR is getting reduced where concentration needs to be given to the district. Few millet based blocks

are there in the district especially, T.Kallupatti, Kallikudi where viable marketing has to be ensured. Certain studies can be taken in the district on the basis of poverty with indicators which will help us to know in detail about the status of labour and children in the district. The service sector is the main driver of the overall economic growth of the district and among the services, the sub - sector comprising of trade, hotels and restaurants is dominant, followed by the banking and insurance, and real estate. Thus, the chapter had dealt with the interrelationship between employment, income and poverty which had highlighted the positive and negative aspects prevalent in the district.

# CHAPTER 4

# DEMOGRAPHY, HEALTH AND NUTRITION

# 4. Demography, Health and Nutrition

## Introduction

Demographic features of a country provide an overview of country's population size, composition, territorial distribution and the components of changes such as nativity, mortality and social mobility. Usually demographic indicators are grouped into two parts namely Population statistics indicators and Vital statistics indicators.

Population statistics deal with population size, sex ratio, density and dependency ratio, while vital statistics include indicators such as birth rate, death rate, life expectancy at birth and mortality rates. These indicators will help the nation as well as the State in setting long and short term goals.

Health is a multi-dimensional phenomenon. It is both an end and means of development strategy. There is an interrelationship between health and development as health contributes to higher production and in turn economic development tends to improve the health status of the population in the country.

The real benefit of any wealth is realized by the society if only there is health. Hence, it is emphasized upon to improve the health status of people at each level along with all the efforts to increase the income of the country. Efforts to improve the health status of the population are a major thrust area under the social development programme being undertaken in India. In fact, in general India has strong healthcare infrastructure and human resources. However, the extent of access to and utilization of health care services varied substantially among states, districts, blocks and Panchayats.

Tamil Nadu is one of the better performing States in India in terms of various health indicators. The State has one of the lowest IMR, MMR and the total fertility rates in the country. The State also has a relatively higher level of female literacy rate (73.4%). Moreover, the life expectancy at birth in Tamil Nadu is 68.7 years for males and around 71.8 years for females, which is higher than the national average of 64 and 67 years respectively.[4]

As per the census 2011, the district has a total population of 3,038,252. The decadal population growth of the district is 17.84. The sex ratio of the district was 978 in 2001 and it has to increased to 990. The infant mortality rate, which stood at 25.76 in 2007 declined to 16.13 in

[4] Source:www.columbia.edu/…/Rural_Health_Tamil_Nadu-Health_Sector

2013-14 .The IMR of the district, is less than of State average of 21. The stillbirth rate, which stood at 24.04 in 2007, decreased to 13.8 in 2013-14. MMR of the district in 2013-14 is 120. The percentage of habitations with access to safe drinking water is 100. Urban areas have better access to safe drinking water than the rural areas. Similarly, at district level, 52.16% of households have toilet facilities.

This chapter analyses the population details of Madurai district, particularly in terms of the population size, age, sex, and it changes over the census decades. The present chapter also deals with the IMR, MMR, Sex ratio, CBR, CDR, prevalence of diseases and other health related issues in Madurai district.

## Demographic Trends and Health Indicators

### Population and Demographic Transition

Demographic trends indicate broader changes that are happening in the population characteristics which have either positive or negative influence over human development. Usually the phase of the demographic transition witnessed in the district indicates the challenges to be met for ensuring human development and on the other hand the general well being of the population. The table given below focuses on demographic indicators which have significant influence on human development and on their relationship with health indicators.

Table: 4.2 shows the decadal growth of population in the blocks and district. There is an increase in population in all the blocks and the decadal population growth rate of the district is 17.84% in 2011.

**Table 4.1: Demographic Profile**

| Sl. No. | Block wise/District | Population | | Sex ratio | | Density | |
|---|---|---|---|---|---|---|---|
| | | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 |
| 1 | Alanganallur | 101365 | 111627 | 983 | 984 | 346 | 380 |
| 2 | Chellampatti | 84725 | 87132 | 904 | 952 | 387 | 398 |
| 3 | Kallikudi | 64763 | 73413 | 1022 | 998 | 266 | 350 |
| 4 | Kottampatti | 99856 | 114339 | 1030 | 994 | 294 | 298 |
| 5 | Madurai East | 169172 | 224708 | 966 | 978 | 718 | 996 |
| 6 | Madurai west | 180148 | 269787 | 974 | 998 | 1172 | 1702 |
| 7 | Melur | 152063 | 177059 | 988 | 981 | 283 | 284 |
| 8 | Sedapatti | 102993 | 111928 | 971 | 982 | 171 | 203 |
| 9 | T.Kallupatti | 83846 | 88582 | 1002 | 1014 | 319 | 333 |
| 10 | Vadipatti | 109833 | 122841 | 992 | 999 | 941 | 1282 |
| 11 | Tirumangalam | 131321 | 156232 | 972 | 987 | 408 | 489.37 |

| Sl. No. | Block wise/District | Population | | Sex ratio | | Density | |
|---|---|---|---|---|---|---|---|
| | | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 |
| 12 | Tirupparangunram | 274740 | 374115 | 976 | 986 | 247 | 284 |
| 13 | Usilampatti | 94507 | 108624 | 952 | 965 | 581 | 650 |
| 14 | Madurai Corporation | 928869 | 1017865 | 979 | 999 | 17914 | 19631 |
| | District | 2578201 | 3038252 | 978 | 990 | 689 | 812 |

Source: Census 2001 & 2011

The percentage of increase in the district may be due to CBR, migration of population from nearby districts and this could be due to a variety of factors such as industrial and economic growth leading to more opportunities in the construction services and manufacturing sectors and availability of educational opportunities in the district.

**Table 4.2: Population growth rate**

| Sl. No. | Block wise/District | Population | | Growth rate 2001-2011 |
|---|---|---|---|---|
| | | 2001 | 2011 | |
| 1 | Alanganallur | 101365 | 111627 | 10.12 |
| 2 | Chellampatti | 84725 | 87132 | 2.84 |
| 3 | Kallikudi | 64763 | 73413 | 13.36 |
| 4 | Kottampatti | 99856 | 114339 | 14.50 |
| 5 | Madurai East | 169172 | 224708 | 32.83 |
| 6 | Madurai west | 180148 | 269787 | 49.76 |
| 7 | Melur | 152063 | 177059 | 16.44 |
| 8 | Sedapatti | 102993 | 111928 | 8.68 |
| 9 | T.Kallupatti | 83846 | 88582 | 5.65 |
| 10 | Vadipatti | 109833 | 122841 | 11.84 |
| 11 | Tirumangalam | 131321 | 156232 | 18.97 |
| 12 | Tirupparangunram | 274740 | 374115 | 36.17 |
| 13 | Usilampatti | 94507 | 108624 | 14.94 |
| 14 | Madurai Corporation | 928869 | 1017865 | 9.58 |
| | Total | 2578201 | 3038252 | 17.84 |

Source:Census 2001 and 2011

The decadal growth rate among the blocks shows that there is higher growth rate in Madurai west, secondly comes Tirupparangunram which has been recently included within the Corporation limit. This increase in growth rate may be due to employment opportunities and urban context prevailing in the particular block. Tirupparangunram is one of the pilgrimage centres in the district, which becomes urbanized now and where opportunities are more for vendors, Tiffin centres, hotels, etc. Madurai East and Madurai West being urban based it is

natural to have increase of growth rate in population. The other blocks which are having higher growth rate are Tirumangalam (18.97%), Melur (16.44%), Usilampatti (14.94%), Kottampatti (14.50%) and Kallikudi (13.36%). The other blocks range from 10 to 12%, except Chellampatti (2.84%) and T.Kallupatti (5.65%) which has a very low growth rate among the blocks. Chellampatti has low female literacy and this block is backward in certain indicators of human development index also. District administration has to address this block for specific development. T.Kallupatti already a backward block in terms of poverty, health and education is quite natural for migration which might have affected the growth of population.

## Population growth rate in Rural/Urban context

| Rural / Urban | 2001 | 2011 | Population growth rate |
|---|---|---|---|
| Total | 2578201 | 3038252 | 17.84 |
| Rural | 1134025 | 1191451 | 5.06 |
| Urban | 1444176 | 1846801 | 27.88 |

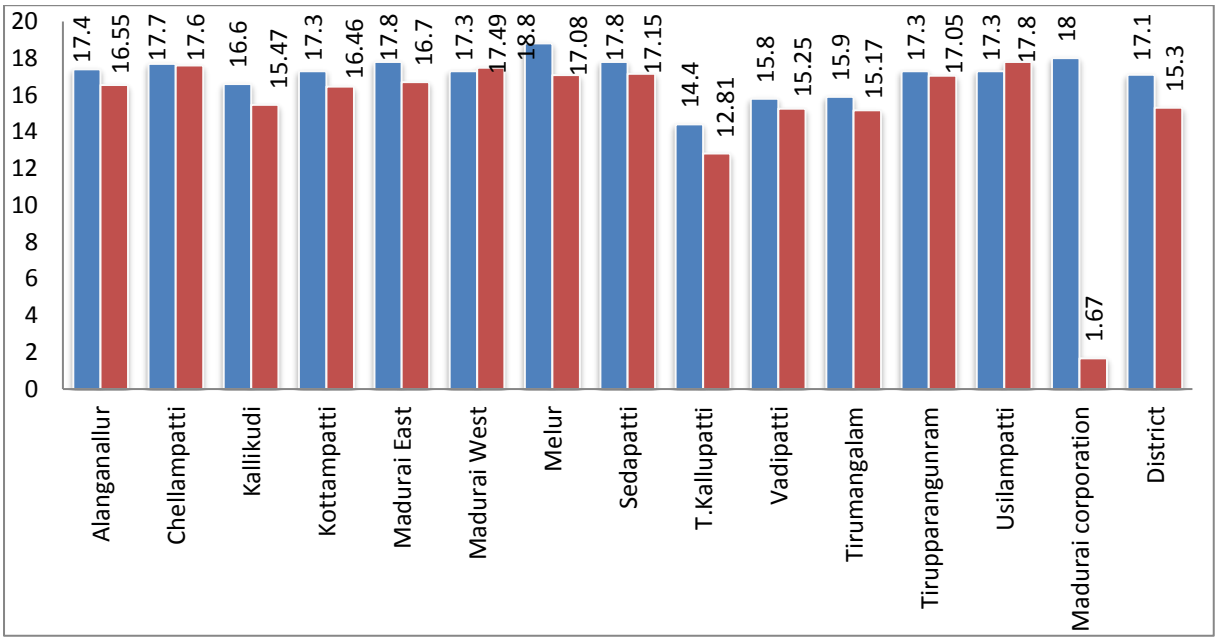
The distribution of rural/urban population Madurai is 39.21% (rural) and 60.78% (urban) respectively. It shows the urbanization of the district is higher than that of State's 51.60% and 48.40% in rural and urban context respectively. The population growth rate of the district is 17.84%, however, the population growth rate in rural/urban context clearly exhibits that the district current trend in urbanization. In urban context the growth rate is 27.88% which are more than the rural context of 5.06%. Among the 14 blocks rate of urbanization is more in Tirupparangunram (44.17 %) followed by Madurai west (42.57%) and Vadipatti (40.22%), subsequently population growth rate is more in Madurai west (49.76%) and Tirupparangunram (36.17%) but in Vadipatti it remains 11.84% where migration might have happened. Population seems to be an increasing trend in all the blocks.

## Trends in CBR and CDR

### Crude Birth Rate

The crude birth rate has decreased in Madurai district when compared with 17.1% of 2010 to 15.3% in 2013-14.

**Chart 4.1: Crude Birth Rate**



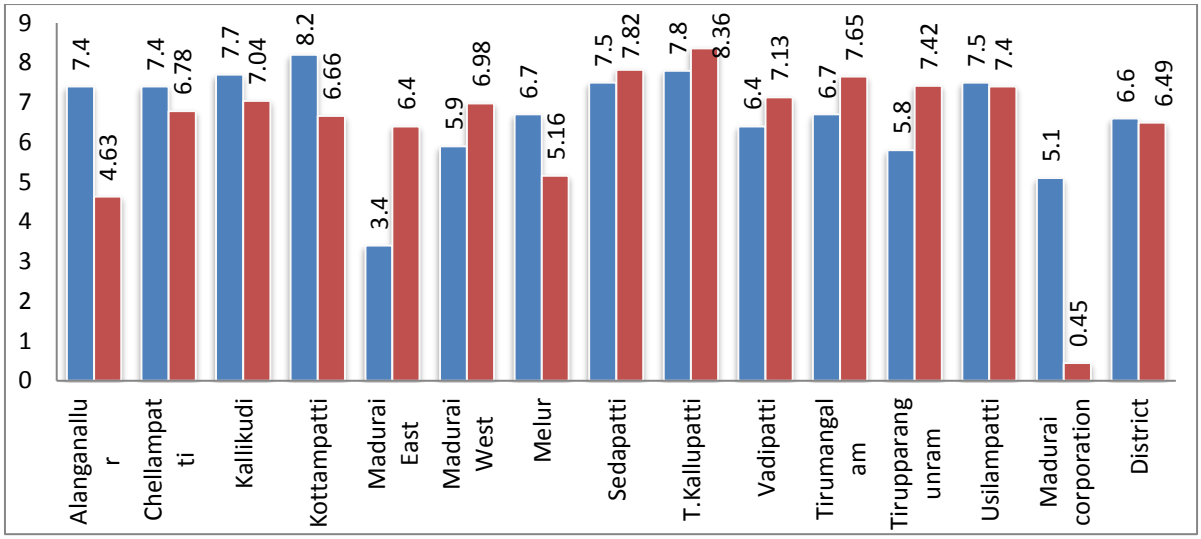

Source: Deputy Director of Health Services, Madurai

Increase in population naturally impacts the economy where there is a need to fulfill the basic amenities, nutritious food, etc. Comparisons are done between the years 2010 and 2013. In these three years, around 8 blocks maintains the same birth rate of 15 to 17.6%, but fewer blocks like Corporation, T.Kallupatti, Kottampatti and Kallikudi have reduced their birth rate with lower percentage of variation. In Corporation the crude birth rate difference is higher where it reduced from 18 to 1.67%. Melur and Madurai West shows increase in birth rate with few percentage of variation. Usilampatti, Tirupparangunram, Melur, Sedapatti, Chellampatti has the birth rate ranges on the same line. This shows that district administration had implemented various family planning schemes to have control over the birth rate.

### Crude Death Rate

The crude death rate can be seen as one of the indicators which shows the access and availability of health services to the people.

**Chart 4.2: Crude Death Rate**




Source: Deputy Director of Health Services, Madurai

Chart 4.2 shows the data for 2010 and 2013-14. There is a slight increase in CDR in 6 blocks of the district. Highest CDR is recorded in T.Kallupatti (7.80%) followed by Tirumangalam, Tirupparangunram, Kallikudi and Usilampatti. CDR in Melur block has risen from 2.2% in 2009 to 6.7% in 2010. Melur was affected by contagious disease; Dengue occurred deaths were more during the period. But in 2013 the death rate has been reduced to 5.16% where concrete efforts were taken by the district administration and health department in controlling the death rate of the block. Among the blocks which had high CDR are Kallikudi, Sedapatti and Vadipatti that had already identified as backward blocks in terms of health by the State Government where State balanced growth fund have been implemented. As per field experience it is true that still lack of awareness is there among the people about the health aspects in all rural areas. Though PHC's are functioning in all of the blocks, ensuring timely medical services to the people needs to be monitored strictly. Madurai has now grown with higher medical facilities, where the Government hospital serves the best which will be a good service to the public. If we see the district average, in 2013-14 it has been reduced to 6.49% from 6.6%.

## Sex Ratio

The sex ratio is a widely used indicator of gender discrimination as it captures various facets of discrimination against women like the lack of bargaining power, education and health investment, asset ownership etc. The sex ratio represents the number of females for every 1000 males. The sex ratio for Madurai has increased from 978 in 2001 to 990 in 2011.

Three blocks Kallikudi, Kottampatti and Melur have shown a decline in sex ratio, which shows the decline in the rural areas. But present sex ratio of Kallikudi and Kottampatti are higher than

district average. Highest increase is seen in Chellampatti, Madurai West and Madurai Corporation. The rest of the blocks have nominal increase. Increase in overall sex ratio of the district as per census 2011 denotes improved visibility of women in the district.

**Table 4.3: Sex Ratio**

| Sl. No. | Block wise/District | General | | SC | |
|---|---|---|---|---|---|
| | | 2001 | 2011 | 2001 | 2011 |
| 1 | Alanganallur | 983 | 984 | 1012 | 994 |
| 2 | Chellampatti | 904 | 952 | 930 | 992 |
| 3 | Kallikudi | 1022 | 998 | 1034 | 1019 |
| 4 | Kottampatti | 1030 | 994 | 1005 | 976 |
| 5 | Madurai East | 966 | 978 | 963 | 985 |
| 6 | Madurai west | 974 | 998 | 1016 | 999 |
| 7 | Melur | 988 | 981 | 988 | 974 |
| 8 | Sedapatti | 971 | 982 | 937 | 978 |
| 9 | T.Kallupatti | 1002 | 1014 | 993 | 994 |
| 10 | Vadipatti | 992 | 999 | 999 | 1012 |
| 11 | Tirumangalam | 972 | 987 | 992 | 1003 |
| 12 | Tirupparangunram | 976 | 986 | 982 | 1003 |
| 13 | Usilampatti | 952 | 965 | 989 | 968 |
| 14 | Madurai Corpn | 979 | 999 | 1001 | 1003 |
| | **District** | **978** | **990** | **988** | **994** |

Source: Census 2001 and 2011

The table 4.4 gives the ranking of blocks by sex ratio, around 4 blocks Chellampatti, Madurai East, Tirupparangunram and Usilampatti do not have any variation in ranking between 2001 and 2011. Madurai Corporation, which stood 7th in 2001 have come up to 3rd rank in 2011. T.Kallupatti from 3rd place moved to 1st rank in 2011. Though Corporation is urbanized it stands 3rd whereas T. Kallupatti which is backward block comes in first place. So urbanization doesn't have influence over the sex ratio.

**Table 4.4: Ranking of blocks by Sex Ratio, 2001 and 2011**

| Sl. No. | Block wise/District | Sex ratio | | Rank | |
|---|---|---|---|---|---|
| | | 2001 | 2011 | 2001 | 2011 |
| 1 | Alanganallur | 983 | 984 | 6 | 9 |
| 2 | Chellampatti | 904 | 952 | 14 | 14 |
| 3 | Kallikudi | 1022 | 998 | 2 | 5 |
| 4 | Kottampatti | 1030 | 994 | 1 | 6 |
| 5 | Madurai East | 966 | 978 | 12 | 12 |
| 6 | Madurai west | 974 | 998 | 9 | 4 |

| Sl. No. | Block wise/District | Sex ratio | | Rank | |
|---|---|---|---|---|---|
| | | 2001 | 2011 | 2001 | 2011 |
| 7 | Melur | 988 | 981 | 5 | 11 |
| 8 | Sedapatti | 971 | 982 | 11 | 10 |
| 9 | T.Kallupatti | 1002 | 1014 | 3 | 1 |
| 10 | Vadipatti | 992 | 999 | 4 | 2 |
| 11 | Tirumangalam | 972 | 987 | 10 | 7 |
| 12 | Tirupparangunram | 976 | 986 | 8 | 8 |
| 13 | Usilampatti | 952 | 965 | 13 | 13 |
| 14 | Madurai Corporation | 979 | 999 | 7 | 3 |

Source : Census 2001 and 2011

## Child Sex ratio

Both male and female population of the age group of 0-6 has increased from 2001 to 2011 i.e., 153326 to 162517 (male) and from 141950 to 151461 (female).

**Table 4.5: Child sex ratio**

| Sl. No. | Block wise/District | 2001 | | | 2011 | | |
|---|---|---|---|---|---|---|---|
| | | Population in the age group of 0-6 | | Sex-ratio | Population in the age group of 0-6 | | Sex-ratio |
| | | Male | Female | | Male | Female | |
| 1 | Alanganallur | 6745 | 6240 | 925 | 6094 | 5673 | 931 |
| 2 | Chellampatti | 5493 | 4390 | 799 | 4358 | 3868 | 888 |
| 3 | Kallikudi | 3831 | 3567 | 931 | 4275 | 3882 | 908 |
| 4 | Kottampatti | 6309 | 6058 | 960 | 6651 | 6046 | 909 |
| 5 | Madurai East | 10996 | 9993 | 909 | 13126 | 12359 | 942 |
| 6 | Madurai west | 10142 | 9779 | 964 | 14072 | 13068 | 929 |
| 7 | Melur | 9957 | 8996 | 903 | 10978 | 9573 | 872 |
| 8 | Sedapatti | 6157 | 5384 | 874 | 6020 | 5385 | 895 |
| 9 | T.Kallupatti | 4844 | 4554 | 940 | 4321 | 4063 | 940 |
| 10 | Vadipatti | 6642 | 6149 | 926 | 6408 | 6141 | 958 |
| 11 | Tirumangalam | 7995 | 7094 | 887 | 8229 | 7597 | 923 |
| 12 | Tirupparangunram | 17130 | 15847 | 925 | 20830 | 19965 | 958 |
| 13 | Usilampatti | 5827 | 5063 | 869 | 5670 | 5002 | 882 |
| 14 | Madurai Corporation | 51258 | 48836 | 953 | 51485 | 48839 | 949 |
| **District** | | **153326** | **141950** | **926** | **162517** | **151461** | **932** |

Source: Census 2001 and 2011

But in certain blocks irrespective of rural and urban, Child sex ratio has declined in Madurai Corporation, Melur, Kottampatti and Kallikudi. Among the 4 blocks, three rural blocks have more decrease than the corporation. It means decline in child sex ratio rather the other way

round have the influence over socio-economic and cultural patterns of the society. The reason for decrease in these blocks to be known and appropriate actions to be taken for the betterment of girl children.

## Analysis on Child Sex Ratio and Sex Ratio

The overall sex ratio is determined by several factors such as age specific differences in mortality and migration related with male and females. For this reason, sex ratio for children and infants are better measures of the differentials treatments of male and female in the society. Although the overall sex ratio has been increased by 12 points in the district (978 in 2001 to 990 in 2011), child sex ratio is increased only by 6 points (926 to 932).

**Table 4.6: Sex ratio and Child Sex Ratio for 2011**

| S. No. | Block/District | Sex Ratio | Child Sex Ratio |
|---|---|---|---|
| 1 | Alanganallur | 984 | 931 |
| 2 | Chellampatti | 952 | 888 |
| 3 | Kallikudi | 998 | 908 |
| 4 | Kottampatti | 994 | 909 |
| 5 | Madurai East | 978 | 942 |
| 6 | Madurai west | 998 | 929 |
| 7 | Melur | 981 | 872 |
| 8 | Sedapatti | 982 | 895 |
| 9 | T.Kallupatti | 1014 | 940 |
| 10 | Vadipatti | 999 | 958 |
| 11 | Tirumangalam | 987 | 923 |
| 12 | Tirupparangunram | 986 | 958 |
| 13 | Usilampatti | 965 | 882 |
| 14 | Madurai Corpn | 999 | 949 |
| | **District** | **990** | **932** |

Source: Census 2011

This shows that problem is there in certain blocks where the child sex ratio is very low. In Melur (872), Usilampatti (882), Chellampatti (888) and Sedapatti (895) child sex ratio are very low. This shows that strong cultural preference for son over daughter. Couples are successful in avoiding the birth of girls while ensuring the birth of boys. The reason ns of lower child sex ratio probably may be due to selective abortions and child mortality. In Madurai Melur, Usilampatti, Sedapatti seems to crucial and certain blocks like Alanganallur, Kallikudi, Tirumangalam and Madurai West is also be addressed where child sex ratio is very low. The decline in Child Sex Ratio has to be arrested by taking concerted efforts and advocacies by all the stakeholders.

The declining child sex ratio over time is a glaring example of gender bias. There has been a great deal of hue and cry over the declining child sex ratio, but the actual issues of our society i.e socio-economic and cultural factors are always against female population. Now the time has come that the State needs to facilitate a change in fundamentals, directing programmes in the spirit that the woman brings human life up so we all should bring her up.

Child sex ratio is very low in Melur, Usilampatti and Sedapatti. We took the village level data for all the blocks and analyzed the child sex ratio. In that categorization was done, where child sex ratio falls from 300 to 1000+. Totally there are 167 villages where child sex ratio falls between 901-1000, 138 villages between 801-900, 62 villages between 701-800, 21 villages falls between 601 to 700, 15 falls below 500 and 130 villages are having more than 1000+. This is very crucial and it is alarming where the girl children are getting reduced. We have to address the issue at village level where awareness has to be given and strict monitoring is to be implemented in scan centers to address the issue. The issue of the survival of the girl child is a critical one, and needs systematic effort in sensitizing the community. If the situation continues, there will be a striking deficit of girls if the first birth is a girl, couples face imbalance in the sex ratio of their children. If the first birth is a male child, the sex ratio of the second is in favour of females. This shows that in spite of the various legal provisions and women's specific developmental programmes, the gender bias and deep-rooted prejudices still persist. The popular perception is that investing in daughters is equal to invest in another family's daughter in-law. The State and district can take initiatives in changing the socio-economic and cultural fundamentals which have placed the female population in a disadvantageous position. Bilateral kinship system can be introduced where both male and female can be considered on same line and even religious rites could be performed by daughters as well. For the parents, economic considerations play an important role. For this purpose, skill formation among rural and urban women is necessary. Similarly, urban formal and informal activities that have given rise to savings, pensions, insurance, social security and better health facilities should be extended to the rural areas. Such developments will definitely reduce son preference.

## Life Expectancy at Birth

Life expectancy at birth (LEB) has association with health and its improvement cannot be taken as improvement in general health situation. LEB is a composite indicator and outcome of mortality pattern of different age groups. So analyzing the improvement in LEB without considering how such improvement came about might hide serious issues pertinent to human development.

Overall life expectancy of the population has improved between 2001 to 2014 for the district. That too for female it has increased to 3 points and for male it is to 1 point. The life expectancy at birth of Madurai district is low when compared with the State.

**Table 4.7: Life Expectancy at Birth**

| Block wise/ District /State | 2001 | | 2013-2014 | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| District | 64.8 | 65.7 | 65.4 | 68.9 |
| State | 64.91 | 68.85 | 71.8 | 75.2 |

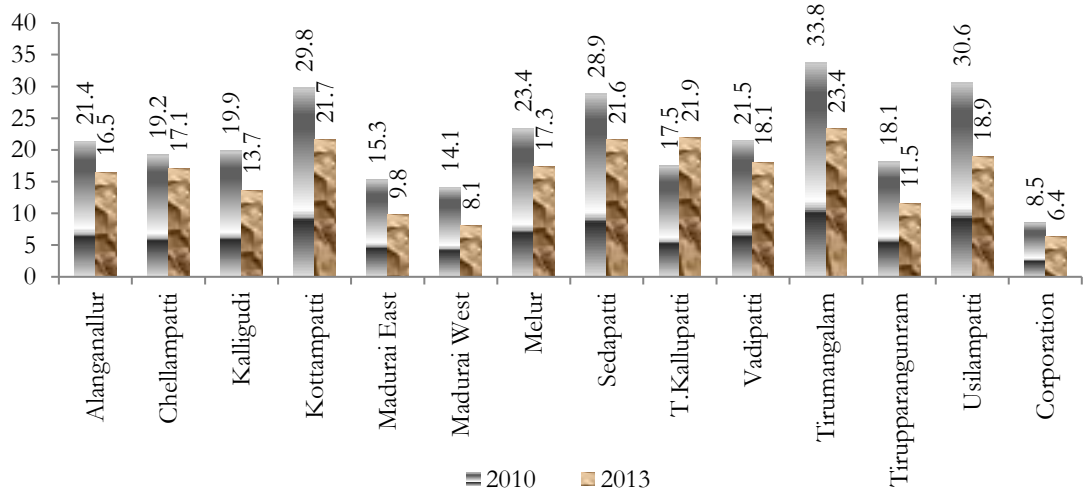
Source: Department of Statistics, Madurai

## Infant Mortality Rate (IMR)

IMR is considered as a core indicator of human development because it reflects not just the state of health, nutrition and caring, available to infants below one year of age, but also of the general well being of the society. While the IMR for Tamil Nadu and India were close in 1970, at 125 and 129 respectively, Tamil Nadu's IMR has declined much more rapidly than India. By 2000 IMR for Tamil Nadu was 51 and 68 for India.

IMR is considered as a key indicator of health services, nutritional levels, poverty and educational level of the people. Tamil Nadu, with its extensive and relatively better run primary health services and nutrition programs has clearly emerged as a frontrunner in the reduction of infant mortality.

**Chart 4.3: Infant Mortality Rate**




Source: Deputy Director of Health Services, Madurai

The data about IMR shows that, Tirumangalam, T.Kallupatti, Kottampatti and Sedapatti IMR rate is more when compared to the other blocks. There is a significant reduction in IMR in the

year 2013-14 when compared to 2010 in all the blocks in particular, especially Melur (23.4 to 17.34%), Tirumangalam (33.8 to 23.36%), Usilampatti (30.6 to 18.93%). As per the field observation fluctuations are there in all the blocks for all the 7 years and efforts have been taken in addressing the issue. Lack of awareness still prevails in the interior parts of the village which is also the reason for infant deaths. Madurai Corporation stands better in reduction IMR where 6.4% are recorded. IMR rate at district level is 20.81% in 2011 and in 2013-14 it has reduced to 16.13%. Mainly through NRHM project, registration was done, and regular follows ups were made which may also influence in reducing IMR.

Caretaking of pregnant women will result in normal delivery and healthy baby with correct body weight and vice versa. Hence, IMR is a proxy indicator of quality and quantity of service provided by the public health department as well as ICDS. As far as Infant Mortality Rate (IMR) of Madurai Corporation is concerned, only one ward is having higher IMR than the goal (IMR of 28) fixed by the Government which shows the provision of better health services by the Madurai Corporation and ICDS.

## Maternal Mortality Ratio

Healthcare during the pregnancy period of a woman has become a vital aspect in public health management these days. Lot of interventions and schemes are being taken up by the State Government to reduce maternal mortality and these initiatives are delivering good results. The MMR includes deaths during pregnancy, childbirth, or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, for a specified year. Although India has made slow progress in reducing maternal mortality, progress in Tamil Nadu has been rapid. Tamil Nadu has taken initiatives to improve maternal health services leading to a reduction in maternal mortality from 380 in 1993 to 110 in 2007. Various initiatives include establishment of maternal death registration and audit, establishment and certification of comprehensive emergency obstetric and newborn-care centres, 24-hour x 7-day delivery services through posting of three staff nurses at the primary health centre level, and attracting medical officers to rural areas through incentives in terms of reserved seats in postgraduate studies and others. This is supported by the better management capacity at the State and district levels through dedicated public-health officers. In Madurai district, the Health Department officials are keeping a complete track of pregnant women in urban and rural areas.

**Table 4.8: Maternal Mortality Ratio**

| Sl. No. | Block | 2013-14 |
|---|---|---|
| 1 | Alanganallur | 283.93 |
| 2 | Chellampatti | 126.74 |
| 3 | Kallikudi | 273.22 |
| 4 | Kottampatti | 162.78 |
| 5 | Madurai East | 183.09 |
| 6 | Madurai West | 107.41 |
| 7 | Melur | 177.86 |
| 8 | Sedapatti | 269.69 |
| 9 | T.Kallupatti | 182.48 |
| 10 | Vadipatti | 109.47 |
| 11 | Tirumangalam | 389.00 |
| 12 | Tirupparangunram | 53.05 |
| 13 | Usilampatti | 114.74 |
| 14 | Corporation | 90.00 |
| | District | 120.00 |

Source: Deputy Director of Health Services, Madurai

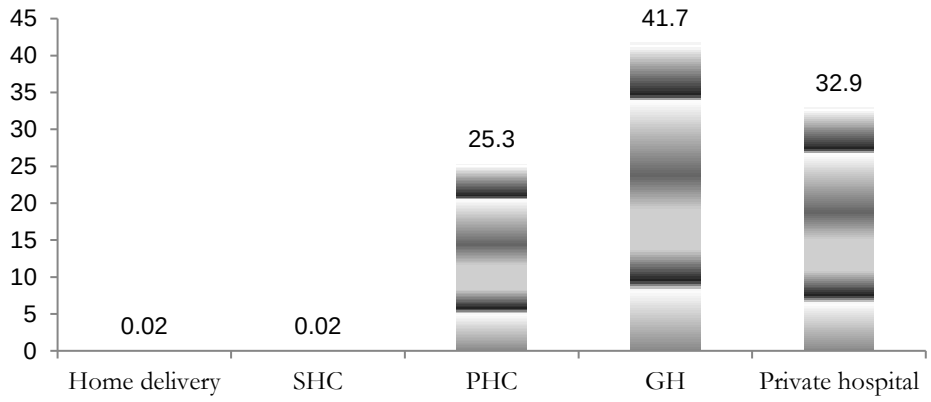
As per 2013-14, MMR in Madurai is 120 which is highest among all the districts in Tamil Nadu. Data of 5 years, at district level is reduced but when we compared with the State (68) MMR is more as per 2013-14 data. In the year 2009, Kallikudi had higher MMR of 256.41 whereas Corporation holds the least and in Vadipatti and Kottampatti maternal mortality didn't occur in 2009. 2013-14 data shows that among the 14 blocks around 8 blocks have high MMR especially Tirumangalam (389), Kallikudi (273.22), Alanganallur(283.93), Sedapatti (269.69) and Melur (177.86). Inspite of efforts taken by district administration, the rate of MMR shows increasing trend in Madurai. The increase in MMR reveals the inability in covering the pregnant women who are under poverty and accessibility of good medical care in the district. It shows that the district administration should take maximum efforts in controlling the death of mothers. During pregnancy period, VHN visit should be regularized in the district and monitoring through health checkups are to done. Focus has to be given for rural blocks, as there is need to reduce MMR by way of focusing maternal nutritional health, anemic status, and vaccination, infrastructure facility of the Government hospitals, and special transport facilities for pregnant women. As far as urban area is considered, there is improvement in status of health initiatives, this has to be strengthened and followed in rural blocks also.

## Institutional delivery

The State has made significant progress in increasing the proportion of institutional deliveries. District administration had taken sincere efforts in increasing institutional deliveries. Institutional deliveries are considered to be safer than home deliveries. Chart 4.4 indicates that all the blocks are attaining 100% institutional deliveries; district data is almost same as State level (99.9%) in this parameter. In another view, if see the data percentage of using Government hospital is more among the people, next comes the PHC which shows that access by using Government facilities has been increased among the public. It is also true that treatment for deliveries is best in GH and PHC when compared to that of private hospitals. In this we should really appreciate district administration which had taken efforts in improving statuesque of institutional delivery. Sedapatti, Kallikudi, Vadipatti and T. Kallupatti which are identified as backward blocks are availing Government hospitals for deliveries. This shows that public awareness is there in using health services.

Tamil Nadu among the States scores III rank (90%) in order of percentage of children delivered in hospital. An evaluation has ranked Tamil Nadu at the top for implementation outcomes of the National Rural Health Mission (NRHM) and described it as a benchmark for other States[5].

**Chart 4.4: Percentage of Institutional Delivery, 2013-14**




Source: Deputy Director of Health Services, Madurai

## Still Birth Rate

One of the common reasons for stillbirths is placental abruption. The other reasons were asphyxia, low birth weight, prematurity and congenital heart diseases.

[5] Source: National Family Health Survey

**Table 4.9: Still Birth Rate**

| S. No. | Block/District | 2007 | 2008 | 2009 | 2010 | 2011 | 2013-14 |
|---|---|---|---|---|---|---|---|
| 1 | Alanganallur | 18.8 | 25.6 | 21.7 | 13.5 | 14.2 | 14.76 |
| 2 | Chellampatti | 25.1 | 15.3 | 21.9 | 15.9 | 12.7 | 10.14 |
| 3 | Kallikudi | 29.8 | 23.6 | 16.2 | 16.1 | 21.1 | 18.21 |
| 4 | Kottampatti | 19 | 20.9 | 23.2 | 11.8 | 11.8 | 13.56 |
| 5 | Madurai East | 11.6 | 16.8 | 13.1 | 3.1 | 14.4 | 12.51 |
| 6 | Madurai West | 10.8 | 12.1 | 15.7 | 8.7 | 5.7 | 7.25 |
| 7 | Melur | 15.3 | 15.6 | 13.3 | 10.2 | 13.5 | 9.78 |
| 8 | Sedapatti | 33.7 | 46.7 | 22.7 | 20.5 | 20.1 | 18.88 |
| 9 | T.Kallupatti | 30.2 | 27.8 | 24.7 | 21.9 | 21.4 | 17.34 |
| 10 | Vadipatti | 24.9 | 19.8 | 14.9 | 16.4 | 19.2 | 22.99 |
| 11 | Tirumangalam | 39.7 | 24.4 | 21.4 | 18.8 | 17.7 | 12.98 |
| 12 | Tirupparangunram | 14.4 | 13.6 | 15.8 | 12.7 | 9.4 | 10.79 |
| 13 | Usilampatti | 24 | 20.8 | 26.4 | 17.1 | 14.1 | 18.36 |
| 14 | Corporation | 9.4 | 8.1 | 7.9 | 8.4 | 5.8 | 6.8 |
| | District | 24.04 | 18.02 | 18.03 | 14.01 | 13.4 | 13.88 |

Source: Deputy Director of Health Services, Madurai

The overall still birth rate of Madurai was found to be 13.4 in 2011 which has moderately increased 13.88 with slight variation in 2013-14. This rate has been declining across the blocks and certain blocks found to have higher rates of SBR. Among the blocks Vadipatti (22.99), Sedapatti (18.88) and Usilampatti (18.36) have the highest rate, this shows that health care services to these blocks to be facilitated more in addressing the problems. As per the data given, the percentage of VHN visit for ANC mothers is recorded as 100% in all blocks. In spite of all the checks, SBR occurs in all blocks. The real issue should be addressed by strict monitoring through primary health centres. So the efforts have to be taken in monitoring pregnant mothers regarding blood pressure and sugar, which also becomes a major reason for SBR. The rest of the blocks show the fluctuation and it also shows increasing trend in 2013 which indicates that the status of women's health and the maternal health care service is to be improved and issues to be sorted out immediately.

## Immunization

Immunization forms the major focus of child survival programs throughout the world. This is the main factor influencing IMR, MMR and CDR. In 1985, the Universal Immunization Program (UIP) was launched to protect all. Tamil Nadu started an immunization program against six Vaccine Preventable Diseases viz. Diphtheria, Pertussis (Whooping Cough), Tetanus, Measles, Poliomyelitis and Tuberculosis during 1978. Annually around 12.5 lakh pregnant

women and 11.5 lakhs infants benefit under Immunization Program.

**Table 4.10: Immunization-2013-14**

| Sl. No. | Block/District | Total No. of Children below 1 Year | Total No. of Children Immunized | percent of Children Immunized |
|---|---|---|---|---|
| 1 | Alanganallur | 1738 | 1754 | 100.9 |
| 2 | Chellampatti | 1548 | 1547 | 99.9 |
| 3 | Kalligudi | 1088 | 1150 | 105.7 |
| 4 | Kottampatti | 1897 | 1818 | 95.8 |
| 5 | Madurai East | 3201 | 3268 | 102.1 |
| 6 | Madurai West | 3718 | 3739 | 100.6 |
| 7 | Melur | 3026 | 3159 | 104.4 |
| 8 | Sedapatti | 1715 | 1870 | 109.0 |
| 9 | T.Kallupatti | 1077 | 1166 | 108.3 |
| 10 | Vadipatti | 1766 | 1822 | 103.2 |
| 11 | Tirumangalam | 2269 | 2372 | 104.5 |
| 12 | Tirupparangunram | 5681 | 5877 | 103.5 |
| 13 | Usilampatti | 1686 | 1578 | 93.6 |
| 14 | Corporation | 19589 | 19359 | 98.8 |
| District | | 50000 | 50479 | 101.0 |

Source : Deputy Director of Health Services, Madurai.

There is no case of Diphtheria, Pertussis, Neonatal Tetanus, Poliomyelitis for the past 5 years. Because of effective implementation of Immunization services, there is a drastic reduction in the incidence of vaccine preventable diseases.

In Tamil Nadu, Immunization against preventable diseases are carried out intensively. As per the data, about 100% of children were immunized in all the blocks, except Usilampatti (93.6%) in Madurai district. The immunization rate of all rural blocks is also satisfactory. The efforts of the State Government, the awareness level of the community, access to immunization are the important factors that have led to achievement. The presence of mobile medical unit is an added advantage of the rural and slum people. Immunization services are provided throughout the State under the Supervision of Medical Officers from May 2008. Only Auto Disabled (AD) syringes are used for all vaccinations to ensure injection safety.

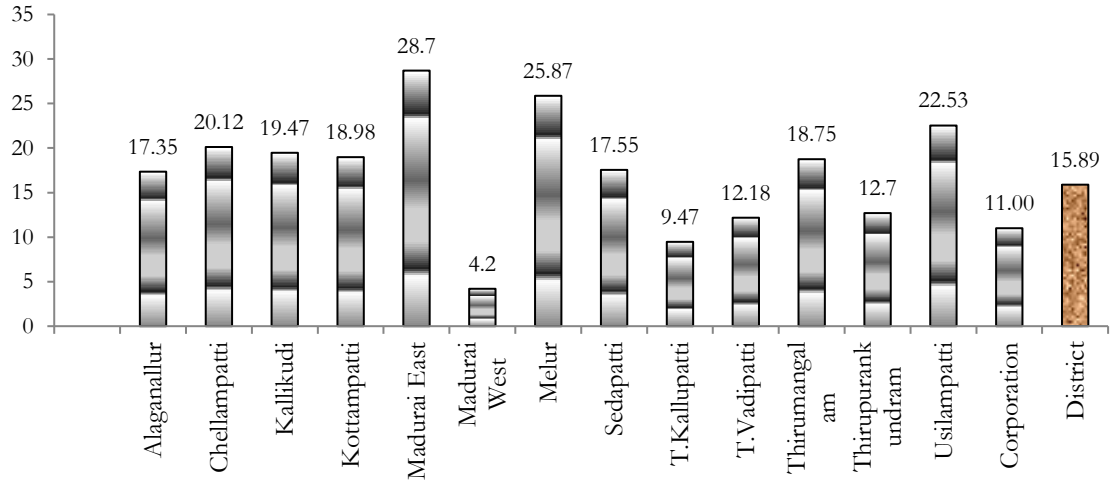
## Nutritional Status of the District

Integrated Child Development Services (ICDS) is the unique programme for early childhood care and development encompassing integrated services for development of children below six years, expectant and nursing mothers and adolescent girls living in the most backward, rural,

urban and tribal areas.

Integrated Child Development Services (ICDS) weighs the children and records the details of level of nourishment or undernourishment of children. The World Bank- funded ICDS runs with the main objective to supplement the nutritional need of the population, especially the children below 6 years of age, pregnant and lactating mothers and adolescent girls. To achieve the objective, the ICDS program runs many Anganwadi centres (AWCs) in all over the district. It is the fact that there is an increase in the number of AWCs which means there is reach and coverage of children in reducing malnourishment. Besides caring for the children under 6, through their Anganwadi centres, ICDS provides services, like supplementary nutrition to the pregnant women and lactating mothers, immunizing children below six in addition to pregnant mothers, health check-up for pregnant mothers, lactating mothers and referral services, pre-school non-formal education and nutrition and health education.

**Chart 4.5: Percentage of Underweight children (MUW+SUW)-2013-2014**




Source: ICDS, Madurai

The proportion of underweight children are more in Madurai East (28.7), Melur(25.87), Usilampatti(22.53) and Chellampatti(20.12). Madurai west and Corporation show better standard than the other blocks. The concentration of malnourished children is very high in rural areas than in urban areas. Madurai West being the urban area ranks first in the district with least number of children with underweight. Though sufficient number of AWCs is existing in the blocks, malnourishment is a persisting phenomenon in Tamil Nadu and India. It can also be said that the socioeconomic status of the household also has a major role in malnourishment. Here we have to give focus on mother education also. An awareness campaign in schools can be conducted, particularly at villages focused to be given more to improve the nutritional status of the children.

**Box 4.1: Anganwadi status of availability of space**

Out of 1826 Anganwadis in Madurai 119 grama panchayat have 115 dilapidated building, Melur, Tirupparangunram, Madurai East and Chellampati are found to be deprived blocks. Among the blocks given 33 anganwadis in panchayats are found to be worn out and totally 44 anganwadis are very worst. Rented buildings are found to be very compact with very less space for children to move and sleep. The situation of Anganwadi in Madurai has to be changed because children from deprived sections are coming here for learning and to have healty atmosphere. It is our prime responsibility to ensure basic amenities to the small children.

**Status of availability of Water**

Anganwadis need to have a child centered approach, child's health and nutritional wellbeing should mutually reinforce each other. The details given in the Annexure 4.9 reveals that 202 anganwadis are without water facility among which 121 comes under corporation limit. 188 anganwadis need repair out 29 are in corporation limit where repair has to be done for availing water facility. Madurai East, T.Kallupatti, Usilampatti, Tirupparangunram, Sedapatti, Alanganallur and Chellampatti are the blocks which requires immediate attention.

**Status of toilet facility in Anganwadi**

About 48% of Anganwadi don't have toilet facilities. Totally 962 annganwadis don't have toilet facility in this 25% contribute from Government sector. So atleast in Government buildings issues can be immediately addressed as far as sanitation and hygiene are concerned as it is is more important for children.

## Provision of IFA tablets

Anaemia is the world's second leading cause of disability and thus one of the most serious global public health problems. Anaemia affects over half of pre-school children and pregnant women in developing countries and at least 30-40% in industrialized countries. Iron deficiency anaemia is the most prevalent form of anaemia among the women and growing children and it leads to poor health status. In order to prevent anaemia, the Iron and Folic acid (IFA) tablets are given to the pregnant women, adolescent girls and the children of three to five years. The below table represents the provision of IFA tablets in the year 2011 and 2013-14.

**Table 4.11: Provision of IFA tablets**

| Sl. No. | Block/District | percent of Women took IFA tablets-2011 | percent of Women took IFA tablets-13-14 | percent of Children took IFA tablets-2011 | percent of Children took IFA tablets-13-14 | percent of Adosolent girls took IFA tablets-2011 | percent of Adosolent girls took IFA tablets-13-14 |
|---|---|---|---|---|---|---|---|
| 1 | Alanganallur | 100 | 92.3 | 57 | 72.3 | 84.4 | 68.0 |
| 2 | Chellampatti | 100 | 86.9 | 45.4 | 81.4 | 79.6 | 84.8 |
| 3 | Kalligudi | 100 | 85.6 | 54.9 | 62.7 | 70.1 | 91.1 |
| 4 | Kottampatti | 100 | 85.5 | 68 | 70.0 | 92.2 | 87.1 |

| Sl. No. | Block/District | percent of Women took IFA tablets-2011 | percent of Women took IFA tablets-13-14 | percent of Children took IFA tablets-2011 | percent of Children took IFA tablets-13-14 | percent of Adosolent girls took IFA tablets-2011 | percent of Adosolent girls took IFA tablets-13-14 |
|---|---|---|---|---|---|---|---|
| 5 | Madurai East | 100 | 74.8 | 65 | 78.0 | 85.6 | 76.7 |
| 6 | Madurai West | 100 | 88.6 | 87 | 66.8 | 63.1 | 41.5 |
| 7 | Melur | 99.2 | 86.5 | 52 | 78.2 | 86.4 | 61.5 |
| 8 | Sedapatti | 100 | 85.7 | 53.2 | 71.4 | 64.1 | 68.1 |
| 9 | T.Kallupatti | 100 | 82.0 | 28.7 | 70.5 | 66 | 46.7 |
| 10 | Vadipatti | 73.1 | 80.7 | 33.5 | 74.9 | 75.9 | 85.9 |
| 11 | Tirumangalam | 100 | 77.7 | 65 | 82.8 | 91.6 | 85.7 |
| 12 | Tirupparangunram | 78.9 | 73.6 | 44 | 88.9 | 107.7 | 83.4 |
| 13 | Usilampatti | 100 | 69.2 | 112 | 71.2 | 89.9 | 51.5 |
| 14 | Corporation | 99.36 | 81.3 | 52 | 70.8 | 100 | 0.0 |
| | District | 96.46 | 81.2 | 58.4 | 73.5 | 82.61 | 43.2 |

Source: Deputy Director of Health Services, Madurai.

The 2011 data shows that percentage of women in taking IFA tablets has crossed 100% in all the blocks except Vadipatti , Melur and Tirupparangunram. But in the year 2013-14 only 81% is recorded for intake of tablets. Numbers of severe anaemic mother (HB< 7gm) in the district are around 650. This indicates that tablets are provided but intake of tablets is to be ensured. Observations at field level reveal people avoid taking tablets due to its smell; it is the responsibility of the health department to make aware of the people about the usage of IFA tablets. Because, this will benefit and bring healthy life to future generation. When we see 2011 and 2013-14 there is variation in distribution of tablets for women (from 96% to 81%) and adolescent (82% to 43%), but in the case of children it has been increased from 58% to 74%. As per field observations, it is said that the distribution will be done, but intake is problem, which has to be ensured.

**Analysis on IFA tablets with Anaemic mother**

| S. No. | Name of the block | Percent of IFA tablets provided-2011 | Percent of severe anaemia mother-2011 | Percent of Low weight babies-2011 |
|---|---|---|---|---|
| 1 | Alanganallur | 100 | 1.05 | 14.33 |
| 2 | Chellampatti | 100 | 0.86 | 12.57 |
| 3 | Kalligudi | 100 | 6.24 | 16.00 |
| 4 | Kottampatti | 100 | 0.67 | 16.98 |
| 5 | Madurai East | 100 | 1.69 | 10.64 |

| S. No. | Name of the block | Percent of IFA tablets provided-2011 | Percent of severe anaemia mother-2011 | Percent of Low weight babies-2011 |
|---|---|---|---|---|
| 6 | Madurai West | 100 | 1.11 | 7.36 |
| 7 | Melur | 99.2 | 2.52 | 11.12 |
| 8 | Sedapatti | 100 | 1.02 | 14.20 |
| 9 | T.Kallupatti | 100 | 0.99 | 23.62 |
| 10 | Vadipatti | 73.1 | 3.70 | 14.08 |
| 11 | Tirumangalam | 100 | 2.19 | 15.13 |
| 12 | Thirupurakundram | 78.9 | 4.60 | 12.57 |
| 13 | Usilampatti | 100 | 8.08 | 9.71 |
| 14 | Corporation | 99.36 | 4.20 | 0.87 |

Anaemia related analyses reveals that rural women are more vulnerable than urban. An increasing pattern of the number of people consumed IFA tablets could be observed from the table, but the pattern of severe anaemic level could also be seen in Kallikudi, Usilampatti, Tirupparangunram, and Melur. These blocks are still having less awareness and social economic status also plays the major role in prevalence of anaemia. Intake of less nutritious food results in low weight babies where Kallikudi, Kottampatti, T.Kallupatti, and Tirumangalam stand first. Irrespective of providing tablets the problem of anaemia still exists in the district where behavioural change should be adopted in the affected areas which will help to decrease the status of anaemic mothers. Discussion with health department also says that not only through tablets but change in food practice and behavior will play major part in controlling anaemia. Awareness to be focused more and people should also cooperate in the aspect of reducing anaemia.

**Box 4.2: Initiatives of DHAN Foundation in eradication of Anaemia**

DHAN Foundation's Anaemia Control Project was done with 1,204 Kalanjiam SHGs; benefiting 1315 pregnant women and 6,690 adolescent girls in Madurai. 'Enabling Self Health Governance' was the core component of the experiment where the people were enabled to become aware of their rights from the Government health care system. A well knitted 'Behavioral Change Communication (BCC)' package was used to bring positive change in the health seeking behavior of the members' families.

The focus on 'Linkage Building' enabled the federations to build a sound demand system to claim for legitimate rights from the mainstream and to ensure the reach of quality programmes to all eligible poor. Ultimately the 'Case Management and Referral Services' with a strong backup of the microfinance was the foundation of the intervention. The Kalanjiam Federations promoted by DHAN design and implement comprehensive reproductive and child health programme to bring positive changes in the health seeking behaviour of the members' families to prevent or reduce anaemia and malnutrition among mothers and adolescent girls.

The program was aimed at promoting health seeking behavior among member families through behavioral change communication approaches and people managed health systems and structures, linking with mainstream institutions for reducing the healthcare expenditures. They work in concert with the Government and private healthcare systems for reducing healthcare expenditure and increasing health seeking behavior. The Anemia Control is one of the components of the Kalanjiam Reproductive and Child Health (KRCH) program implemented by the Kalanjiam Federations. Highly significant ($P<0.000$) decrease in the prevalence of anemia among pregnant women, by 25.7% from 89.3% (before intervention in 2006) to 63.6% (after intervention in 2009) was observed in the intervened blocks. The mean hemoglobin (Hb) and maximum Hb level had an increase from 9.49 to 10.41 g/dl and 12.1 to 14.2 g/dl respectively. Similarly, significant ($P<0.001$) decrease in the prevalence of anemia by 34.4% among the adolescent girls. The mean Hb and maximum Hb level had an increase from 9.6 to 11.3 g/dl and 13.0 to 14.4 g/dl respectively.

Pregnant women who had a minimum of three antenatal checkups increased from 65. 4% to 80%. Iron-Folic Acid tablet procurement and consumption, among adolescent girls significantly increased from 22.1% to 86.5%. Practice of wearing slippers to avoid hookworm infestation increased significantly from 55.6% to 93.9% among pregnant women and from 55.4% to 97.2% among adolescent girls.

## Water and Sanitation

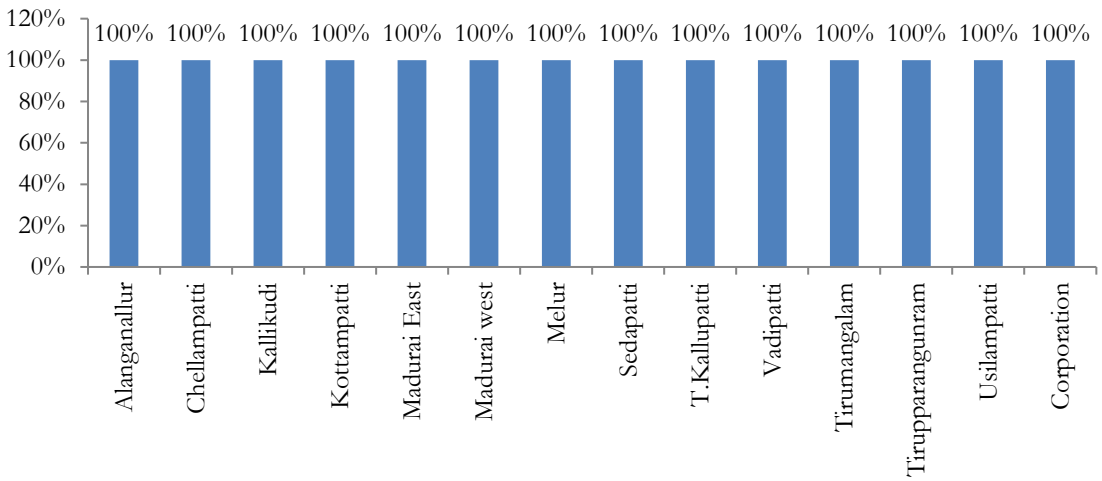
Water and sanitation are two non-nutritional factors which have an impact on nutrition. With a growing population, there is huge pressure to provide water supply and sanitation facilities on a sustained basis. Provision of these basic facilities is also crucial for achieving the goal of 'Health for All'. Overall access to water supply and sanitation and its issues in Madurai are discussed below:

## Water supply

Access to water has become a very big problem in Madurai. But the data given here speak about habitations having access to water. On the basis of data, it is clear that almost all the blocks are having accessibility to drinking water. But if we take household wise the situation is worse. For rural blocks access to water is not the only problem, time and resources are required to access water from distant sources. During summer, the problem of scarce water is getting more where

the ground water is getting depleted.

**Chart 4.6: Access to water-2013-14**




Source : www.mdws.gov.in

The level of achievement with respect to the habitations covered by water supply have covered 100% coverage, but in 2012-13 the situation changed particularly in Kallikudi (88%), Chellampatti (73%) and T.Kallupatti (80%) had less access than the other blocks. But in 2013-14, the situations had improved due to district administrations effort and now availability of drinking water is there in almost all the blocks. The development of local water supply, sanitation, roads and rural energy programmes can do much to reduce women's burden and improve the health conditions of women and children. Households that have no water source within their premises need to be covered as that is the prime which has to be addressed by the district administration. As far as Corporation is considered, numbers of applications seeking drinking water connections are increasing year by year. The numbers of connections given are based on the number of applications received, number of workers available for laying pipelines and the availability of pipeline fittings etc. Percent increment in water pipe connections are high for the slum areas than the others shows the focus of local body upon slum improvement.

## Sanitation

Toilet facilities are available only to 52.16% of households in Madurai, which shows the vulnerability of the problem and also the impact of the same on the community.

**Table 4.12: Percentage of HH with toilet-2013-14**

| Sl. No. | Block wise / District | Total Number of HHs | Number of HHs are with Toilet facilities | Percent of HHs provided with toilets |
|---|---|---|---|---|
| 1 | Alanganallur | 33073 | 8755 | 26.47 |
| 2 | Chellamaptti | 27610 | 10792 | 39.09 |
| 3 | Kallikudi | 16190 | 10796 | 66.68 |
| 4 | Kottampatti | 23063 | 8870 | 38.46 |
| 5 | Madurai East | 57994 | 18573 | 32.03 |
| 6 | Madurai West | 67201 | 12382 | 18.43 |
| 7 | Melur | 51788 | 15207 | 29.36 |
| 8 | Sedapatti | 26638 | 12608 | 47.33 |
| 9 | T.Kallupatti | 28197 | 9823 | 34.84 |
| 10 | Vadipatti | 27593 | 10802 | 39.15 |
| 11 | Tirumangalam | 45989 | 12291 | 26.73 |
| 12 | Tirupparangunram | 97575 | 19853 | 20.35 |
| 13 | Usilampatti | 25527 | 12695 | 49.73 |
| 14 | Corporation | 266449 | 251170 | 94.27 |
| **District** | | **794887** | **414617** | **52.16** |

Source:PO,DRDA

In Madurai, the Corporation households have access to sanitation, but still, only 94.27% is having toilet facilities and yet 100% is not covered in the district. Lowest access i.e, less than 20% of households are there which is not having access to toilet facilities, especially Madurai West, Tirupparangunram, Alanganallur etc. Almost all the rural blocks have less access to toilet facilities. Toilets within or near dwellings are rare in rural areas. Open defecation is common among the villagers, it is observed that practice of using open area is not only because there is no alternative, but also because it is a preference. Even in urban slum, children and men are usually going for open defecation and women go to public toilets. In the interior city Vaigai River bunds are used as toilet by common people who spoil the environment and ultimately become the major cause of contagious diseases. Water scarcity in some blocks, especially Kallikudi, Chellampatti, Sedapatti, and T. Kallupatti is another factor for dysfunctional community toilets. In order to prevent defecation in open areas and in drains, concerted effort is required to disseminate knowledge and create awareness among people on sanitation and its impact on their health and environment. This can be accomplished by educating target group women who will influence their family members too.

The Corporation has also established common toilets in the places where they are needed.

Almost all of them are maintained by contractors or Self Help Groups in Madurai city. The toilets are there with a minimum of 3 seats as minimum to the maximum of eighteen seats. The average number of users per seat ranges from 36 to 674 per day. A DEWATS system for waste water disposal is advocated to minimize the pollution and for recycling of waste water.

**Box 4.3: Utilization of Public Health Services**

There is a good improvement in providing infrastructure and placing staff in health departments. Today, apart from Government hospitals, lots of private hospitals also rooted in Madurai where there now health services are maximum avail to all. There is increase in inpatients flow, from 36434 (2009) to 43600 (2011) and we can see the increase of outpatients flow also. One way we can see that the Government had shown good progress in building infrastructures which had attracted more patients towards it on the other hand diseases have started to prevail more which indicates poor health status of the people. As the population grows there is increase in all sectors. Primary health centres also cater to a large section of the rural population when they come to treatment of minor ailments. The interface between the public health department and the people needs to be strengthened considerably with an emphasis on the quality care.

There are three stakeholders providing health services in Madurai city. They are Madurai Corporation, other Government sector health service providers and Private sector. Madurai Corporation provides its health services through Urban Health Posts (UHP) 17 in number accompanied with maternity homes, Antenatal Care Centers and city clinics. Besides the UHPs, the District Government General Hospital is also there with all sorts of infrastructures to cater primarily to tertiary care needs of Madurai city. In spite of the provision of food services in the public sector hospitals, increased swarming with people towards private hospitals is observed. According to the 'Guidelines for District Hospitals (2007)' published by Director General of Health Services, Ministry of Health & Family Welfare, Government of India, 300 bedded hospital is enough for catering the needs of a 10 lakhs population based on the assumptions that annual rate of admission as 1 per 50 populations and average length of stay in a hospital as 5 days. If it is so, Madurai city is far above the standard. In contrary to the above, National Health Policy 2002 fixed the standard as each 20, 000 population should be served with 75 bedded hospital. According to this policy, approximately 3,750 numbers of beds are needed to cater the needs of Madurai city. There are 2496 beds provided by the Government hospitals accounts to 67 % of the need. If we take private hospitals into account they are serving over and above the demand. From the above statements we could infer that Madurai city is with sufficient health care facilities.

## AIDS Control

The Government of India estimates that about 2.40 million Indians are living with HIV (1.93 -3.04 million) with an adult prevalence of 0.31% (2009). Children (<15 yrs) account for 3.5% of all infections, while 83% are the in the age group 15-49 years. Of all HIV infections, 39% (930,000) are among women. India's highly heterogeneous epidemic is largely concentrated in only a few States — in the industrialized south and west, and in the north-east. The four high prevalence States of South India (Andhra Pradesh – 500,000, Karnataka – 250,000, Tamil Nadu – 150,000) account for 55% of all HIV infections in the country.[6]

[6] Source:www.worldbank.org/en/news/feature

**Table 4.13: Age and sex-wise HIV positive Persons in Madurai District -2013-14**

| Sl. No. | Age distribution | 2013 | | | | 2014 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Male | Female | TG | Total | Male | Female | TG | Total |
| 1 | 0-14 | 10 | 7 | 0 | 17 | 6 | 5 | 0 | 11 |
| 2 | 15-19 | 4 | 3 | 0 | 7 | 5 | 7 | 0 | 12 |
| 3 | 20-24 | 20 | 28 | 0 | 48 | 28 | 11 | 1 | 40 |
| 4 | 25-29 | 72 | 56 | 0 | 128 | 54 | 37 | 0 | 91 |
| 5 | 30-39 | 188 | 129 | 0 | 317 | 148 | 92 | 0 | 240 |
| 6 | 40-49 | 191 | 80 | 0 | 271 | 155 | 74 | 0 | 229 |
| 7 | 50 & Above | 105 | 41 | 0 | 146 | 90 | 39 | 0 | 129 |
| | **Total** | **590** | **344** | **0** | **934** | **486** | **265** | **1** | **752** |

Source: Health Department

In Madurai, during 2009 'District AIDS Prevention and Control Unit (DAPCU)' was started to undertake the counselling, testing and identifying AIDS patients. There is a total of 30 Voluntary Counselling and Testing Centres (VCTCs) in Madurai District under the control of DPCU. Of the 30 centres, eleven centres (5 centres have been attached with 5UHPs, One in GRH, One in ESI Hospital, One in Central prison, One in Mattuthavani Bus Stand, One in Railway Station and One in( Meenakshi Mission Hospital) are in Madurai City. Eight NGOs are involving in counseling and testing services.

In Tamil Nadu, the number of HIV AIDS positive cases is declining. In 2011, the total number of cases identified in Madurai district was 1217 and in 2012 it declined to 1047, which is a good sign of growth. If we take the data for 2013 (934) and 2014 (752) still the cases are reduced. There is improvement in the status of both male and female. Awareness need to be created for use of preventive and focus should be on behavioral change. The probability of unreported cases will be very high and hence detailed survey needs to be done and necessary mechanisms must be in place to identify the infected people.

## Tuberculosis and Leprosy Incidence

India is the highest TB burden country, accounting for one-fifth (21%) of the global incidence (Global Annual incidence estimate is 9.4 million incidences out of which it is estimated that 2 million incidences are from India). India is 17th among 22 High Burden Countries in terms of TB incidence rate. There are 8 TB Hospitals in Tamil Nadu – 2 under the control of the Directorate of Medical and Rural Health Services, 4 under the control of Directorate of Medical

Education and 2 under Private.[7]

**Table 4.14: TB and Leprosy Infections**

| Positive TB cases | | Leprosy | |
|---|---|---|---|
| **2007** | **2013-14** | **2007** | **2013-14** |
| 4169 | 3615 | 190 | 122 |

Source: Health Department, Madurai

The figures given above indicate very clearly that the number of TB cases in Madurai district is declining year by year. In 2007, 4169 cases were reported and in 2013-14, 3615 cases were reported as positive. The number of TB infections in all the blocks has reduced year by year. The rate of decline among the blocks is very slow when it is compared with the district. Awareness of preventive measures and the availability of treatments must be created among the community.

## Leprosy

The National Leprosy Eradication Programme (NLEP) was launched in 1994. With the introduction of multidrug therapy in 1981, there has been a remarkable improvement in the treatment and recovery of leprosy patients. In Tamil Nadu, the prevalence rate has been brought down rapidly from 118 per 10,000 populations in 1983 to a mere 2.2 in 2002[8]. Leprosy in the district has been reduced considerably. Block wise leprosy details are as follows:

**Table 4.15: Leprosy Incidence**

| S. No. | Block | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|---|---|---|---|
| 1 | Alanganallur | 6 | 7 | 8 | 7 | 8 | 11 | 15 |
| 2 | Chellampatti | 11 | 11 | 16 | 7 | 12 | 7 | 17 |
| 3 | Kallikudi | 15 | 16 | 7 | 4 | 6 | 4 | 11 |
| 4 | Kottampatti | 7 | 4 | 7 | 1 | 5 | 5 | 8 |
| 5 | Madurai East | 20 | 15 | 12 | 6 | 10 | 8 | 8 |
| 6 | Madurai west | 16 | 6 | 5 | 12 | 5 | 9 | 9 |
| 7 | Melur | 14 | 9 | 9 | 9 | 11 | 8 | 12 |
| 8 | Sedapatti | 8 | 7 | 10 | 11 | 11 | 2 | 10 |
| 9 | T.Kallupatti | 6 | 4 | 6 | 3 | 2 | 0 | 2 |
| 10 | Vadipatti | 6 | 5 | 7 | 3 | 3 | 3 | 9 |
| 11 | Tirumangalam | 10 | 9 | 8 | 6 | 6 | 2 | 3 |
| 12 | Tirupparangunram | 17 | 9 | 10 | 10 | 12 | 15 | 13 |

[7] Source: State Rural Health Mission , Epidemiology of tuberculosis:Current status in India

[8] Source: Tamil Nadu Human Development Report - 2003

| S. No. | Block | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|---|---|---|---|
| 13 | Usilampatti | 6 | 16 | 4 | 8 | 6 | 9 | 18 |
| 14 | Madurai Corporation | 48 | 38 | 34 | 60 | 46 | 36 | 49 |

Source: Health Department, Leprosy

Taking into account the changes in trends and profile of leprosy, the State Government decided to integrate leprosy services into general health services. Leprosy curative services are now available in all PHCs, corporations, municipal hospitals and Government dispensaries. The program components in Tamil Nadu include: case detection, treatment and release; prevention of disabilities and rehabilitation; manpower development; IEC and community participation; and monitoring and evaluation, backed up by health system research.

While the prevalence of leprosy has come down in the district as a whole, there are inter-block variations. Highest number of leprosy is reported in Madurai Corporation from 2007 -14 the number ranges from 36 to 49, when compared to the rural blocks of the district. Kottampatti stands at the lowest as 1 in 2011and in all the other blocks the rate of decline is slow and remains in the same trend and in 2013 T.Kallupatti(2) and Tirumangalam (3) cases were recorded at the lowest.

## Conclusion

The chapter had dealt with different health parameters where the district shows good progress in reducing IMR,SBR, CDR but focus needs to be given more on rural blocks where the issues are still pertaining that may affect the progress of the district. The district should focus on malnutrition in particular for children and maternal mother. Efforts to reduce anaemia can be taken, especially focus on awareness and health campaigns to be conducted in rural areas. Quality should be improved in a primary health centre and timely medical services to be provided to the people. Regarding water and sanitation, focus is to be given in availing access to toilets for the rural women as well as urban slum women. Access to safe drinking water to household is to be addressed. Role of private sectors in the health service is also to be considered.

There was a relationship between sex ratio and child sex ratio, in 5 blocks Kottampatti, Melur, Sedapatti, T.Kallupatti and Usilampatti, where child sex ratio is found to be declining which means problem is there is in number of female children. The range between sex ratio and the child sex ratio of the block seems to be very high which has been mentioned.

Crude death rate and Infant mortality rate also have correlation where IMR is more, there is an increase in crude death rate. The data about IMR shows that, Tirumangalam, T.Kallupatti,

Kottampatti and Sedapatti IMR rate is more when compared to the other blocks. But when we compare 2013 data with 2010 in all the blocks efforts have been taken in reducing IMR, especially Melur (23.4 to 17.34), Tirumangalam (33.8 to 23.36), Usilampatti (30.6 to 18.93). Chellampatti, Kallikudi, Sedapatti , T.Kallupatti and Tirumangalam have higher IMR and CDR.

2013-14 data shows that among the 14 block around 8 blocks have high MMR especially Tirumangalam (389), Kallikudi (273.22), Alanganallur (283.93), Sedapatti (269.69), Madurai East (183.09) and Kottampatti (162.7). Inspite of efforts taken by district administration, the rate of MMR is increasing trend in Madurai. In the same way, MMR is found to be more in blocks like Alanganallur, Kallikudi, Vadipatti, Tirumangalam, Tirupparangunram, Sedapatti, T.Kallupatti and Usilampatti where there is also an increase in Stillbirth rate. When we see U5MR and percentage of underweight children Melur, Madurai East, Usilampatti, Chellampatti and Alanganallur seems to have higher percentage of malnourishment where U5MR is also more. This shows that health awareness and access medical facilities have to be ensured to these blocks. Particularly status of rural blocks in health parameters has to be concentrated and necessary implementation has to be done to improve the status of health in rural blocks of Madurai district.

Curing Tuberculosis needs isolation of patients and continuous administration of medicines for a period of 6 months is mandatory. Number of cases identified as sputum positive for Tuberculosis is higher from 2007 to 2014 which always ranges between 2000 to 3500 affected persons. It can be inferred that both the infected persons and treatment providers have to cooperate with each other in eradicating TB from the city.

Madurai Corporation concentrates on health care for poor is the need of the hour. Numbers of Urban Health Posts (UHP) are to be increased based on the population density which will check the exploitation of private hospitals. Analysis on staff vacancy details in Public Health Department of Madurai Corporation in 2010 reveals that the sanctioned posts of all cadres are insufficient to cater the needs of the public. Of the sanctioned positions, 32% medical officers, 36% technical staff and 61% support staff positions are vacant. Same trend is observed in ICDS and technical staff.

Apart from SBGF backward blocks, Chellampatti and Kottampatti can be taken into account in the aspect of health. Towards attaining the goal of good health and nutritional status, we have to concentrate more on community mobilization where focus should be given in creating awareness among the public.

# CHAPTER 5

# LITERACY AND EDUCATION

# 5. Literacy and Education

## Introduction

Literacy has been commonly defined as the ability to read and write and understand a text. The term may also refer to familiarity with literature and to a basic level of education obtained through the written word. Education is a process by which human beings and societies reach their fullest potential.

Literacy is the generally used indicator to assess the knowledge of the people as per the Human development index. The literacy rate in Tamil Nadu has seen upward trend and is 80.09% as per 2011 population census. Of that, the male literacy stands at 86.77%, while female literacy is at 73.14%. In 2001, the literacy rate in Tamil Nadu stood at 73.45% of which male and female were 82.4% and 64.04% respectively. In actual numbers, total literates in Tamil Nadu stand at 51,837,507 of which males were 28,040,491 and females were 23,797,016. Tamil Nadu over the last one decade witnessed a hike of 7% in its overall literacy rate.

According to the 2011 census data, the literacy rate of Madurai district is 83.45. Total literates in Madurai district are 2,273,430. Male literates are 1,223,810 and Female literates in the district are 1,049,620. Significant achievements of literacy in rural blocks is observed. The female literacy rate has increased from 69.35 in 2001 to 77.16 in 2011. The enrollment of girls in primary education is high. Enrollment in upper primary is also positive.

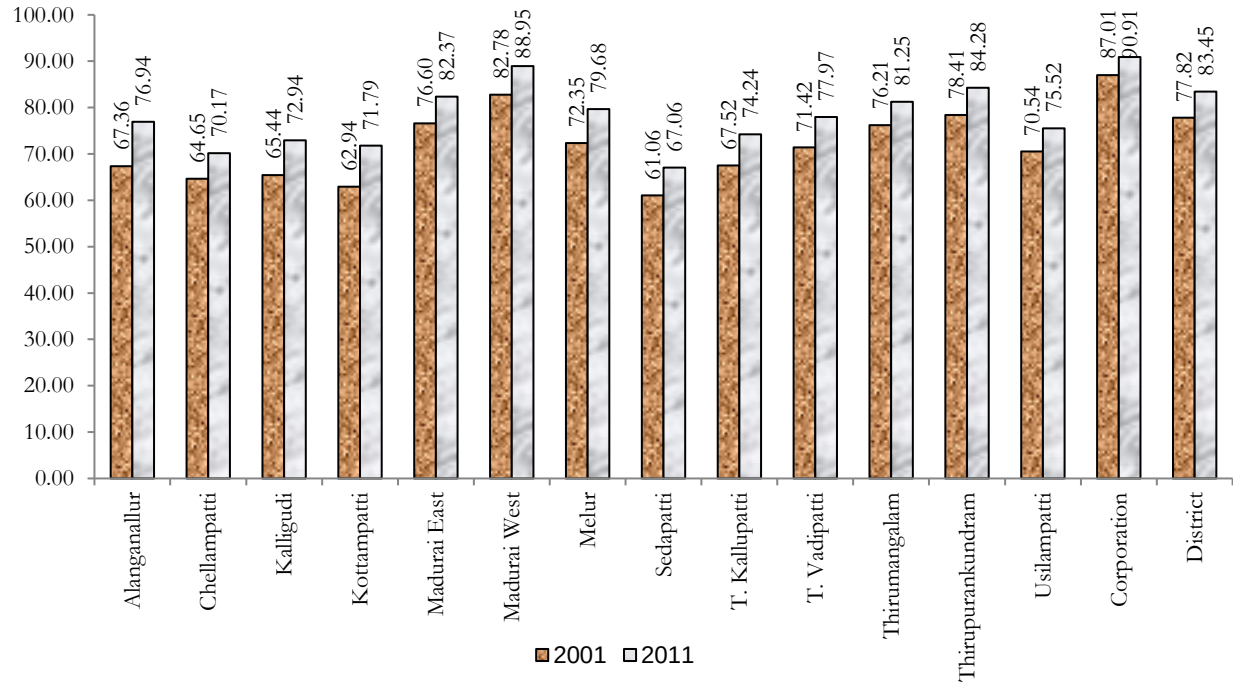
This chapter on literacy analyses the total literacy rate of the Madurai district, Male and Female literacy, Enrolment, Dropout in primary and secondary, Transition and completion rate of the district. The present chapter also deals with Higher education, Gross access to schools, Hostel facilities of the district.

## Literacy Performance of Madurai

According to the 2011 census data the literacy rate of Madurai district is 83.45. Total literates in Madurai district are 2,273,430. The schools in Madurai form the foundation of the excellent educational structure of the city. The top standard Madurai schools have helped the district to emerge as one of the major educational hubs of the State.

The literacy rate of Madurai has increased to 83.45 in 2011 from 77.82 in 2001. Among the males, 89.72 are literates and among the females the rate is 77.16%. The corresponding rates in 2001 were 86.17 for males and 69.35 for females. The district literacy rate is higher than the State literacy rate of 80.1%.

**Chart 5.1: Total Literacy Rate**




Source: Census 2001 & 2011

hart:5.1 reflects the literacy rate of 14 blocks. Overall, if we see the total literacy of the district, there is an increase in the literacy rate when compared to that of 2001. Among the blocks, Madurai Corporation (90.91%), Madurai West (88.95%) and Tirupparangunram (84.28%) have reported a higher literacy rate while Sedapatti accounts for lowest literacy rate of 67.06%. This shows that urban based blocks which has good infrastructure facilities, accessibility to schools, sufficient teacher and better transport facilities have improved their status in literacy. Among the 14 blocks, 5 blocks have registered higher literacy rate than the State average of 80.3% and 9 blocks are below the State average.

**As per 2011 census Status of blocks in literacy**

| Top 3 blocks with high literacy | Bottom 3 blocks with low literacy |
|---|---|
| Corporation | Sedapatti |
| Madurai West | Chellampatti |
| Tirupparangunram | Kottampatti |

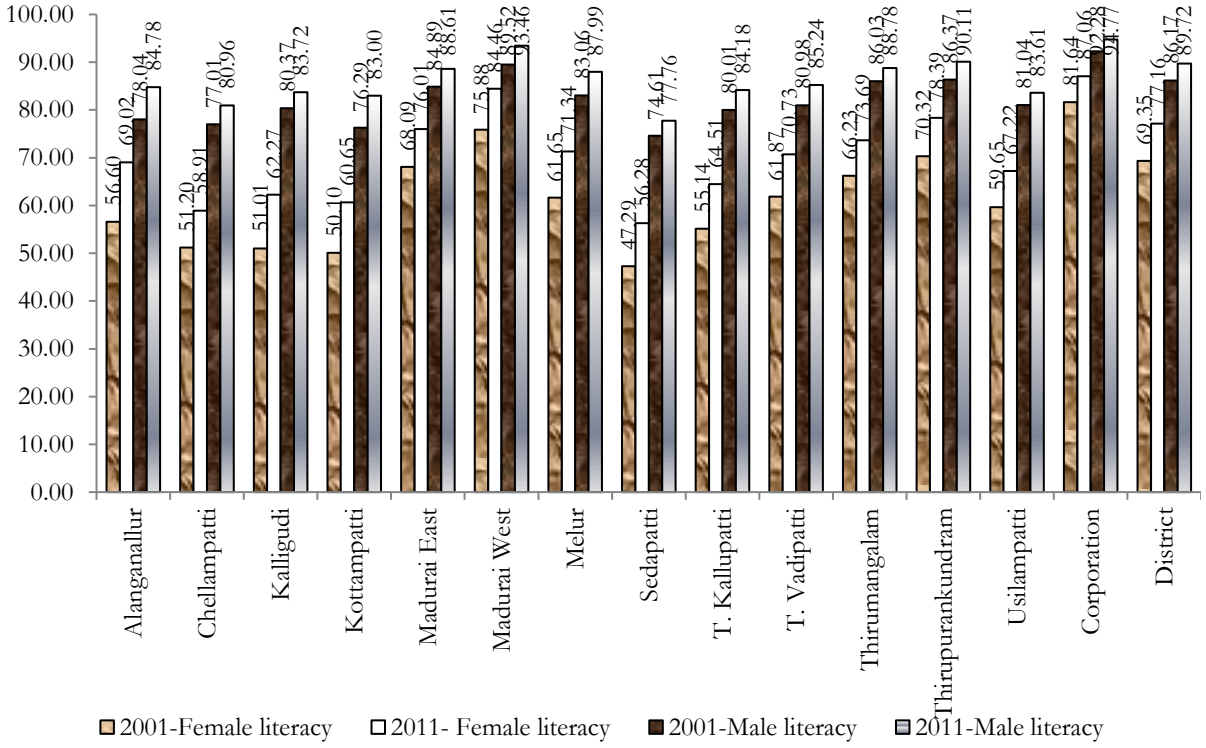
The decadal growth rate among the blocks shows that Alanganallur has the highest growth rate (14.22%) followed by Kottampatti (14.07%), Kallikudi (11.45%) and Melur (10.13%). One of the positive signs we can see here is increasing in growth rate in rural blocks is observed, that too Kallikudi is one of the backward blocks in Madurai. Around 3 blocks falls in between the growth rate of 8.53 to 9.82%. The growth rate of Corporation, it is very low compared to other blocks, but still it has a good percentage of literacy 90.91% among the district.

## Literacy by Gender

The trend from 2001 to 2011 shows a considerable increase of female literacy in all blocks of Madurai district. The male literacy rate has increased from 86.17% in 2001 to 89.72% in 2011. The female literacy rate has increased from 69.35% in 2001 to 77.16% in 2011. The increase in Female Literacy rate is 8 points, while in the case of males the increase is to the tune of 3 points only.

Two blocks, Corporation and Madurai west show higher female literacy about 80% than the other blocks. Female literacy is very low in Chellampatti, Sedapatti, Kallikudi, Kottampatti and T.Kallupatti where female literacy ranges between 50% to 65%, it indicates that less awareness and importance of female education prevails in the rural blocks.

**Chart 5.2: Male and Female Literacy Rate-2001 & 2011**




Source: Census 2001 & 2011

**As per 2011 census status of blocks in Male and Female literacy**

| Male Literacy | | Female Literacy | |
|---|---|---|---|
| **Top 3 blocks** | **Bottom 3 blocks** | **Top 3 blocks** | **Bottom 3 blocks** |
| Corporation | Sedapatti | Corporation | Sedapatti |
| Madurai West | Chellampatti | Madurai West | Chellampatti |
| Tirupparangunram | Kottampatti | Tirupparangunram | Kottampatti |

Sedapatti, Chellampatti and Kottampatti ranks low both in male and female literacy in the district. These blocks are backward in certain factors on health also, Sedapatti is being identified as a backward block by State Government in education. Scheduled caste are more in all the three blocks. In Sedapatti percentage of SC is 25.96 and where the percentage of BPL families are 34, in Kottampatti scheduled caste is 14.92% and the percentage of BPL is 36.67 and in Chellampatti 17.29 is the percentage of SC and 30.76% are BPL families. The State had implemented many schemes to bring 100% literacy to all over the district, in spite of the implementations there is gap in certain districts and certain blocks. If we consider the BPL percentage of the blocks, the income earning capacity influences the percentage of literacy in these blocks. Though gender inequity is not striking, gender differentials are visible in low performing blocks which are higher in rural areas when compared to that of urban. Also, urban literacy rates for female in almost all the blocks tend to float in between 70–87%, whereas the rural literacy rate varies unduly from a low of 56.28% in Sedapatti to a high of 87.06% in Madurai Corporation.

Total literacy of the district has increased; and top three (Corporation, Madurai West and Tirupparangunram) are urban based blocks, but the growth rate shows that rural blocks have a higher growth rate when compared to urban blocks. In spite of the lack of infrastructure facilities, increasing literacy in rural areas is to be appreciated. Status of backward blocks to be seen, steps has to be taken to address the issue. Sedapatti have low literacy levels (67.06%), the main reason for this may be lack of transportation facilities which prevails in the block, percentage of BPL families are more where there is a possibility to send children for labour work. A study is needed to analyze the pros and cons of the block in detail.

As far as literacy by gender is considered, though overall of the district shows increase in male literacy, actually the growth rate has increased only in female literacy. This shows a positive pattern of growth in women's education. One more thing which has to be taken for the concern is rural block remains as such where district administration has to take concerted efforts in developing the blocks like Chellampatti, Kottampatti, Sedapatti and Kallikudi.

**Box 5.1: Education in Corporation schools**

Corporation schools account only for 11% of the target population. Trends show that there is decrease in Government / corporation schools in comparison to private schools to a remarkable extent calling for action. Inadequacy is observed in the classrooms, furniture and playgrounds in all corporation schools. Literacy rate is 90.91% which is higher than district (83.45%) and the State (80.1%).

Another gender problem is observed where the girls from poor communities are more in number in corporation/ Government schools and for the same classes the boys are more in number in aided / private schools which shows the parents mindset of their priorities. Schools in Madurai Corporation are classified into 6 categories based on the types of school management. They are schools run by the State Government, Madurai Corporation, Private Management with State Aid, Private Management without State Aid, State Social Welfare Department and Other management schools. They are called locally as Government schools, Corporation schools, Aided schools, unaided schools, Kallar School and other schools. The last category includes the schools run by the Union Government (Kendriya Vidyalaya), Railway and recognized schools run by some private managements. In total, there are 464 schools now in Madurai Corporation area.

## Elementary Education

In line with the constitutional mandate, the State Government is committed to the task of providing universal primary (elementary) education for all children up to the age of 14 years. The success of the State in achieving this end can be studied by analyzing three broad parameters such as enrolment of all children between six and fourteen years in primary and middle school, retention of children in primary and middle schools, both with respect to the dropout and repetition rate, and quality of education with reference to attainment in basic language and numeracy skills.[9]

## Enrolment in Primary Education

The Gross Enrolment Ratio (GER) in the district as a whole in primary section was 99.32% in 2012-2013 with blocks performing in the range of 99.05 to 99.71%. There had been very significant progress in GER since 1999 in the district due to focused initiatives like District Primary Education Program and Sarva Shiksha Abiyan (SSA). No discrimination between boys and girls was observed in GER.

[9] Source:Tamil Nadu Human Development Report 2003

**Table 5.1: Enrolment ratio for Primary Education**

| GER-Primary (5-10 age groups) | | | |
|---|---|---|---|
| Sl. No. | Block | ALL | |
| | | Total | Total |
| | | 2012-13 | 2013-14 |
| 1 | Alanganallur | 95.08 | 91.39 |
| 2 | Chellampatti | 86.37 | 90.58 |
| 3 | Kallikudi | 109.89 | 94.835 |
| 4 | Kottampatti | 89.08 | 79.025 |
| 5 | Madurai East | 108.88 | 103.545 |
| 6 | Madurai West | 112.42 | 106.09 |
| 7 | Melur | 93.90 | 105.75 |
| 8 | Sedapatti | 96.70 | 92.455 |
| 9 | T. Kallupatti | 83.66 | 90.225 |
| 10 | Vadipatti | 98.12 | 97.1 |
| 11 | Tirumangalam | 97.95 | 108.365 |
| 12 | Tirupparangunram | 96.49 | 104.075 |
| 13 | Usilampatti | 88.33 | 95.605 |
| 14 | Corporation | 104.56 | 106.28 |

Source: SSA, Madurai

The overall Net Enrolment Rate of Boys and girls is 99.81 and the enrolment of girls is higher than boys. The difference between the enrolment of boys and girls is very minimal. Though there are minor fluctuations in the growth, all the blocks in the district are moving towards achieving 100% Gross Enrolment Rate.

**Box 5.2: Initiatives for improvement in quality of Education**

Sarva Siksha Abhiyan is an attempt to improve capabilities of all children through provision of community owned quality education in a mission mode. SSA launched in 2001-02 by Government of India drives the concept of universalisation of education through a community approach with Quality. This scheme is a collabourative endeavour of Central, State Government and local bodies involving all stakeholders like School Management Committees, Urban Slum level Education Committees, Parent-Teachers Associations and other grass root level structures in the management of elementary schools to achieve the goal of primary education resulting in social justice for deprived communities.

Children learn more through the media. Learning becomes interesting when anything is visual. SSA provided TV/DVD for all the Government schools. Teachers use this to motivate and even to teach the content of the lesson. It should be maintained properly. Proper guidance was given for the usage of TV/DVD. Teachers were encouraged to motivate the children regarding the content on the CDs. As a result time schedule is available for usage of TV & DVD player providing equal opportunity to all children.

**ADEPTS (An innovative strategy to improve educational performance through teacher support)**

Performance standards with a view to ensure minimum standards are proposed under ADEPTS strategy. The role of teacher is more challenging important to ensure cognitive dimensions besides physical, social and organization. ADEPTS strategy mainly aims at by emphasizing all schools to have mini garden, separate garbage pit, proper drainage facility, safety drinking water and toilets with facilities. It also focuses on current events, discussing, debate, interaction etc.

## Completion Rate and Dropout rate in Primary Education

### Completion rate in Primary education

The completion rate for the SC students in primary education was 98.63% in the year of 2012-13 in the district indicating that there was not much difference with that of all the students put together. But in the case with that of upper primary section, the completion rate of SC students is 95.03%.

**Table 5.2: (a) Completion Rate in Primary Education**

| S. No. | Districts | ALL | | | | | |
|---|---|---|---|---|---|---|---|
| | | Boys | | Girls | | Total | |
| | | 2012-13 | 2013-14 | 2012-13 | 2013-14 | 2012-13 | 2013-14 |
| 1 | Alanganallur | 98.14 | 93.76 | 98.35 | 94.31 | 98.24 | 94.04 |
| 2 | Chellampatti | 99.15 | 96.90 | 98.00 | 95.59 | 98.57 | 96.25 |
| 3 | Kalligudi | 96.37 | 94.52 | 94.72 | 96.31 | 95.55 | 95.42 |
| 4 | Kottampatti | 99.30 | 92.46 | 99.06 | 93.15 | 99.18 | 92.80 |
| 5 | Madurai East | 97.04 | 96.68 | 96.41 | 96.77 | 96.72 | 96.73 |
| 6 | Madurai West | 99.19 | 96.23 | 99.81 | 97.56 | 99.50 | 96.90 |
| 7 | Melur | 99.25 | 95.51 | 99.64 | 97.38 | 99.45 | 96.45 |
| 8 | Sedapatti | 95.46 | 93.96 | 98.29 | 93.57 | 96.88 | 93.77 |
| 9 | T. Kallupatti | 97.70 | 95.16 | 96.46 | 95.82 | 97.08 | 95.49 |

| S. No. | Districts | ALL | | | | | |
|---|---|---|---|---|---|---|---|
| | | Boys | | Girls | | Total | |
| | | 2012-13 | 2013-14 | 2012-13 | 2013-14 | 2012-13 | 2013-14 |
| 10 | Vadipatti | 99.83 | 97.78 | 99.71 | 98.23 | 99.77 | 98.01 |
| 11 | Tirumangalam | 96.89 | 96.36 | 96.60 | 98.59 | 96.74 | 97.48 |
| 12 | Tirupparangunram | 96.59 | 96.33 | 95.88 | 97.35 | 96.23 | 96.84 |
| 13 | Usilampatti | 98.36 | 97.72 | 96.34 | 97.98 | 97.35 | 97.85 |
| 14 | Corporation | 99.72 | 96.43 | 99.44 | 97.48 | 99.58 | 96.96 |

Source:SSA,Madurai

Completion rate and the low enrolment rate will have sharp adverse influence over educational capabilities of this social group. This has to be taken into consideration and ensuring 100% completion rate will be better for development.

The completion rate in primary sections in the district is more than 90% in all the blocks in 2012-2014.The lowest completion rate in 2013-14 was observed in the block of Kottampatti 92.80 followed by Sedapatti, T.Kallupatti, Alanganallur and Madurai East, where the completion ranges between 94.04 to 96.85% in the same year.

**Box 5.3: Reading writing skills among primary and upper primary school children**

The box 5.2: shows the initiatives taken by the district in improving the quality of education. The present table below here gives the performance of schools which

| | Standard V | | | | Std 1-II learning levels | | Standard III-V learning level | |
|---|---|---|---|---|---|---|---|---|
| | % of children out of school | % can read level-2 | % can solve division and subtraction | % of children out of school | % children who can read letters, words or more | % children who can recognize numbers (1-9) or more | % children who can read a std I level text or more | % children who can do Subtraction or more |
| Madurai | 2.2 | 67.3 | 37.5 | 2.2 | 64.4 | 71.3 | 50.4 | 38.3 |
| State | 2.7 | 49.99 | 31.49 | 2.7 | 62.5 | 71.8 | 50.2 | 39.2 |

The given data shows that Madurai stands better when compared to that of state except in 2013 III-V (learning level) where Madurai has 38.3 % v/s state 39.2. Among the 25 districts given as per ASER 2013, Madurai stands on 9th rank in (Std I-II learning level), which shows better performance.

## Dropout rate in Primary

Quitting or withdrawal of a student from education is called as drop-out. Various kinds of reasons for dropout of school children were identified by many social workers. Many poor parents in urban were not aware about the Government schemes which would reduce their burden of expenditure on education. Migration of parents for livelihood is the major reason for dropout of children at primary level. The dropout rate for the district at primary level is 0.73% in the year 2012-13. Sedapatti (2.11%) and T. Kallupatti (1.11 %) have more dropout than the other blocks. Less than 1% drop is experienced by all blocks for all community students. The dropout rate in primary level is very meagre in SC and ST groups also. After the implementation of the SSA programme by the Government, there is a reduction in the dropout. Even ABL methods of teaching had brought good changes among people were dropout primary is considerably reduced.

**Table 5.2 (b): Dropout rate in Primary Education**

| Sl. No. | Block | Boys | | Girls | | Total | |
|---|---|---|---|---|---|---|---|
| | | 2012-13 | 2013-14 | 2012-13 | 2013-14 | 2012-13 | 2013-14 |
| 1 | Alanganallur | 0.85 | 0.85 | 0.70 | 0.70 | 0.78 | 0.78 |
| 2 | Chellampatti | 0.48 | 0.48 | 0.03 | 0.03 | 0.26 | 0.26 |
| 3 | Kalligudi | 1.03 | 1.03 | 0.85 | 0.85 | 0.94 | 0.94 |
| 4 | Kottampatti | 0.7 | 0.7 | 0.77 | 0.77 | 0.74 | 0.74 |
| 5 | Madurai East | 1.02 | 1.02 | 0.63 | 0.63 | 0.83 | 0.83 |
| 6 | Madurai West | 0.73 | 0.73 | 0.07 | 0.07 | 0.40 | 0.40 |
| 7 | Melur | 0.75 | 0.75 | 0.1 | 0.1 | 0.43 | 0.43 |
| 8 | Sedapatti | 3.24 | 3.24 | 0.98 | 0.98 | 2.11 | 2.11 |
| 9 | T. Kallupatti | 1.07 | 1.07 | 1.15 | 1.15 | 1.11 | 1.11 |
| 10 | Vadipatti | 0.17 | 0.17 | 0.03 | 0.03 | 0.10 | 0.10 |
| 11 | Tirumangalam | 0.91 | 0.91 | 0.37 | 0.37 | 0.64 | 0.64 |
| 12 | Thirupprankundram | 1.16 | 1.16 | 0.45 | 0.45 | 0.81 | 0.81 |
| 13 | Usilampatti | 0.61 | 0.61 | 0.76 | 0.76 | 0.69 | 0.69 |
| 14 | Corporation | 0.28 | 0.28 | 0.52 | 0.52 | 0.40 | 0.49 |

Source:SSA, Madurai

## Enrolment in Upper Primary Education

Overall the Gross enrollment status of upper primary education in the district shows 102. 8%. Girl enrolment in 5 blocks falls more than 100% and the rest of the blocks lie in the higher range of 80 and 96%. Alanganallur, Chellampati and Kottampatti have the lowest enrollment among boys and girls. These blocks have to be monitored for improving the enrollment status, on the other side quality education with innovative teaching methods might have attracted the student community which may be the cause of the increase in enrolment in most of the blocks.

**Table 5.3: Enrollment in Upper Primary Education**

| Sl. No. | Block | GER – Upper Primary (11 – 13age groups) | | |
|---|---|---|---|---|
| | | Boys | Girls | Total |
| | | 2013-14 | 2013-14 | 2013-14 |
| 1 | Alanganallur | 66.93 | 69.61 | 68.2 |
| 2 | Chellampatti | 66.4 | 53.91 | 60.47 |
| 3 | Kalligudi | 100.11 | 87.52 | 94.01 |
| 4 | Kottampatti | 52.72 | 57.31 | 54.88 |
| 5 | Madurai East | 116.62 | 123.4 | 119.95 |
| 6 | Madurai West | 129.67 | 115.59 | 122.58 |
| 7 | Melur | 93.51 | 89.23 | 91.47 |
| 8 | Sedapatti | 92.81 | 83.78 | 88.53 |
| 9 | T. Kallupatti | 91.43 | 88.91 | 90.22 |
| 10 | Vadipatti | 96.22 | 91.55 | 94.02 |
| 11 | Tirumangalam | 109.89 | 116.65 | 112.87 |
| 12 | Tirupparangunram | 109.55 | 101.15 | 105.47 |
| 13 | Usilampatti | 98.46 | 96.61 | 97.57 |
| 14 | Corporation | 114.23 | 126.09 | 119.8 |

Source: SSA, Madurai

Overall enrolment in primary and upper primary seems to be satisfactory in Madurai district, the district administration has been supporting and implementing the State Government schemes like Noon meal scheme which covers all rural children in the age group 2 to 9. Then the scheme was extended to urban areas and to the age group of 10 to 15 (both rural and urban), that is up to Class X, in September 1984. The main objective of the scheme was not only to ensure nutritional support to children, but also to act as an effective incentive to achieve universal enrolment and retention in primary school. There are 40,437 school meal centres, which covers nearly 6.4 million children in the age group 5 to 14.

There have been improvements in attendance after the introduction of these schemes and dropout rates are decreased, enrolment is also ensured almost nearing to 100% positive trend in the educational sector.

## Dropout rate in Upper primary Education

The dropout rate in Upper primary education in 2013-14 is 1.3% with the total children, being 1.34% for girls and 1.41% for boys. While comparing the 14 blocks, the highest dropout are recorded in Kallikudi, Corporation, Vadipatti, Tirupparangunram and T.Kallupatti. There is not much deviation and only point differences are noted. This is contrary to the prevailing trends and beliefs and the expectation that girls would tend to dropout more often due to puberty. Marriage assistance scheme, Cycle distribution, more number of school students bus pass also play major role in reducing dropouts.

**Table 5.4: Completion and Dropout rate in Upper Primary Education**

| S. No. | Block/District | Completion rate | | | | | | Dropout rate | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Boys | | Girls | | Total | | Boys | | Girls | | Total | |
| | | 2012-13 | 2013-14 | 2012-13 | 2013-14 | 2012-13 | 2013-14 | 2012-13 | 2013-14 | 2012-13 | 2013-14 | 2012-13 | 2013-14 |
| 1 | Alanganallur | 93.76 | 94.23 | 94.31 | 94.80 | 94.04 | 94.63 | 1.17 | 1.50 | 0.14 | 0.14 | 0.76 | 0.84 |
| 2 | Chellampatti | 96.90 | 97.35 | 95.59 | 95.97 | 96.25 | 96.71 | 0.09 | 0.12 | 0.15 | 0.15 | 0.12 | 0.13 |
| 3 | Kalligudi | 94.52 | 94.85 | 96.31 | 96.43 | 95.42 | 95.53 | 1.21 | 1.55 | 3.28 | 3.20 | 2.10 | 2.32 |
| 4 | Kottampatti | 92.46 | 93.26 | 93.15 | 93.69 | 92.80 | 93.52 | 0.88 | 1.13 | 0.96 | 0.94 | 0.93 | 1.03 |
| 5 | Madurai East | 96.68 | 96.84 | 96.77 | 96.87 | 96.73 | 96.75 | 0.84 | 1.07 | 2.96 | 2.89 | 1.75 | 1.93 |
| 6 | Madurai West | 96.23 | 96.28 | 97.56 | 97.72 | 96.90 | 97.03 | 1.25 | 1.60 | 0.95 | 0.93 | 1.15 | 1.27 |
| 7 | Melur | 95.51 | 95.89 | 97.38 | 97.56 | 96.45 | 96.74 | 0.75 | 0.96 | 0.72 | 0.71 | 0.72 | 0.83 |
| 8 | Sedapatti | 93.96 | 94.52 | 93.57 | 94.07 | 93.77 | 94.35 | 0.88 | 1.13 | 1.09 | 1.07 | 0.98 | 1.08 |
| 9 | T. Kallupatti | 95.16 | 95.53 | 95.82 | 96.10 | 95.49 | 95.81 | 0.89 | 1.14 | 1.45 | 1.42 | 1.14 | 1.26 |
| 10 | Vadipatti | 97.78 | 97.72 | 98.23 | 98.28 | 98.01 | 97.98 | 0.96 | 1.23 | 1.45 | 1.61 | 1.27 | 1.40 |
| 11 | Tirumangalam | 96.36 | 96.10 | 98.59 | 98.66 | 97.48 | 97.57 | 1.08 | 1.39 | 0.87 | 0.85 | 1.02 | 1.13 |
| 12 | Tirupparangunram | 96.33 | 96.10 | 97.35 | 97.47 | 96.84 | 96.82 | 1.85 | 2.37 | 1.78 | 1.74 | 1.86 | 2.05 |
| 13 | Usilampatti | 97.72 | 97.51 | 97.98 | 98.09 | 97.85 | 97.85 | 1.30 | 1.67 | 1.06 | 1.04 | 1.23 | 1.36 |
| 14 | Corporation | 96.43 | 96.13 | 97.48 | 97.56 | 96.96 | 96.82 | 2.34 | 2.99 | 2.19 | 2.14 | 2.33 | 2.56 |
| | **District** | **95.7** | **95.88** | **96.44** | **96.66** | **96.07** | **96.29** | **1.11** | **1.41** | **1.36** | **1.34** | **1.24** | **1.37** |

Source:SSA, Madurai

In Madurai district less than 2% dropout is observed among all community, students including social groups also.

## Completion in Upper Primary Education

Studies have already established the linkage between improved development indicators and education up to the Upper primary (middle school level). Given the commitment of the State

Government to achieve education for all up to the age of 14 years, there is not much decline in the areas of completion rate in the upper primary level.

The completion rate of the district has improved, which shows Government measures in ensuring the 100% literacy for all. Almost all the blocks have attained the completion rate of about 95% and more. The district as a whole the attainment of completion rate is 96.29% for all, 96.06% for SC and 95.03% of ST category.

At the upper primary level, the percentage of completion is satisfactory. When compared to the rate between 2011 to 2014 there is no much difference. Achievement level is better to the standard.

On the whole Madurai has good enrolment ratio and completion ratio. But the standard and quality of students is to be assessed systematically.Though various schemes have been implemented by district administration and State Government there is a decrease in drop out, but still it is there in rural as well as urban blocks. So the reasons for drop out to be studied where the percentage is more in Sedapatti, in literacy also this block is backward. So a detailed study has to be conducted in finding out the real issues.

## Transition rate from Primary to Upper Primary

The district has a healthy transition rate of 99.90% and with respect to blocks, the transition rate is high in Kallikudi block with the rate of 99.84 in 2012-13 and 98.03 in 2013-14, followed by Madurai East (98.02) and Tirupparangunram (97.94). The rate is comparatively same in all the blocks of Madurai district. It is noticed that there is no significant gap in the performance between the blocks with an inference that the urban bound blocks show higher transition rate compared to the rural blocks.

**Table 5.5: (a) Transition rate from Primary to Upper Primary**

| Sl. No. | Block | Girls | Boys | Total | Girls | Boys | Total |
|---|---|---|---|---|---|---|---|
| | | 2012-13 | 2012-13 | 2012-13 | 2013-14 | 2013-14 | 2013-14 |
| 1 | Alanganallur | 99.87 | 99.56 | 99.72 | 98.54 | 97.29 | 97.91 |
| 2 | Chellampatti | 99.75 | 99.34 | 99.54 | 98.42 | 97.07 | 97.74 |
| 3 | Kalligudi | 99.98 | 99.69 | 99.84 | 98.65 | 97.42 | 98.03 |
| 4 | Kottampatti | 99.76 | 99.45 | 99.60 | 98.43 | 97.18 | 97.80 |
| 5 | Madurai East | 99.98 | 99.67 | 99.83 | 98.65 | 97.40 | 98.02 |
| 6 | Madurai West | 99.76 | 99.45 | 99.60 | 98.43 | 97.18 | 97.80 |
| 7 | Melur | 99.76 | 99.45 | 99.60 | 98.43 | 97.18 | 97.80 |
| 8 | Sedapatti | 99.65 | 99.34 | 99.49 | 98.33 | 97.07 | 97.69 |

| Sl. No. | Block | Girls | Boys | Total | Girls | Boys | Total |
|---|---|---|---|---|---|---|---|
| | | 2012-13 | 2012-13 | 2012-13 | 2013-14 | 2013-14 | 2013-14 |
| 9 | T. Kallupatti | 99.95 | 99.24 | 99.59 | 98.62 | 96.98 | 97.79 |
| 10 | Vadipatti | 99.71 | 99.40 | 99.55 | 98.39 | 97.13 | 97.75 |
| 11 | Tirumangalam | 99.65 | 99.34 | 99.49 | 98.33 | 97.07 | 97.69 |
| 12 | Tirupparangunram | 99.90 | 99.59 | 99.75 | 98.57 | 97.32 | 97.94 |
| 13 | Usilampatti | 99.69 | 99.74 | 99.72 | 98.37 | 97.47 | 97.91 |
| 14 | Corporation | 99.91 | 99.57 | 99.74 | 98.67 | 97.21 | 97.98 |

Source : SSA , Madurai.

## Transition rate from Upper Primary to Secondary

The district had achieved 98.77% transition rate in upper primary by 2012-2013. If we observe the table, transition rate of male and female lies on the same line without much deviation. There is no much difference between boys and girls in this regard. Melur and Madurai corporation blocks show an increase from 98.33, 97.97 to 103.73, 98.97% respectively.

**Table 5.5: (b) Transition rate from Upper Primary to Secondary**

| S. No. | Name of the Block | Boys | | Girls | | Total | |
|---|---|---|---|---|---|---|---|
| | | 2012-13 | 2013-14 | 2012-13 | 2013-14 | 2012-13 | 2013-14 |
| 1 | Alanganallur | 98.61 | 92.41 | 98.94 | 79.41 | 98.78 | 85.86 |
| 2 | Chellampatti | 98.94 | 92.08 | 99.64 | 69.08 | 99.29 | 82.00 |
| 3 | Kallikudi | 98.86 | 84.27 | 99.74 | 63.93 | 99.30 | 74.82 |
| 4 | Kottampatti | 97.16 | 95.01 | 98.88 | 82.86 | 98.02 | 89.04 |
| 5 | Madurai East | 96.75 | 72.01 | 98.10 | 70.35 | 97.42 | 71.18 |
| 6 | Madurai West | 95.67 | 93.17 | 97.44 | 94.12 | 96.55 | 93.65 |
| 7 | Melur | 97.67 | 102.46 | 98.99 | 105.11 | 98.33 | 103.73 |
| 8 | Sedapatti | 96.57 | 90.44 | 97.94 | 86.81 | 97.25 | 88.77 |
| 9 | T. Kallupatti | 97.38 | 96.32 | 99.21 | 80.18 | 98.30 | 88.80 |
| 10 | Vadipatti | 97.09 | 95.19 | 98.31 | 91.25 | 97.70 | 93.31 |
| 11 | Tirumangalam | 96.83 | 99.04 | 97.92 | 93.15 | 97.37 | 96.37 |
| 12 | Tirupparangunram | 97.17 | 87.32 | 97.93 | 94.46 | 97.55 | 90.81 |
| 13 | Usilampatti | 97.65 | 86.67 | 99.20 | 90.69 | 98.43 | 88.50 |
| 14 | Corporation | 97.18 | 100.5 | 98.77 | 96.47 | 97.97 | 98.97 |

Source: SSA, Madurai

## Access to School

The table: 5.6 gives the number of Primary schools and Upper primary schools which are accessible to habitation in improving the school access for the students. In the case of primary Melur, Tirumangalam, Kottampatti has the highest number of schools; these numbers of habitations are having access to schools. Nevertheless, with the population growing and new

habitations springing up, the need for new schools is constantly reviewed. School mapping exercise carried out during the current year reveals that there are still some habitations, which are in need of Primary Schools and Upper Primary Schools.

**Table 5.6: Gross Access Rate**

| S. No. | Block/District | Total No. of Habitations | No. of Primary School | No. of Upper Primary Schools |
|---|---|---|---|---|
| 1 | Alanganallur | 110 | 51 | 33 |
| 2 | Chellampatti | 226 | 92 | 24 |
| 3 | Kallikudi | 78 | 43 | 36 |
| 4 | Kottampatti | 221 | 82 | 30 |
| 5 | Madurai East | 310 | 80 | 45 |
| 6 | Madurai West | 131 | 74 | 56 |
| 7 | Melur | 254 | 84 | 41 |
| 8 | Sedapatti | 126 | 80 | 31 |
| 9 | T. Kallupatti | 119 | 50 | 30 |
| 10 | Vadipatti | 82 | 52 | 33 |
| 11 | Tirumangalam | 161 | 84 | 37 |
| 12 | Tirupparangunram | 192 | 70 | 70 |
| 13 | Usilampatti | 153 | 65 | 33 |
| 14 | Madurai Corporation | 75 | 43 | 89 |
| | **District** | **2238** | **950** | **588** |

Source:SSA, Madurai

There are also a few habitations, which do not qualify for opening of Primary Schools where the State proposes to open new EGS centres(An Education Guarantee Scheme [EGS] opened in un-served habitations where no schooling facility is exists).

The following data shows district wise information about habitations without school access which are eligible for the opening of EGS centres, Primary schools and up gradation of Primary Schools into Upper Primary Schools.

**Habitations eligible for EGS and Primary schools**

| District | Total habitations | Habitations without primary schools/EGS | Habitations eligible for EGS | Habitations eligible for P.S | No. of eligible school less habitations for Upper primary school as per distance and population norms |
|---|---|---|---|---|---|
| Madurai | 2238 | 8 | 8 | 5 | 13 |

The above data indicates that there are 8 habitations, which are eligible for opening EGS centres, 5 habitations eligible for opening primary schools and 13 habitations in need of upper primary schools.

## Pupil-Teacher Ratio in Primary and Upper Primary

Quality of education can be reflected by the pupil-teacher ratio. It is a vital indicator that provides information on attention of the teacher on the student's development and performance. The quality of the available educational infrastructure like schools is the most determinant of the educational attainment. One of the most essential requirements for the attainment of quality in education is the availability of teachers. The shortage of teachers would certainly reflect on the quality of educational attainment.

**Table 5.7: Pupil Teacher Ratio**

| S. No. | Block/District | Primary School | | Upper Primary School | |
|---|---|---|---|---|---|
| | | Pupil Teacher Ratio | Pupil School Ratio | Pupil Teacher Ratio | Pupil School Ratio |
| 1 | Alanganallur | 31 | 82 | 18 | 160 |
| 2 | Chellampatti | 26 | 36 | 34 | 166 |
| 3 | Kalligudi | 29 | 69 | 30 | 143 |
| 4 | Kottampatti | 24 | 24 | 23 | 167 |
| 5 | Madurai East | 26 | 100 | 29 | 298 |
| 6 | Madurai West | 20 | 115 | 26 | 261 |
| 7 | Melur | 29 | 62 | 31 | 221 |
| 8 | Sedapatti | 30 | 65 | 25 | 205 |
| 9 | T. Kallupatti | 24 | 64 | 34 | 151 |
| 10 | Vadipatti | 22 | 60 | 26 | 159 |
| 11 | Tirumangalam | 23 | 65 | 27 | 186 |
| 12 | Tirupparangunram | 24 | 149 | 23 | 230 |
| 13 | Usilampatti | 21 | 71 | 24 | 198 |
| 14 | Corporation | 27 | 183 | 27 | 504 |
| **District** | | **25** | **82** | **27** | **218** |

Source: SSA, Madurai

The Pupil-teacher ratio is the indicator that shows the availability of adequate teachers. In Madurai, this ratio for the primary level was 25.42 for primary and for upper primary schools were 26.97. It shows positive trend. According to Tamil Nadu Government, Pupil Teacher ratio is 30 in Government schools. The Pupil-school ratio for Primary school is 89.30 in 2012-2013 and 81.7 in 2014 and for upper primary 217.75 at the district level.

The table also represents Usilampatti block has a minimum pupil teacher ratio (20.52%) in primary school, where in literacy also this block is backward in female literacy. On the other hand, children of the families have migrated to Madhyapradesh, Maharashtra and the whole families are involved in snacks business (especially murukku), this is also one of the reason for less students in school. Table:5.6 which shows high and higher secondary school number of school is less in Chellampatti block. In the case of Upper Primary School, four blocks have above the district average of 26.97% of Pupil Teacher Ratio which shows positive wavelength.

In Madurai district, there are totally 2117 schools, out of which 1 teacher is there for less than 20 students, in 862 schools, 1009 schools are there with students ratio of 20-40 to 1 teacher. Information which is more bothering where immediate actions has to be taken for 19 schools where one teacher is placed for more than 100 students. This is the problem which affects the quality of education. Proper actions need to be taken and additional teachers are to be placed in these schools to give quality education.[10]

## Secondary Education

As far as Madurai is considered the blocks Kottampatti, Chellampatti, Sedapatti and Kallikudi which is already backward in education has a lower percentage of enrolment in secondary education.

**Table 5.8: Gross Enrolment of Secondary Education-2013-14**

| S. No. | Block/District | Boys | Girls | Total |
|---|---|---|---|---|
| 1 | Alanganallur | 78.54 | 74.78 | 76.72 |
| 2 | Chellampatti | 79.85 | 57.93 | 69.72 |
| 3 | Kallikudi | 87.71 | 66.14 | 77.09 |
| 4 | T.Kallupatti | 90.71 | 81.36 | 86.15 |
| 5 | Kottampatti | 60.84 | 61.29 | 61.06 |
| 6 | Madurai East | 95.88 | 109.64 | 102.48 |
| 7 | Madurai West | 101.45 | 106.39 | 103.83 |
| 8 | Melur | 106.97 | 98.28 | 102.77 |
| 9 | Sedapatti | 67.73 | 54.82 | 61.48 |
| 10 | Tirumangalam | 117.83 | 112.08 | 115.07 |
| 11 | Tirupparangunram | 91.62 | 76.87 | 84.54 |
| 12 | Usilampatti | 99.85 | 108.45 | 103.93 |
| 13 | Vadipatti | 82.14 | 79.85 | 81.03 |
| 14 | Corporation | 129.77 | 133.74 | 131.72 |
| **District** | | **98.45** | **95.89** | **97.22** |

Source: RMSA

[10] Source: DISE report 2011-2013

Sedapatti and Chellampatti are poor in girls enrolment. The main reason for their fewer enrolment is lack of access to school and also due to poor transport facility. Mainly girls are not sent to distanct schools for education and hence they are prone to early marriage. So naturally, in terms of secondary education, there are gaps in these blocks. Higher percentage of enrolment is recorded in Madurai East, Madurai West, Tirumangalam, Madurai Corporation, where here also urban plays the vital role in education. The gender divide is not very sharp with girls having a slightly lower dropout rate than boys in certain blocks.

## Dropout rate in Secondary Education

Through the intervention of SSA and RMSA dropouts have been considerably reduced. In Madurai district the overall dropout percentage in secondary education is 7.77%. Girls (8.15%) seem to be more when compared to that of boys (7.40%) percentage.

**Table 5.9: Drop out in Secondary Education**

| S. No. | Block/District | 2012-13 | | | 2013-14 | | | |
|---|---|---|---|---|---|---|---|---|
| | | Boys | Girls | Total | Boys | Girls | Total | Percentage |
| 1 | Alanganallur | 6.61 | 9.52 | 8.07 | 23 | 14 | 37 | 2.66 |
| 2 | Chellampatti | 4.12 | 6.97 | 5.55 | 41 | 18 | 59 | 5.00 |
| 3 | Kallikudi | 11.93 | 7.16 | 9.54 | 45 | 18 | 63 | 5.76 |
| 4 | T.Kallupatti | 5.15 | 2.82 | 3.99 | 39 | 14 | 53 | 3.53 |
| 5 | Kottampatti | 8.19 | 9.15 | 8.67 | 45 | 39 | 84 | 7.02 |
| 6 | Madurai East | 4.42 | 6.77 | 5.60 | 162 | 53 | 218 | 6.25 |
| 7 | Madurai West | 6.76 | 7.84 | 7.30 | 167 | 111 | 277 | 4.34 |
| 8 | Melur | 7.30 | 6.50 | 6.90 | 85 | 41 | 126 | 4.35 |
| 9 | Sedapatti | 5.76 | 2.96 | 4.36 | 66 | 50 | 116 | 6.13 |
| 10 | Tirumangalam | 5.62 | 10.23 | 7.93 | 72 | 32 | 104 | 3.71 |
| 11 | Tirupparangunram | 19.29 | 24.37 | 21.83 | 115 | 69 | 184 | 2.43 |
| 12 | Usilampatti | 8.64 | 11.64 | 10.14 | 96 | 31 | 127 | 7.16 |
| 13 | Vadipatti | 7.49 | 8.86 | 8.18 | 67 | 29 | 96 | 6.18 |
| 14 | Corporation | 9.70 | 7.44 | 8.57 | 132 | 88 | 219 | 3.69 |
| **District** | | **7.40** | **8.15** | **7.77** | **1155** | **609** | **1763** | **4.87** |

Source : SSA , Madurai.

Among the blocks, Tirupparangunram has the highest dropout rate in secondary that too girls percentage (24.37) are more when compared to that of boys (19.29%), followed by Usilampatti 10.14% and Kallikudi 9.54% as per 2012-13 data. The reason for drop outs is either student will be from poor families or lack of transport and distance of higher education facility from their residing areas. Now it is becoming a practice of parents to take cash advances from manufacturing units, cotton mills where the children are getting into part-time labour and slowly

shifting to full-time work, where they are sending girl children more in order to receive the amount of Rs.10,000 to 50, 000 for girl children marriage. In the year 2013-14, the situation has improved and lot of initiatives has been taken by the district administration in controlling the drop outs, from 7.77% now it has reduced to 4.87% which shows the positive trend. We can see the positive growth especially in Tirupparangunram, Usilampatti and Kallikudi.

## Basic Infrastructure

Many studies have found out that toilet facilities influence enrolment and attendance in the schools. As per 2011data, there were 1257 schools with 628 classrooms. Around 25 schools in Tirumangalam, 24 in Chellampatti and Madurai East doesn't have girls toilet.. But in the year 2013-14, it has been addressed.

**Table 5.10: School Infrastructure- 2013-14**

| S. No. | Name of the Block | Total no of Schools | With 3 class rooms | More than 3 class rooms | With out toilet | With out girls toilet | Without electricity | Without compound wall | Without drinking water | Without desk and Chair |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Alanganallur | 75 | 31 | 44 | 3 | 5 | 2 | 19 | 0 | 2 |
| 2 | Chellampatti | 114 | 60 | 54 | 37 | 1 | 3 | 52 | 0 | 1 |
| 3 | Kallikudi | 71 | 34 | 37 | 3 | 10 | 3 | 18 | 0 | 1 |
| 4 | Kottampatti | 109 | 54 | 55 | 4 | 22 | 2 | 48 | 0 | 3 |
| 5 | Madurai East | 102 | 54 | 48 | 19 | 10 | 0 | 36 | 0 | 2 |
| 6 | Madurai West | 99 | 45 | 54 | 0 | 0 | 4 | 32 | 0 | 6 |
| 7 | Melur | 110 | 56 | 54 | 18 | 1 | 1 | 39 | 0 | 2 |
| 8 | Sedapatti | 89 | 44 | 45 | 6 | 5 | 1 | 27 | 0 | 4 |
| 9 | T. Kallupatti | 66 | 28 | 38 | 0 | 2 | 0 | 18 | 0 | 2 |
| 10 | Vadipatti | 71 | 37 | 34 | 7 | 0 | 5 | 17 | 0 | 1 |
| 11 | Tirumangalam | 99 | 61 | 38 | 13 | 15 | 1 | 31 | 0 | 4 |
| 12 | Tirupparangunram | 94 | 34 | 60 | 9 | 0 | 2 | 20 | 0 | 3 |
| 13 | Usilampatti | 86 | 58 | 28 | 24 | 5 | 3 | 37 | 0 | 2 |
| 14 | Corporation | 45 | 21 | 16 | 8 | 2 | 2 | 5 | 0 | 0 |
| **Madurai District** | | **1226** | **621** | **605** | **151** | **78** | **28** | **399** | **0** | **33** |

Source:SSA, Madurai

As per 2011 data, it is said that 226 schools don't have a drinking water facility where the issue has been addressed and in 2013-14 there are no schools without drinking water facility. The above table reflects that still there exists 151 schools without toilet facility which will be addressed in the forthcoming period. 399 schools were not having compound wall which is very important for providing protection for the children as well as the assets of the schools, and 28 schools were without electricity. This is not a good sign which clearly communicates that

sufficient infrastructure has to be established. In most of the rural areas, infrastructure facility in the schools are poor condition, which indicates that special attention to be given for creating a good environment for education.

All facilities for differently abled students are to be ensured by school administration. In Madurai, there are 913 schools without ramp facilities and this will make it difficult for the students who are in need of it.[11] Provision of ramps and basic amenities like drinking water, toilet facilities to school to be ensured by district administration.

### Box 5.4: Technology initiatives in School Education

Active Learning Methodology has been introduced in classes VI, VII and VIII in all Government and aided schools. Active learning Methodology is a boon to the upper primary children which includes self – study, Group work, Mind – mapping, Presentation and Discussion by the children with teacher playing role as a facilitator. The exercise of mind – mapping through self – study provides a lot of scope for stimulating and kindling the latent potential of the children. As is the case with ABL in Primary classes, the classroom processes at upper primary level also have undergone a complete change with children exhibiting immense pleasure, inquisitiveness, interest and zeal..

All children in upper primary classes (Std VI – VIII) in Tamil Nadu underwent a remarkable refreshing learning process empowering them with knowledge. It is probably the most rapid transformation of schooling ever attempted. The aim of ALM is to empower the learner with confidence and able to function in any context. Such learning can be blended into the curriculum of upper primary classes VI, VII, VIII easily.

VEC Day celebration - SSA introduced Village Education Committee to strengthen the relationship between the school and the village. VEC Day is celebrated once in a year to maintain the relationship. In the year (2010 – 11), 'VEC – Day' was celebrated on 23rd of July. Students exhibit their talents through different activities like drawing, reading newspapers, skit, English Drama, etc. VEC members were also eagerly participated in the activities. They also discussed the betterment of the school and the proper utilization of grants. School development form' was filled on VEC – Day in all the schools.

**Steps taken to enhance the status of schools**

- To ensure the improvement in the performance level of children, Block level Resource Teacher for Education (BRTE) and Assistant Elementary Education Officer (AEEO) visit schools regularly and record the findings.
- Weekly review meetings are conducted by block supervisors on the performance of students in the classroom during BRTE's visit.
- The findings and the performance levels in various schools discussed in the block level meeting is reviewed by the district authorities every month.
- The activities of the best performing schools are shared in the state level review meeting conducted every month.

[11] Source: DISE report 2011-2012

## Hostel facilities

The district data show that 3924 students are accommodated in hostels from 551 schools. The block wise data is not available.. Hostel facilities for poor children will definitely enable them to learn as they receive better stay and better food.

**Table 5.11: Hostel Facilities**

| District | No. schools | Total Number of students | No. of students in hostels |
|---|---|---|---|
| District | 551 | 239766 | 3924 |

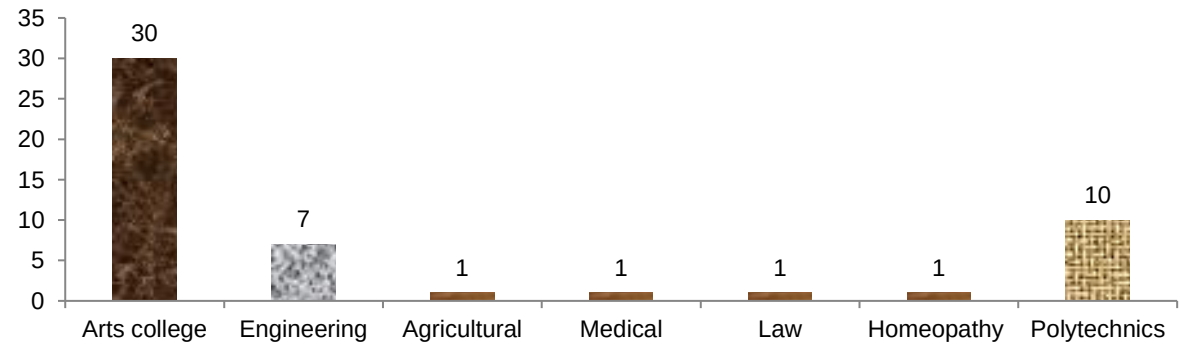
Source: AD, Welfare office

## Higher Education

Madurai has always been a city of learning and its educational institutions are evidence of this tradition. The oldest college in the city is the 131-year American College. Other prominent colleges include Lady Doak, (founded in 1948), Fatima College (1953) and MSS Wakf Board for minority students (1964). Many philanthropists in the past century have started several educational institutions and have created the ideal condition for Madurai to emerge as a hub of education in south Tamil Nadu.

In and around Madurai city, there are 30 Arts and Science colleges. These include 17 Government aided, autonomous and 10 self-financed colleges. Madurai Kamaraj University, which has 109 arts and science colleges under its umbrella, is located in Madurai city. There are seven engineering colleges in Madurai. Among them is the 56-year-old Thiagarajar College of Engineering. Ten polytechnic institutes and five InfoTech institutes make this city a nursery for techies.

**Chart 5.3: Higher Education**




Source : Education Department, Madurai

The district wise data shows that there are 37 colleges for general education in Madurai catering to around 82,000 students. These include Government aided, autonomous and self-financed colleges. Around 11,725 are undergoing Engineering courses in 7 colleges. There is one university in this district and professional colleges like Agriculture, Medical, Law, Engineering colleges are there. There are around 10 polytechnics which give education to 9386 students, where opportunities are there to get into engineering colleges later or they have access for getting into self employment.

## Conclusion

Madurai district has performed well in blocks particularly in literacy rate, NER, Completion Rate, Transition Rate and Pupil Teacher ratio in primary and upper primary sections. Female literacy is very low in Chellampatti, Sedapatti, Kallikudi, Kottampatti and T.Kallupatti where female literacy ranges between 50% to 65% which needs to be focused. Sedapatti (2.11%) and T. Kallupatti (1.11%) have more dropout than the other blocks in primary education which needs to be focused on. Sedapatti accounts for lowest literacy rate of 61.06% and dropout rate. The areas for improvement in the block are in Chellampatti block which has a number of schools, but the literacy percentage of girls is less. As far as Madurai is considered the blocks Kottampatti, Chellampatti, Sedapatti and Kallikudi which is already backward in education has a lower percentage of enrolment in secondary education. That too Sedapatti and Chellampatti are poor in girls enrollment. The main reason for their fewer enrolments is lack of access to school due to less transport facility. Mainly girls are not sent to distance school education and hence they are prone to early marriage. So naturally, in terms of secondary education there are gaps in these blocks.

As far as the district is considered, the backward blocks Kallikudi, Sedapatti, T.Kallupatti which is already backward in education has a lower percentage of enrolment in secondary education which needs to be focused by enhancing transport facilities and building infrastructure which provides basic amenities. There are 8 habitations, which are eligible for opening EGS centres, 5 habitations eligible for opening primary schools and 13 habitations in need of upper primary schools which the education department should set milestones for enhancing the education. Toilet for girls need to be constructed in Tirumangalam and Kottampatti and Madurai East.

As far as Corporation is considered, even though schools have not spread evenly across the wards, transport facilities make the easy accessibility of schools of the students anywhere in the

city. By this accessibility and the efforts of new methods of teaching and learning (ABL and ALM) the enrolment percentage has increased. Due to the new innovations introduced into the system of education, the repetitions, drop outs, never enrolled and out of school children have decreased.

But still mushrooming of private schools has shown the vulnerability of Government schools in not providing quality education. Hence, there is a need for monitoring and review mechanism for providing quality education in Government schools.

# CHAPTER 6

# GENDER

# 6. Gender

## Introduction

Sociologically the word gender refers to the socio-cultural definition roles for man and woman, the way societies distinguish men and women and assign them social roles. The distinction between sex and gender was introduced to deal with the general tendency to attribute women's subordination to their anatomy. Gender is not static but in dynamic. Being socially constructed, gender roles, rights, and expectations can change over time and across geographical space as societal needs, opportunities, and customs change.

India stands in the 105$^{th}$ place in Gender empowerment. Tamil Nadu is a better performing State in terms of literacy and health of women, next to Kerala. However, various development occur still there is variation between men and women in terms of income and status at family levels.

| Level | Sex ratio |
|---|---|
| Country | 940 |
| State | 996 |
| District | 990 |

In Madurai district, total population of female is about 1,511,777 and the female literacy rate in the district is 77.16. This shows an increasing trend in relation to 2001 census. As per 2011 census, there are 982 females per 1000 males. Madurai stands above the national average, but it stands below the State average of 996. As far as the child sex ratio is considered according to 2011 census, 932 girl children are there with 1000 male children. Regarding female literacy, district has performed well and there is an increase in growth rate when compared to that of male literacy. The GII (Gender Inequality Index) of the district shows 0.13 values where the urban blocks perform better than the rural blocks. Overall, the employment trend shows improving status in the aspects of women in the district. This chapter deals with Status of women in the district, about Women SHG's trend in women employment and Women in political participation.

## Status of Women in Employment, Education and Society

Education to women is the most powerful instrument of changing their position in the society. Education also brings about reduction in inequalities and also acts as a means to improve their status within the family. In order to encourage education of women at all levels and to reduce gender bias in the provision and acquaintance of education, schools, colleges and even

universities were established exclusively for women in the State. To bring more girl children, especially from marginalized BPL families, into the mainstream of education, the Government has been providing a package of concessions in the form of free supply of books, uniform, boarding and lodging, clothing, midday meals, scholarships, free by-cycles and so on.

**Table 6.1: Status of Women in Madurai**

| S. No. | Indicators | District | State |
|---|---|---|---|
| 1 | Total Women, Population | 1526475 | 359800087 |
| 2 | Percentage of Total Population | 48.4 | 49.8 |
| 3 | Sex Ratio (Female) | 990 | 995 |
| 4 | Female Literacy rate | 77.16 | 73.9 |
| 5 | MMR | 20.81 | |
| 6 | Women in Agri (%) | 49.82 | -- |
| 7 | Women in Non –Agri (%) | 50.17 | -- |

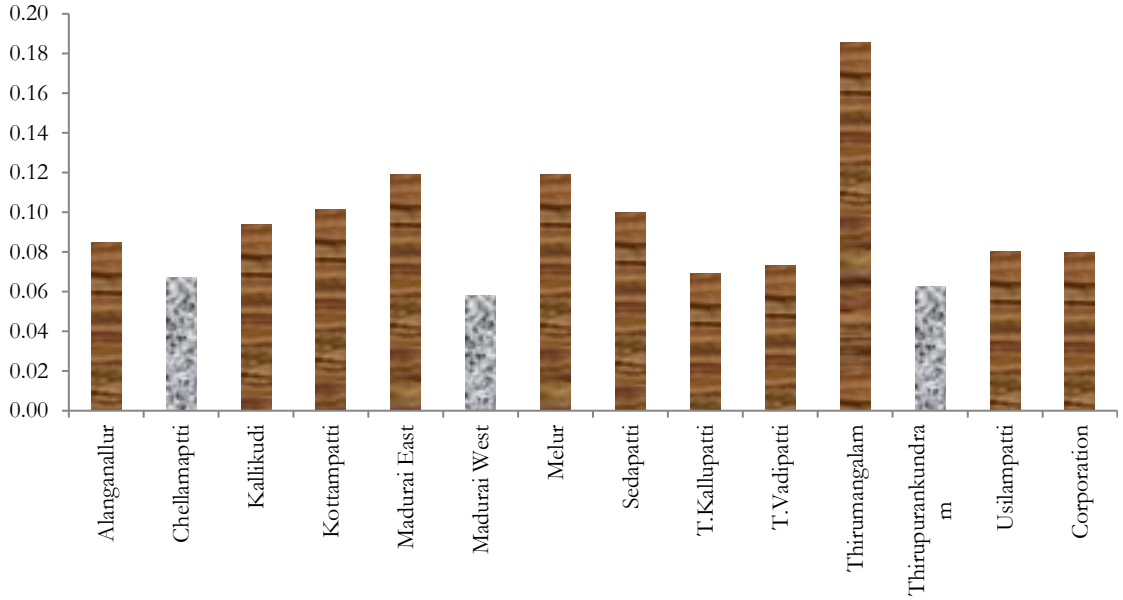
Source: Census2011

Table:6.1 shows the status of women in Madurai. Out of the total population of women, 77.16% of them are literate as per 2011 census. The growth rate of literacy comparatively increased than men, which shows a positive pattern of growth in women's education. The increase in Female Literacy rate is 8 points, while in the case of males, the increase is to the tune of 3 points only. This shows that awareness and development of women in the aspect of education are increasing. As far as health is considered many initiatives have been taken by State and district, which had really brought changes.

### Box 6.1: Gender Inequality Index in the district

The Gender Inequality Index (GII) is a new index for measurement of gender disparity that was introduced in the 2010 in Human Development by the UNDP. The new index was introduced as a trial measure to remedy the deficiency of the previous, and no longer used, indicators, the Gender Development Index (GDI) and the Gender Empowerment Measure (GEM), both of which were introduced in the 1995 Human Development Report. GDI helps to measure and compare the stages of gender development. It is also helpful to compare GDIs and HDIs to assess the extent of gender equality

**Chart 6.1: Gender Inequality Index**




As far as Health, Empowerment and Labour are considered among the 14 blocks Madurai West ranks first among the top 5 blocks. Here also urban factors influence the blocks where naturally it comes to the first and Tirumangalam the worst. The other blocks which are better in GII are T.Kallupatti, Vadipatti and Corporation. Under health dimension, it is found that the institutional delivery is about 100 % in all the blocks. Similarly the antenatal coverage is almost above 95% in all the blocks which shows the increased awareness of the people in accessing the Government and private healthcare services and the reach of institutional services to the women. The major concern is high MMR exists more in few blocks such as Alanganallur, Kallikudi, Tirumangalam and Sedapatti. In literacy part, the blocks T.Kallupatti, Kallikudi, Chellampatti, Sedapatii has to concentrate on increasing female literacy, the major reason for a decrease in female literacy mainly falls on early marriage, poor economic conditions where either girl children are send for textile works in Tirupur or to mill works in and outskirt of Madurai. In all the backward blocks focus on female literacy is low which shows the lack of awareness among the people and in few pockets of the backward block due to less transport facility and distance of education also has the impact on low female literacy.

## Access and Control over resources –Self Help Groups

In India, Self Help Groups or SHGs represents a unique approach to financial intermediation. The approach combines access to low-cost financial services with a process of self management and development for the women who are SHG members. SHG's are formed and supported usually by NGOs or (increasingly) by Government agencies. Linked not only to banks but also to

wider development programmes, SHGs are seen to confer many benefits, both economic and social. SHG's enable women grow their savings and to access the credit, where banks are increasingly willing to lend. SHG's can also be community platforms from which women become active in village affairs, stand for local election or take action to address social or community issues (the abuse of women, alcohol, the dowry system, schools, and water supply).

One of the major difficulties faced by women is that of debt-crisis and moneylenders. In order to help them and to tackle this problem, Government organizes women into Self Help Groups and provides them various trainings including Animator & Representative (A&R) training, Entrepreneur Development Programme (EDP) Training and Vocational Training Programme (VTP). These trainings are aimed at preparing the women to face the world with confidence and to tackle their own social and political problems and ultimately boost their confidence to undertake entrepreneurial ventures, thereby helping them to lead an independent and struggle-free life. In Madurai district, 9121 SHGs are functioning with a total membership of 120710 in 2012-13, but in the year 2013-14 the data shows that the growth of SHG is reduced to 7806 amounting to Rs.19060 with savings.

## Box 6.2: Self Help Groups

Women Self-help groups (SHGs) are becoming a successful model for empowering the disadvantaged groups. Empowering women highlights on education and employment which are essential for sustainable development. An SHG is generally an economically homogeneous group formed through a process of self-selection based upon the affinity of its members. Mostly SHGs consists of women with members ranging between 10 to 20. SHGs have well-defined rules and by-laws, conduct regular meetings and maintain records and savings and credit discipline. They are self-managed institutions characterized by participatory and collective decision making. The SHG movement has been accepted as effective intervention strategy for poverty alleviation. To achieve the target of poverty eradication every women should avail credit for starting small economic activities on available resources. Empowerment of women can be promoted through socio economic activities at grass root level. In Madurai 9121 SHGs are functioning with a total membership of 120710 with the assistance of the organization. In Madurai, District Usilampatti block has the highest number of SHG groups 1,117; where the female population is 29,004; but backward blocks Kallikudi (29,388 female population) and T.Kallupatti (41,212 female population) has lower number of SHG groups which is already backward in poverty. District administration can focus on the two blocks to upgrade women there, because those blocks are backward in literacy and poverty also exists there where these types of SHGs can provide financial support and which will pave way to upgrade their livelihood.

### Table 6.2: Access over resource and credit-2013-14

| | | 2012-2013 | | | 2013-14 | | |
|---|---|---|---|---|---|---|---|
| **Sl. No.** | **Name of the Block** | **Number of self help groups** | **Number of Members** | **Credit availed (Rs.in lakhs)** | **Number of self help groups** | **Number of Members** | **Credit availed(Rs. in lakhs)** |
| 1 | Alanganallur | 250 | 3251 | 331.3 | 329 | 3948 | 736.8 |
| 2 | Chellampatti | 250 | 3252 | 317.1 | 517 | 6204 | 1369.1 |
| 3 | Kallikudi | 202 | 2425 | 323 | 95 | 1140 | 156.46 |
| 4 | Kottampatti | 332 | 4317 | 427.5 | 300 | 3600 | 997 |
| 5 | Madurai East | 474 | 6165 | 585.3 | 484 | 5808 | 1620.54 |
| 6 | Madurai West | 943 | 12263 | 1351.15 | 475 | 5700 | 1155.88 |
| 7 | Melur | 788 | 10245 | 1245.9 | 684 | 8208 | 1208.3 |
| 8 | Sedapatti | 479 | 6229 | 604.6 | 113 | 1356 | 278.91 |
| 9 | T.Kallupatti | 202 | 2627 | 310.2 | 50 | 600 | 118.35 |
| 10 | Tirumangalam | 269 | 3230 | 336.56 | 484 | 5808 | 1076.51 |
| 11 | Tirupparangunram | 359 | 4670 | 532.55 | 417 | 5004 | 769.96 |
| 12 | Usilampatti | 1117 | 14522 | 1907.8 | 360 | 4320 | 917.75 |
| 13 | Vadipatti | 871 | 11324 | 1261.65 | 182 | 2184 | 408.28 |
| 14 | Corporation | 2585 | 36190 | 3569.41 | 3316 | 39792 | 8247.07 |
| **Total** | | **9121** | **120710** | **13104.02** | **7806** | **93672** | **19060.91** |

Source: PO, Mahalir Thittam, Madurai.

# Employment

## Female Work Participation Trend

When we talk about agricultural labour, woman labour has a special significance. In Indian population 48.27% are women and 72.72% of the women live in rural areas, 45.84% of the female population is illiterate. In rural areas, the corresponding figure is 53.3%. The work participation rate of women is 31.56%, less than half of the mens' rate of 68.44%. A recent report by the Government has revealed that women outnumber men as agricultural labourers.[12]

In India the labour force is largely masculine, with only one out of every four workers being a female. Women today play a pivotal role in agriculture - as female agricultural labour, as farmers, co-farmers, female family labour and (with male out-migration, widowhood, etc.) as managers of farms and farm entrepreneurs. Three-fourths of women workers are in agriculture. Among rural women workers, 87% are employed in agriculture as labourers and cultivators.

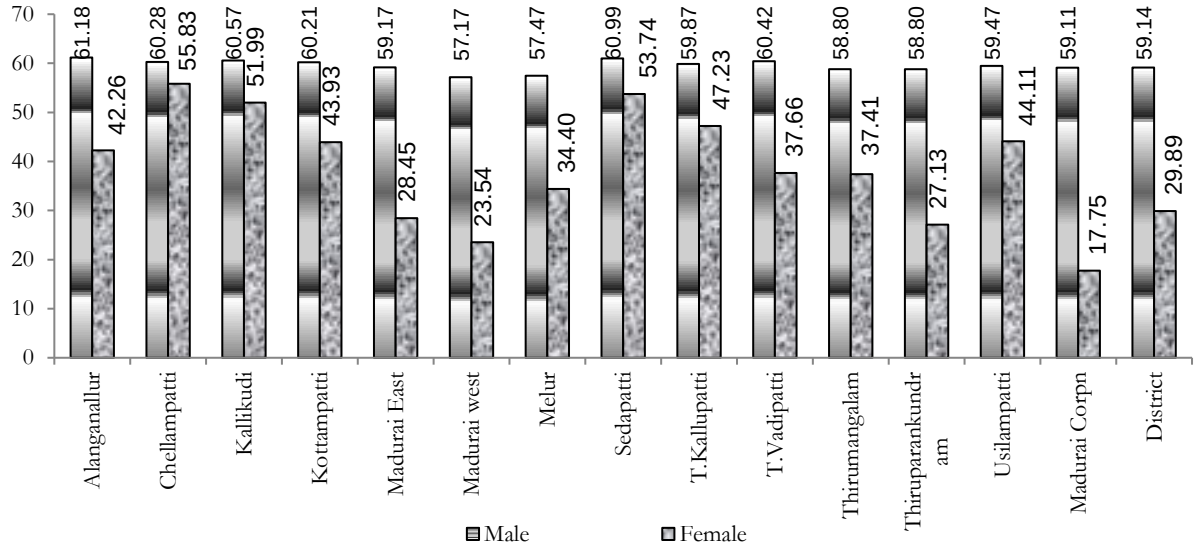
## Female Work Participation Rate

The work participation rate indicates to a great extent the economic empowerment of women in the society. The status of women is intimately connected with their economic position, which in turn depends on opportunities for participation in economic activities. Education along with the participation of women in the workforce has been universally recognized as an important element in the adoption of small family norms, which is essential for family planning. There has been a considerable improvement in the entry of women in all sectors of employment in the State.

Women especially among poor, as compared to men, are considered as deprived from different dimensions in the society. Work participation is one among them. In Madurai district, the overall worker participation rate for female have increased from 27.61 to 29.89%. The point of increase seems to be low. The given table shows that there has been a decline in employment in the rural areas, led by a quick fall in the employment of rural females.

[12] Levels, Trends and Structure of Workforce in India: Census Based Study 1981-2001

**Chart 6.2: Work Participation Rate-2011**




Source : Census 2011

There has been a marginal increase in urban employment mainly due to an increase in male employment, while female employment has come down in three blocks namely Chellampatti, Kallikudi and Melur. In total, there has been an increase in employment in both male and female when compared to the 2001 census, but the percentage of increase is not much. It shows that in spite of the implementation of the MahathmaGandhi National Rural Employment Guarantee Act (MGNREGA) there is decline in rural employment which indicates that there has been a sudden fall in rural work. On the other angle, women are pursing higher education have effect in women and thus has an effect in women WPR but for Kallikudi and Chellampatti female literacy is not satisfactory, and so the reasons for the backwardness has to be explored.

## Trend in female employment

Women's participation in Government is often used as an indicator of understanding decision making power and participation. In industrial countries, women constitute 13% of Government employees. In the context of Tamil Nadu, female employment is even higher, at 17% in 1990 and 24% in 1998. Female employment figures in local bodies went up from nearly 45% in 1990 to over 59% in 1998 higher percentages in Tamil Nadu are due to higher female employment in educational institutions and welfare services in particular as compared to the all-India situation. Thus, though men continue to outnumber women in Government and quasi-Government positions, there is a smaller gender gap in Tamil Nadu when compared to the All India.

**Table 6.3: Trend in female employment-2013-14**

| Sl. No | Category | 2013 | | | 2014 | | |
|---|---|---|---|---|---|---|---|
| | | Number of Male | Number of Female | % of female participa-tion | Number of Male | Number of Female | % of female participa-tion |
| 1 | State Government | 55857 | 20190 | 26.54 | 55215 | 20020 | 26.43 |
| 2 | Private companies | 24857 | 13788 | 35.67 | 24943 | 13670 | 35.40 |

Source: District Employment office, Madurai.

In Madurai, the percentage of female participation is 35.67% in private companies as compared to Government's 26.57% in 2013. In 2014 there is not much difference in the female participation but percent of female participation in private companies is still higher than the State Government percentage.

**Box 6.3: Livelihoods Initiatives with Functional Education (LIFE) in Madurai urban**

DHAN has evolved a strategy of framing community college and Livelihoods Initiatives with Functional Education (LIFE) to build livelihood skills of the poor, particularly youth to gain employable and capable of becoming self employed/entrepreneurs.

The community college aims primarily at empowerment of the socio economically weaker and disadvantaged sections of the society through skills development, thus providing education for a livelihood. The community college is an alternative system of education to help the rural poor, urban poor women to find gainful employment in collabouration with the local industry and the community. The courses offered here are computer hardware, computer software, cellphone mechanism, autocad, zardosi, beautician course, simple chemical preparation like soap oil, phenol etc.

The outcome of the community college are internship and job placement within the local area, promotion of self employment and small business development, declaration of competence and eligibility for employment. The courses offered in centre include both major and minor courses. Through this life centre around 20 vocational courses are conducted every year and more than 2000 members are benefited through this centre. Low and affordable fee structure through which we enable the poorest of the poor to undergo the course .Priority are given to poor youth (of both boys and girls) educationally weaker youth/school dropouts, widows and destitute at early age, physically challenged and other disadvantaged persons.

## Trend in Political Participation

The only right democracy is one in which men and women are evenly represented. Women are not a minority group that needs to be protected. Women actually make up half of the population. An equal participation of women and men may lead to a diversity of ideas, values and patterns of behavior that can only result in an enrichment.

The participation of Indian women in the freedom movement led by Mahathma Gandhi as well as enlightened leadership of India ensured that Indian women got equal political rights in the

constitution of free India; however, in reality, despite a few successes, the majority of Indian women was left far behind men in the enjoyment of these rights. Hence, the need for bringing women in the political sphere through reservation was felt and 33% seats were reserved for women in the local self-governing bodies. This brought hundred thousand women into active politics, but the questions of competence were repeatedly raised.

Panchayat Raj Institutions have always been considered as a means of good governance and the 73rd Constitutional Amendment was affected in the hope that it would lead to better governance and provide political space to the disadvantaged section of the society like schedule caste, and schedule tribes and women.

**Table 6.4: Membership in State Assembly, local bodies-2011**

| Sl. No. | Membership of women in State Assembly and local Body | Number of Male | Number of Female | Total | % of female |
|---|---|---|---|---|---|
| 1 | Madurai East | 219 | 129 | 348 | 37.07 |
| 2 | Madurai west | 169 | 89 | 258 | 34.50 |
| 3 | Vadipatti | 140 | 77 | 217 | 35.48 |
| 4 | Kallikudi | 188 | 105 | 293 | 35.84 |
| 5 | T.Kallupatti | 220 | 114 | 334 | 34.13 |
| 6 | Sedapatti | 190 | 105 | 295 | 35.59 |
| 7 | Alanganallur | 220 | 111 | 331 | 33.53 |
| 8 | Kottampatti | 187 | 97 | 284 | 34.15 |
| 9 | Melur | 236 | 122 | 358 | 34.08 |
| 10 | Tirupparangunram | 251 | 133 | 384 | 34.64 |
| 11 | Tirumangalam | 220 | 116 | 336 | 34.52 |
| 12 | Chellampatti | 186 | 99 | 285 | 34.74 |
| 13 | Usilampatti | 120 | 64 | 184 | 34.78 |
| | **Total** | **2546** | **1361** | **3907** | **34.83** |
| 1 | District Panchayat | 15 | 8 | 23 | 34.78 |
| 2 | Corporation | 67 | 34 | 101 | 33.66 |
| 3 | Municipality | 50 | 31 | 81 | 38.27 |
| 4 | Town Panchayat | 100 | 53 | 153 | 34.64 |
| 5 | State Assembly (MLA) | 10 | 0 | 10 | 0.00 |

Source: AD Panchayat, Madurai

Generally, though women are involved in politics,always men take the dominant role. The percentage of women involved in politics are almost 34.83 percentages in all the blocks, but the actual gender difference in achieving positions of power through elections is higher.

This shows that efforts to realize other enabling rights – especially the rights to education and information, to free employment, alongside the right to equality within the family and in society – must be integrated with efforts to ensure women's enjoyment of their right to political participation. Sustained systemic change requires multiple state and non-state actors at the state and national levels working together to influence formal and non-formal local institutions of power and to strengthen women's sense of confidence, skills, and power support networks.

## Conclusion

Gender relates between females and males in education, health, employment and empowerment. In Madurai district,on literary aspects there is improvement in their status, on the other side there are also issues pertaining to certain factors which has to be taken into account. Especially, rural blocks need concentration in the aspects of female literacy, health parameters. Blocks like Chellampatti, Kallikudi, T.Kallupatti, Kottampatti has to be concentrated. Women participation in politics shows better percentage in all the blocks. This shows that the status of women has improved in development aspects. Apart from this, Madurai also fares reasonably well in terms of indicators such as female literacy, girls' enrolment. In terms of political participation, women are faring reasonably well. While the absolute condition of women in Madurai was getting improved with respect to literacy and education.

Inequity in gender represents an impediment to human development by limiting the contribution of women to the development effort. Gender equity must be integrated into all plans and programmes of the development process. We should adopt a more balanced approach to human development and strong advocacy to build support for a role for women in public life.

# CHAPTER 7

# SOCIAL SECURITY

# 7. Social Security

## Introduction

The concept of Social Security may also refer to the action programmes of Government intended to promote the welfare of the population through assistance measures for food and shelter and to promote health and well-being of the population at large and potentially vulnerable segments such as children, the elderly, the sick and the unemployed.

In Tamil Nadu, social security is provided through both promotional and protective measures. The protective measures include contributory benefits in the form of pensions and retirement benefits to Government employees, survivor benefits for the workers of the unorganized sector, provident fund and other benefits for workers in factories and other commercial establishments, benefits/welfare schemes for unorganized sector workers and social assistance schemes for women (and others) such as marriage and maternity assistance, old age pension etc. The present chapter deals with the ageing profile of Madurai, financial security for the aged poor and old age pension schemes for the elderly, crime against women and maternity assistance to women.

## The demographic profile of the aged

In India, the population of the aged (60+) was 56.7 million in 1991 and it is expected to grow to over 71 million by the year 2001 and 137 million by 2021 (projected). The proportion of the aged population, which was 6.7% in 1991, is projected to increase to 7.0 % in 2001 and 9.8 % in 2021. As of 1991, the highest proportion of elderly among major States was in Kerala at 8.7 %, followed by Tamil Nadu at 7.4%. A combination of high fertility and falling mortality rates in these States has led to a large and rapid increase in the elderly population.[13]

There has been a steady rise in the share of the elderly population (aged 60 years or above) in the total population over the decades. If we look at the district-level, ageing profile based on the 2001 census only 8% shows the age group of >60+. The district percentage is almost equal to State elderly population which is also crossing 8%.

[13] Tamil Nadu Human Development Report 2003

**Table 7.1: Demographic Profiles (Census 2011)**

| Category | Madurai | | | Tamil Nadu | | |
|---|---|---|---|---|---|---|
| | **Persons** | **Male** | **Female** | **Persons** | **Male** | **Female** |
| **No. of aged people** | | | | | | |
| 60-64 | 118626 | 58665 | 59961 | 2782608 | 1378039 | 1404569 |
| 65-69 | 76076 | 36604 | 39472 | 1868370 | 896412 | 971958 |
| 70-74 | 56618 | 27792 | 28826 | 1406529 | 693167 | 713362 |
| 75-79 | 26658 | 13144 | 13514 | 710241 | 353746 | 356495 |
| 80+ | 26958 | 11990 | 14968 | 742010 | 339862 | 402148 |
| **Total** | **304936** | **148195** | **156741** | **7509758** | **3661226** | **3848532** |
| **Proportion to Total population** | | | | | | |
| 60-64 | 3.9 | 3.8 | 4.0 | 3.9 | 3.8 | 3.9 |
| 65-69 | 2.5 | 2.4 | 2.6 | 2.6 | 2.5 | 2.7 |
| 70-74 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 2.0 |
| 75-79 | 0.9 | 0.9 | 0.9 | 1.0 | 1.0 | 1.0 |
| 80+ | 0.9 | 0.8 | 1.0 | 1.0 | 0.9 | 1.1 |
| **Total** | **10.7** | **9.7** | **10.4** | **10.4** | **10.1** | **10.7** |

Source:Census 2011

As per 2011 census, the total aged population in Madurai district is 304936 in absolute numbers which is 10.7% of the total population of the district. It is observed that the female population is higher than the male age old in Madurai whereas it is also same in the case of Tamil Nadu, that indicates that the elderly female lives longer than the male at the State level which is the same in the district too. With respect to age wise category of the age old, 3.9% of the total population of the district fall under 60-64 category, followed by 2.5% by 65-69 category and 0.9% of the 75-79 and 80+ category. The trend is also same, when we see the State level for all the age group expect 75-79 category, where the State's average is high when compared to that of the district. The share of elderly aged of the district is almost close to the State.

## Social security and Institutional care of the elderly persons

The ageing of the population in Tamil Nadu has serious implications in terms of how the future elderly more particularly, the elderly poor—will live and, therefore, is a subject of serious concern with huge policy implications. Nowadays, all districts are growing with rapid urbanization of which has resulted in shortage of accommodation in urban areas and high rents have acted as severe constraints on the joint family system. In Madurai, migration to the city takes place and the joint family system is getting eradicated and nuclear family systems are emerging. The traditional respect as well as the attitude of empathy and care for the aged has

considerably reduced. Migration of adult, children in urban areas has positioned the older people in a worse situation where they are left behind without any support. Many old age homes, organizations like Help Age India are taking responsibility of the welfare of the elderly. Old age homes are still required for the poor aged and for the sick and handicapped elderly. Even for the non-poor, the number of old age homes are too few and they are very often crowded. There is also a greater need for day care centres because children and grandchildren cannot leave the elderly alone at home when they go to work which has brought to the fore the financial insecurity among the aged.

**Box 7.1: Term Life Mutual Help Programme**

Whole life insurance programme involves member contribution according to age and sex. The concept of varying contribution amount is not accepted by all federation members. Whereas there is a need of life cover irrespective of age for a common contribution amount. The contribution is subsidized by young to the aged in the process of uniform contribution. A replicable model of mutual life mutual help has evolved involving life risk cover to people irrespective of the age. It involves payment of Rs.150 as annual contribution by all participating members in a federation. The life risks of persons upto 59 years of age are transferred to Life Insurance Corporation of India by paying an annual premium of Rs.100 for a cover of Rs. 30,000 for natural death and Rs.75000 for death/ disability due to accident. Out of the remaining Rs.50, Rs.10 is the administrative cost portion and Rs.40 is the mutual help programme contribution for the life mutual help programme for people aged over 59 years and the death cover available to them is Rs.10000. Thus the lives of the entire population of members and spouses irrespective of age, in a Kalanjiam federation (SHG) are covered over years under this programme. About 25 locations in Madurai are initiating such life mutual help programme every year through direct action. During the year, a total of 36615 persons were covered under the term life mutual programme.

## Financial assistance to old age people

Though the ageing of the population is an obvious consequence of the progress of demographic transition.

**Table 7.2: Financial Security of the aged**

| Sl. No. | Category | Coverage (2013-14) |
|---|---|---|
| 1 | Indira Gandhi National old age Pension Scheme ( IGNOAP) | 2534 |
| 2 | Indira Gandhi National Disability Pension Scheme (IGNDPS) | 69 |
| 3 | Indira Gandhi National widow pension Schme( IGNWPS) | 2105 |
| 4 | Destitute Differently abled pension Scheme(DDAP) | 316 |
| 5 | Destitute widow pension Scheme(DWP) | 1081 |
| 6 | Destitute/Deserted wives pension Scheme(DDWP) | 470 |
| 7 | Unmarried women Pension Scheme(UWP) | 61 |
| 8 | CMUPT-OAP(CMUPT OAP) | 2359 |
| 9 | OAP-Srilankan Tamils ( REFUGEES OAP) | 0 |

| Sl. No. | Category | Coverage (2013-14) |
|---|---|---|
| 10 | Widow Pension -Srilankan Tamil ( REFUGEES DWP) | 0 |
| 11 | Deserted wives Pension- Srilankan Tamil ( REFUGEES DDWP) | 0 |
| 12 | Differently Abled -Srilankan Tamil ( REFUGEES DDAP) | 0 |
| **Total** | | **8995** |

Source: District Collectorate, Madurai

The data shows that in Madurai total coverage for the aged is 8995 persons. Where out of total coverage, 28% security is given to widow pension and old age pension under Indira Gandhi National Pension scheme, followed by 26% to OAP then comes and pension for widows and old age people. As per 2012-13 data, highest coverage was done for disabled persons (92%).

The State coverage ratio for OAP (Normal) is 45.28%. Madurai has a very high coverage ratio of over 80%. The State average coverage ratio of female elderly in all the five OAP schemes is 16.05%. Chennai City, Vellore, Thiruvanamalai and Madurai are the districts which have a coverage ratio of more than 20%. The number of OAP (Normal) beneficiaries in Chennai City, Vellore, Thiruvannamalai, Thanjavur and Madurai districts is higher than the State average by 20 percent or more.[14] All these districts have poverty levels close to the State average or more than the State average, and thus it can be reasonably confidently said that the destitution criteria has enabled the elderly below the poverty line to access OAP and to live without difficulty.

## The financial security of the aged

Though the ageing of the population is an obvious consequence of the progress of demographic transition, it has brought to the fore the financial insecurity among the aged Tamil Nadu followed suit in 1962 with an OAP scheme for the elderly. The destitute widow pension scheme was introduced only in the 1970s along with the OAP scheme for the physically handicapped. In addition to OAP (Normal), destitute persons above 60 are also covered under other categories of pension schemes.

[14] TamilNadu Human Development Report 2003

Rapid industrialization, urbanization, and Westernization have led joint families to nuclear families that no longer have the chance to care for aging family members. There is a great need for support. The elderly need their emotional, physical, and financial needs to be taken care of, where Government schemes which help them to meet their needs and there are also organizations like Help Age India which stepped in help the elderly in providing medical care to the aged people.

**Box 7.2: Micro pension for the aged**

The world's population is growing older rapidly. It is estimated that by 2050, older people would outnumber the younger for the first time in the world's history. For emerging economies including India, in the next century, population ageing will be the most vital problem they would face. Without advanced planning and the necessary money to cope with the social and economic challenges of population ageing, emerging economies would face a potent issue of dawning old age poverty. Aged poor is still working for their survival because they do not have any other choice. They had been willing to save when they were younger but could not access a financial mechanism that could ensure pension to them, keeping these things in view, DHAN Foundation started the Micro pension programme where the scheme was designed jointly with Life Insurance Corporation of India. In Madurai around 3000 members are covered under micro pension with support of people institutions.

## Disability

Disability is both a health and social problem. Disability can be linked with poverty as it has close impact to it. Disability affects indicators such as income, employment and consumption, health, education and social and psychological status also (eg: marriage aspects). These different aspects are closely interlinked and there is no difference among gender or urban and rural which all have an important effect on the disability - poverty relationship.

**Table 7.3: Disabled Population by type of Disability and Sex**

| Types of Disability | Persons | Males | Females |
|---|---|---|---|
| In seeing | 5462 | 2921 | 2541 |
| In Hearing | 8313 | 4005 | 4308 |
| In Speech | 3026 | 1692 | 1334 |
| In Movement | 11530 | 7057 | 4473 |
| Mental Retardation | 4384 | 2476 | 1908 |
| Mental Illness | 1275 | 705 | 570 |
| Any Other | 9587 | 5261 | 4326 |
| Multiple disability | 3271 | 1878 | 1393 |
| **Total number of disabled persons** | **46848** | **25995** | **20853** |

Source: Census 2011

Percentage of disability in Male is found to be more when compared to that of females. The reason for more percentage in male has to be explored and necessary steps to be taken in protecting and preventing the affected persons.

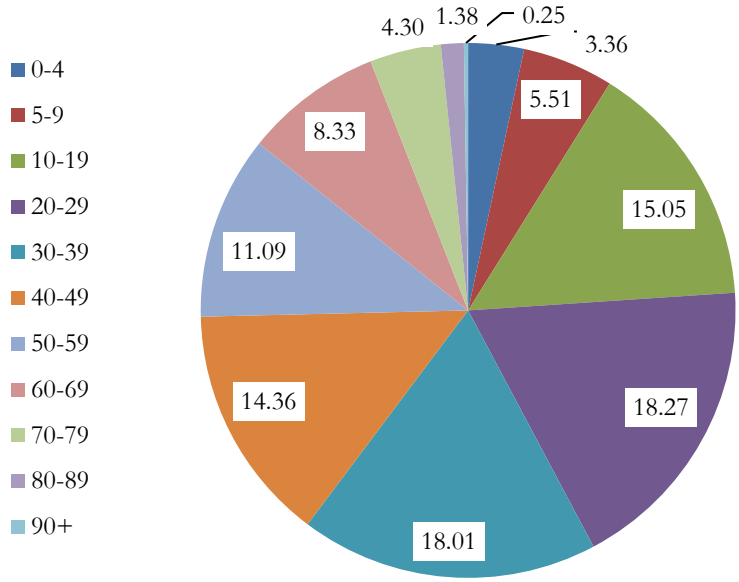
The district has the highest number for orthopaedic impairment, followed by hearing, mental retards and visual impairment. The major problem with the persons with disability face throughout their life is being looked inferior by others. The reason for high orthopedic disability and high incidence of persons with disability, according to gender and age wise studies to be taken up. Further analysis is needed to understand to what extent the above mentioned disabilities could have been prevented. These aspects would help in planning to reduce further increase in person with disability.

In 2011 and 2012, through welfare schemes of the disabled, the district administration had provided Rs.2,96,00,000 for around 4797 people out of which 1075 members are getting scholarship for mental retarder. Impaired equipments are provided to 1080 member's worth about Rs.39,00,000 for the disabled people. The benefits to the disabled people have increased in (2012- 2013) totally 9600 were were benefited with the amount of Rs.8,45,00,000 and the amount has increased to 10,00,000 in the year (2013- 2014) which has benefitted around 8682 members. In the year 2013-14, around 8682 members were benefitted through various schemes (37 schemes) under disability, where 10 crore were spent for their development. Among them 3897 members were mentally retarded who received scholarship about Rs.4,00,00,000. 1332 members are benefitted through free bus pass around Rs.56,00,000 were spent.

## Age wise Disability

Age wise categorization of disability is also needed to explore the possibilities of preventive measures.

**Chart 7.1: Age wise distribution of disabilities-2011**




Source: Census 2011

It is revealed from the age-wise distribution of the persons with disability in the district that the share of persons with disabilities in the age groups of 20 to 29 years and 30 to 39 years were the highest followed by 10 to 19 years. About 0.25% and 1.38% disabled persons belonged to the older age group (>80 years) and 3.36% belongs to 0-5 years age group.

The reason for the high incidence of person with disabilities in the above mentioned age groups need to be found. Further analysis is needed to understand to what extent the above mentioned disabilities could have been prevented. These aspects would help in planning to reduce further increase in person with disability.

**Box 7.3: Marriage and Maternity Assistance Programme**

In Tamil Nadu, every year about 11 lakh deliveries are occurring. 99.8% deliveries are institutional deliveries. Out of which 67% of the deliveries are conducted in Government institutions. The State Government have introduced Dr. Muthulakshmi Reddy Maternity Benefit Scheme where benefit fund is enhanced to Rs.12,000 This financial assistance is given in three installments which restricted for two deliveries. As per 2012-13 data 34,120 of them are beneficiaries who have availed benefit through these schemes, but in 2013-14 around 30,537 members were benefitted. Madurai corporation avails highest number of beneficiaries (12848), followed by Tirupparangunram (3225), Madurai West (2126) and Madurai East (2076). The data given shows that beneficiaries are more in urban context when compared to that of rural context. These types of schemes have made people to come100% institutional deliveries which had reduced home deliveries in the district. There are six marriage assistance schemes in Tamil Nadu. One of the major schemes is to enfore legal age of marriage for girls (18 years) which also attempts to reduce the financial burden on the girl's family and promotes female literacy/schooling. Totally 8840 women were assisted through Marriage assistance schemes, where 8397 of them are covered under Moovalur Ramamirtham ammaiyar thirumanathittam which helps the financially poor parents in getting their daughters married and to promote the educational status of poor girls.

"Thalikku thangam" and financial assistance worth about Rs.3.25 crore were distributed through this scheme.

**Marriage Assistance in Madurai District-13-14**

| S. No. | Category | No of women assisted |
|---|---|---|
| 1 | MoovalurRamamirthamammaiyarThirumanathittam | 8397 |
| 2 | SrilankaAkathigal | 18 |
| 3 | Widow daughter Marriage scheme | 377 |
| 4 | Orphan girl Marriage scheme | 27 |
| 5 | Widow marriage scheme | 2 |
| 6 | Inter caste marriage scheme | 19 |
| | **Total** | **8840** |

Source: District Social welfare office, Madurai

## Crime against women

The Constitution of India not only grants equality to Women but also empowers the State to adopt measures of positive discrimination in favour of Women for neutralizing the cumulative socioeconomic educational and political disadvantages faced by them. Article 15 forbids discrimination on grounds of caste, religion, sex, race and place of birth, whereas, Article 16 ensures equal opportunities of employment.

In spite of all these safeguards, the women in our country continue to suffer, due to lack of awareness of their rights, illiteracy, oppressive practices and customs. The resultant consequences are many viz. a constant fall in the sex ratio, high infant mortality rate, low literacy rate, 'high dropout rate of girls from education, low wage rates etc.

Crimes against women are of various types as crimes involving sex for economic gains, including

prostitution, kidnapping and abduction keeping of brothel seduction, wrongful confinement, trafficking, dowry extortion, murder, crimes relating to women's property which includes dishonest misappropriation, extortion, robbery and murder, crimes in relation to sex including outraging the modesty of women, the use of criminal force, assault.

**Table 7.4: Crime against Women**

| S. No. | Category | Number of Cases |
|---|---|---|
| 1 | Rape | 33 |
| 2 | Molestation | 78 |
| 3 | Kidnapping and abduction | 96 |
| 4 | Sexual Harassment | 10 |
| 5 | Dowry Death | 4 |
| 6 | Cruelty by Husband | 284 |
| 7 | Importation | 0 |
| 8 | Dowry Pro act | 2 |
| 9 | Molestation (or) TNP of WH Act cases ended | 0 |
| 10 | U/s498 (A) IPC(or)Petition enquiry not | 0 |
| | **District Total** | **517** |

Source: District Superintendent of Police, Madurai

The district record shows that there were 96 cases against kidnapping and abduction, and 284 cases on husband's cruelty. Between 15 and 76% of women are targeted for physical and or sexual violence in their lifetime, according to the available country data. Most of this violence takes place within intimate relationships, with many women (ranging from 9 to 70%) reporting their husbands or partners.

## Conclusion

The demographic transition had taken place and we can observe that the elder people constitute an increasing share of the population. In today's trend nuclear families have become more, old age homes have increased and total joint family system is disintegrating collapsed. These changes affect none other than the elders. Though the ageing of the population is an obvious consequence of the progress of demographic transition, it has brought to the front the financial insecurity among the aged. Hence, the future size and composition of the elderly, based on these demographic changes, have to be considered in assessing their needs in terms of physical and mental health. Pensions are provided to five target categories of varying age-groups, namely old age people (normal), deserted wives, destitute widows, and destitute physically handicapped and destitute agricultural labourers. These benefits have to be availed by the concerned persons at the right time, which will give physical as well mental support for the needy. Access to these schemes

can be made simpler and sanctioning can be made promptly. The issues pertaining to cruelty by husband, child marriages, abandoning of old age people, rape cases and domestic violence need greater efforts to address them and prevent them. The district administration takes lot of efforts, but there are many unregistered cases. Maternity and marriage assistance schemes are successfully implemented in the district to prevent the child marriages which indirectly encourage girl child's education.

Rise in cost of living, less or no reliable employment opportunities in the village, and increasing nuclear families in urban and even in villages too have made the elderly vulnerable. There is needed to be equipped with employment opportunities and other educational and health infrastructural facilities in the locality with the help of the initiatives of the Government. The Government needs to see the possibility of proper implementation of an old age pension scheme and other related programmes benefiting all the elderly people who are in need, irrespective of socioeconomic criteria. Effective monitoring of benefits reaching the elderly and also the scope needs to be broadened in implementing the schemes.. The married children have to be made aware of the importance of caring for elderly parents and the legal provisions need to be implemented in the right spirit.

# CHAPTER 8

# INFRASTRUCTURE

# 8. Infrastructure

Infrastructure facilities play a crucial role in facilitating attainment of various facets of human development. Infrastructure (road, railways, electricity, transport and communication) plays a vital role in the economic development of a region. Investment in infrastructure differs widely across the district. As the infrastructure has an impact on human development, it is important to understand the current level of infrastructure in the district. Major public infrastructural facilities are road and telecommunication, electrification, Public Distribution System and banking services. This Chapter focuses on Public transport, Communication system, Financial institutions, Road and Electricity.

## Road Infrastructure

Roads play many roles in actualizing the general development and so human development. The road network is a basic mode of connectivity for linking agriculture, industries, railways, seaports and airports. The main indicators that reveal the efficiency of the road system are the total length of roads, proportion of surface roads, density of road, etc.

The total road length in the district is 3173.75 km. Among the various types of roads, Bituminous Tar roads were higher (2029.58 kms, 64%), followed by mud roads (514.62 kms, 16%). The status of saralai road length is lower (229.64 kms, 7.2%**)** followed by WBM II road (269.99 kms, 8.51%) and WBM III road(25.71 kms, 0.81%). Across the block, road length shows disparity.

**Table 8.1: Road Length -2013-14**

| Sl. No | Name of Block | No of roads | Road Length (in km) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Earthen | Gravel | WBM II | WBM III | BT | CC | Total |
| 1 | Alanganallur | 83 | 3.40 | 1.50 | 7.65 | 2.90 | 80.45 | 2.99 | 98.89 |
| 2 | Chellampatti | 118 | 22.04 | 3.30 | 0.00 | 4.80 | 70.94 | 0.00 | 101.08 |
| 3 | Kallikudi | 92 | 50.13 | 19.94 | 2.38 | 0.00 | 32.90 | 0.00 | 105.35 |
| 4 | Kottampatti | 107 | 0.80 | 23.85 | 18.31 | 0.00 | 95.90 | 0.60 | 139.46 |
| 5 | Madurai East | 91 | 3.00 | 0.60 | 4.45 | 0.00 | 81.06 | 2.40 | 91.51 |
| 6 | Madurai West | 33 | 0.00 | 0.00 | 0.00 | 0.80 | 57.65 | 0.00 | 58.45 |
| 7 | Melur | 248 | 14.25 | 23.12 | 15.67 | 9.88 | 183.87 | 3.49 | 250.28 |
| 8 | Sedapatti | 136 | 147.53 | 10.91 | 1.32 | 0.56 | 102.87 | 2.07 | 265.26 |
| 9 | T.Kallupatti | 95 | 0.00 | 6.80 | 3.43 | 0.00 | 115.82 | 26.83 | 152.88 |
| 10 | Tirumangalam | 90 | 45.17 | 1.40 | 0.00 | 5.57 | 78.29 | 1.51 | 131.94 |
| 11 | Tirupparangunram | 63 | 10.30 | 4.58 | 1.45 | 1.00 | 44.70 | 0.00 | 62.03 |
| 12 | Usilampatti | 66 | 3.00 | 0.20 | 3.40 | 0.20 | 62.42 | 1.70 | 70.92 |

| Sl. No | Name of Block | No of roads | Road Length (in km) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Earthen | Gravel | WBM II | WBM III | BT | CC | Total |
| 13 | Vadipatti | 89 | 7.49 | 7.63 | 4.41 | 0.00 | 47.78 | 5.88 | 73.19 |
| **Total** | | **1311** | **307.10** | **103.84** | **62.47** | **25.71** | **1054.64** | **47.47** | **1601.221** |
| 1 | Madurai Corporation | | 207.52 | 125.80 | 207.52 | -- | 974.94 | 268.99 | 1572.53 |

**Source** : BDO, MC, EO, TP, Madurai

Table: 8.1 shows the gaps between the blocks in availing basic facility and that to in three to four blocks, there was good improvement, but still backward blocks have to be taken into consideration for developing infrastructure.

In the entire block, mud road length was higher in Sedapatti block 147.53 km and there are no mud road in 2 blocks of Madurai East, T.Kallupatti and lower in Kottampatti block. Water Bound Macadam (WBM) road length was higher in Madurai Corporation 207.52 km, Kottampatti block 43.02 km and lower in Madurai West block of 1.2 KM. Bituminous Tar (BT) road length was higher in Corporation 974.94 km and lower in Vadipatti block about 32.90 km. There is no CC road in 3 blocks. Saralai road is higher in Kottampati and Kallikudi block and it is low in Usilampatti block and there are no saralai roads in three blocks Madurai East, Madurai West, and Chellampatti. Sedapatti is identified for its backwardness in the district; the data show that infrastructure has to be developed in that block for transport. The components of rural infrastructure, like electricity, road connectivity, drinking water supply, health, education, communication, and components for agriculture, infrastructure, including irrigation, productivity and market connectivity, ultimately aimed at reducing poverty levels.

## Electrification

**Rural electrification** is the process of bringing electrical power to rural and remote areas. Electricity is used not only for lighting and household purposes, but it also allows for mechanization of many farming operations, such as threshing, milking, and hoisting grain for storage.

**Table 8.2: Electrification-2013-14**

| S. No. | Block wise/ District | Rev. Village | Hamlets | Towns | Pop, covered | No. of street lights |
|---|---|---|---|---|---|---|
| 1 | Alanganallur | 45 | 116 | 0 | 25197 | 3457 |
| 2 | Chellampatti | 18 | 229 | 0 | 15369 | 631 |
| 3 | Kallikudi | 34 | 78 | 0 | 72636 | 3966 |
| 4 | Kottampatti | 30 | 206 | 2 | 114339 | 4290 |

| S. No. | Block wise/ District | Rev. Village | Hamlets | Towns | Pop, covered | No. of street lights |
|---|---|---|---|---|---|---|
| 5 | Madurai East | 106 | 245 | 0 | 137440 | 7049 |
| 6 | Madurai West | 92 | 93 | 0 | 85771 | 4776 |
| 7 | Melur | 36 | 231 | 0 | 112928 | 6891 |
| 8 | Sedapatti | 28 | 118 | 2 | 96182 | 3152 |
| 9 | T.Kallupatti | 26 | 118 | 0 | 67426 | 3581 |
| 10 | Vadipatti | 23 | 68 | 0 | 19778 | 2235 |
| 11 | Tirumangalam | 57 | 155 | 0 | 105038 | 3597 |
| 12 | Tirupparangunram | 27 | 139 | 73 | 169335 | 9085 |
| 13 | Usilampatti | 18 | 150 | 0 | 44384 | 2757 |
| | Urban bodies | | | | | |
| 1 | Madurai Corporation | | | | | 45710 |
| 2 | Municipality | | | | | 4439 |
| 3 | Town Panchayat | | | | | 4877 |

Source: AD, Panchayat, Madurai.

The population covered for electrification is high in Tirupparangunram about 169335 and low in Chellampatti about 15369. Lack of electrification of individual house is a indicator of -expression of poverty as it influences the current living condition of the household and also the future well being by hampering the educational aspiration.

## Communication System

Development and communication are two terms heavily loaded with different conceptions and a richness of users and functions. Communication plays a vital role in connecting the people and it has reached the commoner with the advent of Village Public Telephones (VPT) and cellular services. The total number of telephone connections in the country touched 429.73 million at the end of March 2009 and the overall tele-density has reached 41.77%. Tamil Nadu has the proportion of availability of the phone is 48.12% and is in the eighth place at nation level. The total cellular subscribers in the State increased from 201.60 lakhs in 2007-08 to 299.47 lakhs in 2008-09 registering a growth rate of 48.55% and this is higher than the national growth rate of cellular subscribers. Home telephone were considered a household amenity of the affluent a decade earlier. Telephones that way do not stop with serving as communication device alone but go beyond that by serving many other purposes like a tool for livelihood.

**Table 8.3: Telecommunication- 2013-14**

| S. No. | Block wise/ District / State | No. of Tel. Exchange | No. of PCO | No. of Land Line | No. of HH with connection | No. of Mobile Phone Towers | Pop. Covered |
|---|---|---|---|---|---|---|---|
| 1 | Block | 19 | 4800 | 25,415 | 433 | 68 | -- |
| **District** | | **53** | **2521** | **68,598** | **--** | **245** | **--** |

Source: General Manager, BSNL, Madurai.

As data was not available for mobile telephone penetration, data pertaining only to the fixed phone services is used for analysis. The district data of 2013-14 shows that there are 68,598 landline connections and 2521 PCOs in the district. For mobile services, 245 phone towers are situated in the district.

## Financial Institutions

The data on members served per commercial bank branch shows that the lowest number of persons were served in the block of Kallikudi (24373). Urban has the highest number (86) of cooperative societies, next comes Melur (26) followed by Tirumangalam (24) and Thirupurankundaram (24). Almost all the blocks had the branches of Commercial banks, Tirupparangunram (19), Melur (16) and Sedapatti (10) have the highest number; comparatively urban has 195 more number of banks. Considerable number of account holders are also there in each block. Melur block has the highest number of account holders when compared to the total population of 1,77,059, then comes Tirumangalam which has 1,56,232 of the total population and has 1,45,312 account holders.

**Table 8.4: Financial Institutions-2013-14**

| S. No. | Block wise/ District /State | Number of co-operative societies | Number of Members | Commercial Banks | Number of account holders |
|---|---|---|---|---|---|
| 1 | Alanganallur | 19 | 35576 | 8 | 80112 |
| 2 | Chellampatti | 21 | 46202 | 8 | 90125 |
| 3 | Kallikudi | 15 | 24373 | 5 | 50110 |
| 4 | Kottampatti | 15 | 35044 | 6 | 45320 |
| 5 | Madurai East | 20 | 34030 | 8 | 45412 |
| 6 | Madurai West | 19 | 41300 | 10 | 80101 |
| 7 | Melur | 26 | 149630 | 16 | 175412 |
| 8 | Sedapatti | 18 | 42339 | 10 | 70420 |
| 9 | T. Kallupatti | 18 | 27756 | 6 | 55220 |
| 10 | Vadipatti | 19 | 52260 | 12 | 120440 |
| 11 | Tirumangalam | 24 | 50525 | 13 | 145312 |

| S. No. | Block wise/ District /State | Number of co-operative societies | Number of Members | Commercial Banks | Number of account holders |
|---|---|---|---|---|---|
| 12 | Tirupparangunram | 24 | 66012 | 19 | 135420 |
| 13 | Usilampatti | 12 | 43487 | 7 | 90412 |
| 14 | Urban | 86 | 169347 | 195 | 2382130 |
| **District** | | **336** | **817881** | **323** | **3565946** |

Source: Joint Director of Co-Operative Registrar, Madurai & General Manager Lead Bank, Madurai.

Of course, the urban bodies have maximum number of account holders in banks. There must be accounted in two to three banks of the block. On the other side, few blocks have to access the bank services, especially Kallikudi, Madurai East, Kottampatti, the Bank also should take necessary steps to provide financial services to all. But in recent years banks are coming forward in the concept of financial inclusion where door to door account opening is going on, secondly district administration facilitation regarding the housing credit through banks and SHG network for disadvantaged families is a positive factor.

## Insurance

In India the market for insurance covers both the State and private sector organizations. It is listed in the Constitution on the Union list in the Seventh Schedule meaning it can only be legislated by the central Government.[15]

The insurance sector has gone through a number of phases by allowing private companies to solicit insurance and also allowing foreign direct investment of up to 26% (as of 2013 there have been proposals to extend the FDI up to 49% to strengthen the Insurance Market even further). However, the largest life-insurance company in India, Life Insurance Corporation of India is still owned by the Government.

**Table 8.5: Insurance-2013-14**

| S. No. | Name of the companies | No. of branches | Polices Issued |
|---|---|---|---|
| 1 | LIC(Madurai division) | 44 | 380002 |
| 2 | United India Insurance | 9 | 92037 |

Source: Senior Divisional Manager, LIC, Madurai.

There are 44 branches of LIC and 9 branches of United India Insurance covering policies. Even the number of policies taken does not reflect the reality as many policy holders enrolled in insurance for income tax reasons. As the demand was low, the number of branches were also

[15] Insurance in India

low. Insurance education is very much essential to improve the status of various insurance products.

## Transport facilities[16]

Madurai is located in the south centre of Tamil Nadu. It is also the Second largest city in Tamil Nadu. The district connects the southern districts to northern districts and it is the major transport city in Tamil Nadu. The floating population is much heavier in this city during the day time. Most of the people from southern districts are visiting Madurai to get Medical, Educational, Marketing, Cargo, Shopping, Tourism, Official purpose. So Madurai city daily handles a substantial floating population. So day by day the city is facing more traffic problems. Madurai is the one of the important traffic circles in Tamil Nadu.

## Buses

The other major mode of local transportation in Madurai is the city bus. People travel from one part of the city to the other by city buses only. During peak hours, like in the morning and the evening, the buses are quite crowded. Being one of the most important means of public transport, you will find a lot of rush in the buses during the festivals. The other options available are town buses and suburban buses, connecting the nearby places. Madurai has five bus stands to cater to the needs of the people, namely Mattuthavani integrated Bus terminus, Aarapalayam, Pazhanganatham, Periyar bus stand (2) facilitating public transport.

## Railway

Madurai railway junction is one of the important and major junction of south Tamil Nadu, which connects majority of the southern districts to the city. It is the second largest by revenue in southern railway, from here direct trains are there from Madurai connecting important cities in India like Chennai, Mumbai, Bangalore, Trivandrum, Coimbatore, Kanyakumari, Tirunelveli, Rameswaram, Thanjavur, and Vijayawada. Madurai has rail connectivity with important cities and towns across India. The State Government announced a Monorail project in Madurai in 2011, which is in the planning stages.

[16] http://en.wikipedia.org/wiki/Transport_in_Madurai

**Table 8.6: Railway lines in Madurai Junction**

| Line No. | Towards | Passing through Station | Type / Track |
|---|---|---|---|
| 1 | Chennai Egmore | Dindigul Junction, Tiruchirappalli Junction | Broad, Electrified - Double Track |
| 2 | Kanyakumari | Virdhunagar Junction, Tirunelveli Junction | Broad, Electrified - Single Track |
| 3 | Rameshwaram | Manamadurai Junction, Ramanathapuram | Broad, Single Track |
| 4 | Bodinayakanur | Usilampatti, Theni | Broad - Under Conversion |
| 5 | Tuticorin | Arupukkottai | Broad - Under Survey (Proposed) |
| 6 | Karaikudi | Melur, Thirupathur | Broad - Under survey (Proposed) |

Source: www.madurai.org/wiki/Transport_in_Madurai

## Airport

Madurai Airport is a customs airport serving Madurai in the State of Tamil Nadu. The airport is located about 12 km (7.5 mi) from the Madurai railway station. The airport was established in 1956. It is one of the important airports in Tamil Nadu. It offers domestic flight services to major cities in India and international services to Colombo, Sri Lanka. The carriers operating from the airport are Air India, Jet Airways and Spice Jet. The airport has two adjacent terminals. Currently the integrated terminal is being used for both International and Domestic purpose. The airport handled 520,000 passengers between April 2011 and Mar 2012.

There are 12,754 registered three-wheeled vehicles called auto rickshaws, which are commercially available for renting within the city. In addition to the Government operated city buses that are used for public transport, there are 236 registered private minibuses that support local transportation.

## Water Bodies

The Vaigai is a river in Madurai. It originates in the Periyar Plateau of the Western Ghats range and flows northeast through the Kambam valley which lies between the Palani hills to the north and the Varushanad hills to the south. The Vattaparai falls are located on this river. As it rounds the eastern corner of the Varushanad hills, the river turns southeast, running through the region of Madurai, which lies on the Vaigai. Vaigai dam, across the vaigai river was built in the late 1950s. It is the starting point of a multipurpose project that provides irrigation water to thousands of farmers, drinking water to several thousand households, 6 MW of hydropower and facilitates inland fisheries and tourism.

The Vaigai is 258 kilometers (160 mi) long, with a drainage basin 7,031 square kilometers (2,715 sq mi) large. The main tributaries of the river Vaigai are, the river Suruliyaru, the river Mullaiyaaru, the river Varaganadi, the river Manjalaru and river Kridhumaal. All these rivers, except Kridhumaal join with the great Vaigai river nearer to the places around the Vaigai Dam which is situated in Theni district, whereas Kridhumaal joins Vaigai in Madurai. Vaigai gets major feed from the Periyar Dam in Kumuli, Kerala. Water from the Periyar River in Kerala is diverted into the Vaigai river in Tamil Nadu via a tunnel through the Western Ghats. During summer, the vaigai river ends up dry. The water never reaches Madurai, let alone flow into places past Madurai.

The Vaigai Dam is built across the river near Andipatti, in the Theni district of Tamil Nadu. It provides water for irrigation for the Madurai district and the Dindigul district as well as drinking water to Madurai and Andipatti. Near the dam, the Government of Tamil Nadu has constructed an Agricultural Research Station for researching the growing of a variety of crops, including rice, sorghum, black gram, cowpea and cotton.

## Conclusion

Madurai is well connected to all the cities and is also with the intra-city transportation. On the aspect of infrastructure, the district had fared well in the case of roads, electrification of villages and transport facilities. Road infrastructure had to develop in the backward blocks of the district. The recent effort in addressing infrastructural needs and planning for the same as the village well through various schemes is a very positive move. There are variations across the blocks, reasons can be found out and based on the need, interventions can be taken up. In the remote villages of the block, especially, Kallikudi, T. Kallupatti, Sedapatti road infrastructure has to be improved.. The share of slum population is a major concern where the habitation issues need to be addressed by the participatory planning process.

The penetration of banking service and insurance has to be taken effort in improving the status. Intensive insurance education needs to be given with the specific focus to rural areas along with suitable insurance products for various sections of the population. Demand for parking place for vehicles has increased due to tourist movement and cargo movers. Still various measures have to be taken by the district administration in improving the infrastructure of the district.

# CHAPTER 9

# SUMMARY AND WAY FORWARD

# 9. Summary and Way Forward

## Introduction

The preceding chapters of this DHDR have attempted to summarize the human development gains on various aspects of the district and to identify the challenges to be overcome in the coming years. It is evident from these discussions that the district is moving fast on the social development path with considerable gains in human development. These positive changes can be attributed to strong social development focus of the district administration, exclusive attention given by the State Government in terms of various schemes due to the backwardness of the district, involvement of civil society and improved local governance. The following section summarizes the achievements made in various sectors and other developmental aspects of the district and also suggests ways for overcoming the current challenges.

## Human Development Status

The Human Development deals with the diversity of human needs where it highlights people to enjoy, cherish and a sense of belonging to one's own community apart from the income they earn. Efficiency, Equity, Freedom and Empowerment are the main four factors which are important to achieve the human development outcomes.

The prosperity of the rich alone doesn't show the progress in human development, but how well the poor and socially disadvantaged are faring in society is most important. Implicit in this perspective is not only a strong concern for equity and social justice, but also a strong conviction that improvements in the wellbeing of the poor are fundamental to ensuring a better life not just for them but for all.

- Four indices computed to measure the inter-block disparity, *viz*., Human Development Index (HDI), Gender Inequality Index (GII), Child Development Index (CDI) and Multidimensional Poverty Index (MPI). Based on these four indices, the inter - block disparity was analyzed.
- The HDI has been constructed for 14 blocks in the district. As per the 11 indicators given, the HDI of the district is 0.67, this value varies from 0.30 to 0.97 among the blocks. Corporations take the top position while Kottampatti is placed at the bottom. Being urban based it is natural corporation to come first, next comes Tirupparangunram as almost basic infrastructure facilities are better when compared to that of rural blocks.
- Kottampatti, T.Kallupati and Alanganallur ranks very low in Human development index.

Standard of living, Health and Education parameters which needs to be improved in these blocks. Concentration has to be given by the district administration in the rural areas where the standard of living has to be increased.

The Performance of Madurai on HDI indicators such as health, income and education, the district is found as one of the top 5 districts in terms of income and combined enrolment ratio. Though the district has the distinction of possessing higher literacy levels compared to the State average, female literacy in two blocks, however, is not up to the mark.

GDI helps to measure and compare the stages of gender development.

- The GII of the district on average is 0.13, almost all the blocks range from 0.06 to 0.19 as GII value. As far as Health, Empowerment and Labour are considered among the 14 blocks Madurai West ranks first among the top 3 blocks. Here also urban factors influence the blocks where naturally it comes to the first and Tirumangalam, the worst. The other blocks which are better in GII are T.Kallupatti, Vadipatti and Corporation.
- The major concern is that high MMR exists more in blocks such as Alanganallur, Kallikudi, Tirumangalam and Sedapatti. In literacy part, the blocks T.Kallupatti, Kallikudi, Chellampatti, Sedapatii has to concentrate on increasing female literacy.
- Child Development Index (CDI) is an index combining performance measures specific to children – education, health and nutrition. In Madurai, Corporation, Madurai West and Vadipatti comes to first three positions in Child development index. These are urban based blocks which have shown higher improvement in the parameters given.
- Corporation, Madurai West and Madurai East come to first three positions in the Child development index. The least performed blocks in CDI are Chellampatti (0.37), Kottampatti (0.41) and Sedapatti (0.45), these are rural blocks which lacks in terms of health and education. There is a disparity among the blocks where the value ranges from 0.91 to 0.37. This shows that urban based blocks are performing well in the given indicators. Steps have to be taken and implementation has to fasten up in rural blocks.
- The Multidimensional Poverty Index (MPI) is a new measure designed to capture the severe deprivation that people face at the same time. It can be used to create a comprehensive picture of people living in poverty. Tirupparangunram, Corporation and Tirumangalam show better performance in terms of MPI. There is a difference between urban and rural based blocks. This shows that based on the indicators given health, education and standard of living urban blocks have better status than the rural blocks.

Overall, Standard of living, health and education is taken for multidimensional poverty index computation. In general, the standard of living dimension is better in urban blocks.

Kottampatti which is backward in two indices such as HDI and MPI exists in the worse situation. The district administration should take efforts to improve the status of living in most of the rural blocks.

## Employment, Income and Poverty

- Madurai, which is agriculture and rural based district, is now exposed to increasing urbanization, textile, construction, real estate and housing. Madurai is nearing the State average in tertiary sector and in primary and secondary it has to improve more to reach the State level.
- The district has to concentrate on rural blocks which also play a great role in building the economy. As far as WPR is considered, there is an increase in total workers of the district due to the increasing trend in urban, but in rural areas in certain blocks female WPR is getting reduced where there is need for action.
- Few millet based blocks are there in the district especially, T.Kallupatti, Kallikudi where viable marketing has to be ensured. Certain studies can be taken in the district on the basis of poverty with indicators which will help us know in detail about the status of labour and children in the district.
- Cucumber, cotton and pulse growers are more in the Kallikudi, T.Kallupatti block where role of middlemen problem needs to be addressed feasibility of marketing has to be ensured.
- Regulated Market which is run by Government can be activated effectively which will benefit the marginal farmers.
- Further analysis, at the block level is needed to understand specific regional causes for the backwardness of certain blocks. From the policy angle, there is a need for understanding which policy cause these issues and which can counter them. There is need for putting in place a monitoring system at the district level to monitor changes in WPR, income and poverty situation at the micro level, particularly with reference to various social groups, age group and gender.

## Demography, Health and Nutrition

The chapter had dealt with different health parameters where the district shows good progress in reducing IMR,MMR,SBR, CDR. Focus can be given more on rural blocks where the issues are still persistent that may affect the progress of the district.

- The district should focus on malnutrition in particular for children and maternal mother.
- Efforts to reduce anaemia can be taken, especially focus on awareness and health campaigns to be conducted in rural areas. Quality should be improved in a primary health centre and timely medical services needs to be provided to the people.
- Child sex ratio (CSR)is getting reduced in blocks like Melur-903-872, Kottampatti-960-909, Kallikudi-931-908.
- A grave point of concern at the district level – is where in 21 villages (Child sex ratio) has fallen between 601-700, 62 villages have fallen between -701-800, 138 villages it has fallen between 801-900, and in 167 villages has fallen between 901-1000.
- Regarding water and sanitation, focus need to be given in availing access to toilets for the rural women as well as urban slum women. Access to safe drinking water to household to be addressed.
- Crude death rate and Infant mortality rate have correlation where IMR is more; there is an increase in crude death rate. Chellampatti, T.Kallupatti, Kottampatti, Sedapatti and Tirumangalam have higher IMR and CDR.
- In the same way, MMR is found to be more in blocks. 2013-14 data shows that among the 14 block around 8 blocks have high MMR especially Tirumangalam (389), Kallikudi (273.22), Alanganallur(283.93), Sedapatti (269.69) and Madurai East (183.09). Inspite of efforts taken by district administration, the rate of MMR has shown an increasing trend in Madurai.
- The percentage of underweight children are more in Melur, Madurai East, Usilampatti and Chellampatti. Madurai west and Corporation.
- District administration had taken efforts to improve institutional delivery. Sedapatti, Kallikudi, Vadipatti and T. Kallupatti which is also identified as backward blocks are availing Government hospitals for deliveries. This shows that public awareness is there in using health services.
- Kottampatti is an area of concern for officials on health aspects because three children or more has become the trend for families here, putting it among the 14 blocks identified as

falling under the Higher Order of Birth (HOB) category.

- Apart from SBGF backward blocks, Chellampatti and Kottampatti can be taken into account of SBGF in the aspect of health. ( increase in malnourishment children, decrease in child sex ratio).

While rural health care requirements are taken care of through a network of PHCs, smaller Municipalities and Town Panchayats are lagging behind in such facilities. It would be necessary to fill this gap in urban areas also, which have been a neglected so far. Particularly status of rural blocks in health parameters has to be concentrated and necessary implementation to be done to improve the status of health in rural blocks of Madurai district.

## Literacy and Education

- Madurai district has performed well at block level particular in literacy rate, NER, Completion Rate, Transition Rate and Pupil Teacher ratio in primary and upper primary sections.
- Female literacy is very low in Chellampatti, Sedapatti, Kallikudi, Kottampatti and T.Kallupatti where female literacy ranges between 50 to 65% and this needs to be focused.
- Dropout in secondary education found to be more in Usilampatti (7.16%), Kottampatti (7.02%), Vadipatti (6.18%) and Sedapatti (6.13%).
- Sedapatti accounts for lowest literacy rate of 67.06%. The areas for improvement in the block are in Chellampatti block which has a number of schools, but the literacy percentage of girls is less. As far as the district is considered, the backward blocks Kallikudi, Sedapatti, T.Kallupatti which are already backward in education has a lower percentage of enrolment in secondary education which needs to be focused by enhancing transport facilities and building infrastructure which provides basic amenities.
- There are 8 habitations, which are eligible for opening EGS centres, 5 habitations eligible for opening primary schools and 13 habitations in need of upper primary schools which the education department should set milestones for enhancing the education.
- DISE 2011-12 report states that in 19 schools PTR is more than 100 which needs to be explored for improvements and effective placements.
- Mushrooming of private schools has shown the vulnerability of Government schools in not providing quality education. Hence, there is a need for monitoring and review

mechanism for providing quality education in Government schools.

## Gender

Gender relates to inequity between females and males in education, health, employment and empowerment.

- In Madurai district, on literary aspects there is improvement in their status, on the other side there are also issues on female literacy pertaining to certain factors which has to be taken into concern. Especially rural blocks have to be given concentration in the aspects of female literacy, health parameters. Blocks like Chellampatti, Kallikudi, T.Kallupatti, Kottampatti has to be concentrated.

- Women participation in politics shows better percentage in all the blocks. This shows that the status of women has improved in the development aspects. Apart from this, Madurai also fares reasonably well in terms of indicators such as female literacy, girls' enrolment. In terms of political participation, women are faring reasonably well. While the absolute condition of women in Madurai is getting improved men with respect in regarding literacy and education.

Inequity in gender represents an impediment to human development by limiting the contribution of women to the development effort. Gender equity must be integrated into all plans and programmes of the development process. We should adopt a more balanced approach to human development and strong advocacy to build support for a role for women in public life.

## Social Security

The demographic transition is taking place and we can observe the elder people constitute an increasing share of the population. In today's trend nuclear families have become more, old age homes have increased and joint family system is getting collapsed. These changes affect none other than the elders. Though the ageing of the population is an obvious consequence of the progress of demographic transition, it has brought to the front the financial insecurity among the aged. Hence, the future size and composition of the elderly, based on these demographic changes, have to be considered in assessing their needs in terms of physical and mental health.

- The elderly population is in increasing trend as the Census 2011 shows that it was 10.7% of the total population of the district. It would increase the burden on the district administration to ensure the reach of welfare programmes to the growing population of the elderly people.

- Though the district has provided financial security for the elderly people of nearing to the target, destitute widows and disabled people, still the data was not adequate to understand the real status of the assistance. There might be a segment of the population would have been left out in accessing the benefits through assistance of financial security.
- Pensions are provided to five target categories of varying age-groups, namely old age people (normal), deserted wives, destitute widows, and destitute physically handicapped and destitute agricultural labourers. These benefits have to be availed by the concerned persons in right time, which will give physical as well as mental support for the needy. Access to these schemes can be made simpler and sanctioning can be made promptly.

## Infrastructure

Madurai is well connected to all the cities and also with the intra-city transportation. On the aspect of infrastructure, the district had fared well in the case of roads, electrification of villages and transport facilities.

- Road infrastructure had to develop in the rural blocks (especially backward blocks) of the district. The recent effort in addressing infrastructural needs and planning for the same at the village well through various schemes is a very positive move. There are variations across the blocks, for which reasons can be identified and based on the need, interventions can be taken up. In very remote villages of the block, especially, Kallikudi, T. Kallupatti, Sedapatti road infrastructure has to be improved.
- As far as Corporation is considered, slum areas have to been focused and number of water connections need to be sanctioned to households, almost in all the slums, tiled road have been constructed which makes easier transportation. The share of slum population is a major concern where the habitation issues needs to be addressed by the participatory planning process.
- Efforts for penetration of banking service and insurance has to be taken in improving the status. Intensive insurance education needs to be given with the specific focus on rural areas along with suitable insurance products for various sections of the population.
- Demand for parking place for vehicles have been increased due to tourist movement and cargo movers. Still various measures needs to be taken by the district administration in improving the infrastructure of the district.

Inter-block disparities in human development can be mitigated to a large extent only if resources are allocated keeping in view the extent of deprivation in blocks. Economic development policies

need to be integrated with human development objectives so that disparity can be reduced. A comprehensive programme should take care of the following aspects: increased life expectancy through prenatal care for expectant mothers, creation of awareness against female infanticide, increasing education attainment levels through higher female literacy, educating mothers about the benefits of sending the girl children to school, and increasing female per capita income so as to narrow the wage differential between males and females. This DHDR has attempted fairly to give an overview of the status of the district in various dimensions of development and also has given a brief analysis of the state of the district in terms of Human Development indicators.

# ANNEXURES

# Annexures

## Annexure 1: Human Development Index

| S. No. | Block | Standard of Living | | | | | Health | | | Education | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Access to Cooking Fuel | Access to Toilet Facilities | Access to Drinking Water | Access to Electricity | Access to Pucca Houses | IMR | MMR | U5MR | Literacy Rate | GER Primary | GER Secondary |
| | | 2011 | 2013-14 | 2013-14 | 2011 | 2013-14 | 2013-14 | 2013-14 | 2013-14 | Census 2011 | Edcn Dept | Edcn Dept |
| | | census | | (habitation) | census | | 2013-14 | 2013-14 | 2013-14 | 2011 | 2013-14 | 2013-14 |
| 1 | Alanganallur | 24.79 | 26.47 | 100 | 89.83 | 99.40 | 16.47 | 283.93 | 32.45 | 76.94 | 91.39 | 76.72 |
| 2 | Chellampatti | 29.00 | 39.09 | 100 | 91.57 | 76.89 | 17.11 | 126.74 | 21.42 | 70.17 | 90.58 | 69.72 |
| 3 | Kallikudi | 23.08 | 66.68 | 100 | 92.08 | 62.57 | 13.66 | 273.22 | 32.54 | 72.94 | 94.84 | 77.09 |
| 4 | Kottampatti | 19.16 | 38.46 | 100 | 91.94 | 54.82 | 21.70 | 162.78 | 27.56 | 71.79 | 79.03 | 86.15 |
| 5 | Madurai East | 54.08 | 32.03 | 100 | 95.95 | 97.48 | 9.77 | 183.09 | 20.10 | 82.37 | 103.55 | 61.06 |
| 6 | Madurai West | 58.09 | 18.43 | 100 | 91.07 | 67.77 | 8.06 | 107.41 | 17.40 | 88.95 | 106.09 | 102.48 |
| 7 | Melur | 33.37 | 29.36 | 100 | 95.29 | 94.92 | 17.34 | 177.86 | 24.67 | 79.68 | 105.75 | 103.83 |
| 8 | Sedapatti | 26.52 | 47.33 | 100 | 96.11 | 77.16 | 21.57 | 269.69 | 25.35 | 67.06 | 92.46 | 102.77 |
| 9 | T.Kallupatti | 18.52 | 34.84 | 100 | 91.87 | 83.60 | 21.90 | 182.48 | 27.37 | 74.24 | 90.23 | 61.48 |
| 10 | Vadipatti | 30.51 | 39.15 | 100 | 91.28 | 71.86 | 18.06 | 109.47 | 19.84 | 77.97 | 97.10 | 115.07 |
| 11 | Tirumangalam | 41.13 | 26.73 | 100 | 96.82 | 97.17 | 23.36 | 389.00 | 24.87 | 81.25 | 108.37 | 84.54 |
| 12 | Tirupparangunram | 60.76 | 20.35 | 100 | 99.20 | 97.35 | 11.49 | 53.05 | 27.26 | 84.28 | 104.08 | 103.93 |
| 13 | Usilampatti | 29.37 | 49.73 | 100 | 96.91 | 81.25 | 18.93 | 114.74 | 20.08 | 75.52 | 95.61 | 81.03 |
| 14 | Corporation | 65.65 | 94.27 | 100 | 98.67 | 92.88 | 8.50 | 90.00 | 6.71 | 90.91 | 106.28 | 131.72 |

## Annexure 1: Human Development Index contd…

| S. No. | Block | Standard of Living | | | | | Health | | | Education | | | Standard of Living Index | Health Index | Education Index | Overall Index | Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Access to Cooking Fuel | Access to Toilet Facilities | Access to Drinking Water | Access to Electricity | Access to Pucca Houses | IMR | MMR | U5MR | Literacy Rate | GER Primary | GER Secondary | | | | | |
| 1 | Alanganallur | 0.17 | 0.13 | 1.00 | 0.49 | 1.00 | 0.52 | 0.38 | 0.11 | 0.54 | 0.54 | 0.28 | 0.40 | 0.28 | 0.44 | 0.37 | 12 |
| 2 | Chellampatti | 0.25 | 0.29 | 1.00 | 0.58 | 0.55 | 0.49 | 0.80 | 0.49 | 0.32 | 0.52 | 0.19 | 0.47 | 0.58 | 0.32 | 0.44 | 8 |
| 3 | Kallikudi | 0.13 | 0.64 | 1.00 | 0.61 | 0.26 | 0.68 | 0.41 | 0.11 | 0.41 | 0.64 | 0.29 | 0.42 | 0.32 | 0.42 | 0.38 | 11 |
| 4 | Kottampatti | 0.05 | 0.28 | 1.00 | 0.60 | 0.11 | 0.23 | 0.71 | 0.28 | 0.37 | 0.21 | 0.41 | 0.25 | 0.36 | 0.32 | 0.30 | 14 |
| 5 | Madurai East | 0.76 | 0.20 | 1.00 | 0.82 | 0.96 | 0.90 | 0.65 | 0.54 | 0.72 | 0.87 | 0.08 | 0.65 | 0.68 | 0.37 | 0.55 | 6 |
| 6 | Madurai West | 0.85 | 0.02 | 1.00 | 0.56 | 0.37 | 1.00 | 0.85 | 0.63 | 0.94 | 0.94 | 0.62 | 0.33 | 0.81 | 0.82 | 0.61 | 3 |
| 7 | Melur | 0.34 | 0.16 | 1.00 | 0.79 | 0.91 | 0.47 | 0.67 | 0.38 | 0.63 | 0.93 | 0.64 | 0.53 | 0.49 | 0.72 | 0.57 | 4 |
| 8 | Sedapatti | 0.20 | 0.40 | 1.00 | 0.83 | 0.56 | 0.23 | 0.42 | 0.36 | 0.22 | 0.57 | 0.62 | 0.52 | 0.33 | 0.43 | 0.42 | 9 |
| 9 | T.Kallupatti | 0.04 | 0.23 | 1.00 | 0.60 | 0.68 | 0.22 | 0.65 | 0.29 | 0.45 | 0.51 | 0.09 | 0.33 | 0.34 | 0.27 | 0.31 | 13 |
| 10 | Vadipatti | 0.28 | 0.29 | 1.00 | 0.57 | 0.45 | 0.43 | 0.85 | 0.55 | 0.58 | 0.70 | 0.78 | 0.46 | 0.59 | 0.68 | 0.57 | 5 |
| 11 | Tirumangalam | 0.50 | 0.13 | 1.00 | 0.87 | 0.96 | 0.13 | 0.10 | 0.38 | 0.68 | 1.00 | 0.39 | 0.56 | 0.17 | 0.64 | 0.40 | 10 |
| 12 | Tirupparangunram | 0.90 | 0.05 | 1.00 | 1.00 | 0.96 | 0.81 | 1.00 | 0.29 | 0.78 | 0.88 | 0.64 | 0.53 | 0.62 | 0.76 | 0.63 | 2 |
| 13 | Usilampatti | 0.26 | 0.43 | 1.00 | 0.88 | 0.64 | 0.38 | 0.84 | 0.54 | 0.50 | 0.66 | 0.34 | 0.57 | 0.56 | 0.48 | 0.54 | 7 |
| 14 | Corporation | 1.00 | 1.00 | 1.00 | 0.97 | 0.87 | 0.97 | 0.90 | 1.00 | 1.00 | 0.94 | 1.00 | 0.97 | 0.96 | 0.98 | 0.97 | 1 |

## Annexure 2: Gender Inequality Index

| S. No. | Block | Data | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Health | | | Empowerment | | | | | | Labour | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 7 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | MMR | Share of Institutional Deliveries | Share of Ante Natal Coverage | Female Literacy | Male Literacy | Share of female Children (0-6) years | Share of male Children (0-6) years | Share of Female Elected Representativies in RLBs and ULBs | Share of Male Elected Representatives in RLBs and ULBs | Female Work Participation Rate | Male Work Participation Rate | Female Work Participation Rate in Non-Agri Sector | Male Work Participation Rate in Non-Agri Sector | Female Agri. Wage rate | Male Agri. Wage rate |
| | | 2013-14 | 2013-14 | 2013-14 | 2011 | 2011 | 2011 | 2011 | 2011 | 2011 | 2011 | 2011 | 2011 | 2011 | 2013-14 | 2013-14 |
| | Source | Health Department | | | Census | | | | RD&PR Department | | Census | | | | DOES | |
| | Unit | rate | % | nos | % | % | % | % | % | | % | % | % | % | % | % |
| 1 | Alanganallur | 283.93 | 100 | 99.66 | 69.02 | 84.78 | 48.01 | 51.99 | 33.53 | 66.47 | 42.26 | 61.18 | 27.35 | 41.93 | 110 | 220 |
| 2 | Chellampatti | 126.74 | 100 | 99.41 | 58.91 | 80.96 | 47.06 | 52.94 | 34.74 | 65.26 | 55.83 | 60.28 | 13.67 | 28.28 | 150 | 350 |
| 3 | Kallikudi | 273.22 | 100 | 98.95 | 62.27 | 83.72 | 48.49 | 51.51 | 35.84 | 64.16 | 51.99 | 60.57 | 19.02 | 41.52 | 105 | 250 |
| 4 | Kottampatti | 162.78 | 100 | 100 | 60.65 | 83.00 | 47.89 | 52.11 | 34.15 | 65.85 | 43.93 | 60.21 | 17.35 | 29.80 | 100 | 280 |
| 5 | Madurai East | 183.09 | 100 | 99.12 | 76.01 | 88.61 | 48.42 | 51.58 | 37.07 | 62.93 | 28.45 | 59.17 | 64.06 | 79.22 | 90 | 250 |
| 6 | Madurai West | 107.41 | 100 | 99.95 | 84.46 | 93.46 | 48.23 | 51.77 | 34.50 | 65.50 | 23.54 | 57.17 | 72.81 | 85.20 | 90 | 200 |
| 7 | Melur | 177.86 | 100 | 98.71 | 71.34 | 87.99 | 46.57 | 53.43 | 34.08 | 65.92 | 34.40 | 57.47 | 22.15 | 42.67 | 100 | 300 |
| 8 | Sedapatti | 269.69 | 100 | 97.47 | 56.28 | 77.76 | 48.29 | 51.71 | 35.59 | 64.41 | 53.74 | 60.99 | 14.22 | 28.92 | 100 | 250 |
| 9 | T.Kallupatti | 182.48 | 100 | 99.36 | 64.51 | 84.18 | 47.22 | 52.78 | 34.13 | 65.87 | 47.23 | 59.87 | 24.62 | 47.66 | 90 | 200 |
| 10 | Vadipatti | 109.47 | 100 | 98.84 | 70.73 | 85.24 | 49.22 | 50.78 | 35.48 | 64.52 | 37.66 | 60.42 | 28.66 | 43.39 | 100 | 250 |
| 11 | Tirumangalam | 389.00 | 100 | 99.21 | 73.69 | 88.78 | 47.64 | 52.36 | 34.64 | 65.36 | 37.41 | 58.80 | 35.96 | 63.81 | 80 | 250 |
| 12 | Tirupparangunram | 53.05 | 100 | 99.42 | 78.39 | 90.11 | 48.94 | 51.06 | 34.52 | 65.48 | 27.13 | 58.80 | 75.12 | 88.64 | 100 | 250 |
| 13 | Usilampatti | 114.74 | 100 | 100 | 67.22 | 83.61 | 46.80 | 53.20 | 34.78 | 65.22 | 44.11 | 59.47 | 25.01 | 47.14 | 124 | 350 |
| 14 | Corporation | 90.00 | 100 | 100.00 | 87.06 | 94.77 | 48.68 | 51.32 | 33.66 | 66.33 | 17.75 | 59.11 | 98.47 | 99.00 | 200 | 400 |

## Annexure 2: Gender Inequality Index contd…

| S. No | Block | MMR | Share of Institutional Deliveries | Share of Ante Natal Coverage | Female Literacy | Male Literacy | Share of female Children (0-6) years | Share of male Children (0-6) years | Share of Female Elected Representatives in RLBs and ULBs | Share of Male Elected Representatives in RLBs and ULBs | Female Work Participation Rate | Male Work Participation Rate | Female Work Participation Rate in Non-Agri Sector | Female Agri. Wage rate | Male Agri. Wage rate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Source | | | | | | | | | | | | | | |
| | Unit | | | | | | | | | | | | | | |
| 1 | Alanganallur | 0.04 | 1.00 | 1.00 | 0.69 | 0.85 | 0.48 | 0.52 | 0.34 | 0.66 | 0.42 | 0.61 | 0.27 | 0.42 | 0.30 |
| 2 | Chellampatti | 0.08 | 1.00 | 0.99 | 0.59 | 0.81 | 0.47 | 0.53 | 0.35 | 0.65 | 0.56 | 0.60 | 0.14 | 0.28 | 0.61 |
| 3 | Kallikudi | 0.04 | 1.00 | 0.99 | 0.62 | 0.84 | 0.48 | 0.52 | 0.36 | 0.64 | 0.52 | 0.61 | 0.19 | 0.42 | 0.26 |
| 4 | Kottampatti | 0.06 | 1.00 | 1.00 | 0.61 | 0.83 | 0.48 | 0.52 | 0.34 | 0.66 | 0.44 | 0.60 | 0.17 | 0.30 | 0.22 |
| 5 | Madurai East | 0.05 | 1.00 | 0.99 | 0.76 | 0.89 | 0.48 | 0.52 | 0.37 | 0.63 | 0.28 | 0.59 | 0.64 | 0.79 | 0.14 |
| 6 | Madurai West | 0.09 | 1.00 | 1.00 | 0.84 | 0.93 | 0.48 | 0.52 | 0.34 | 0.66 | 0.24 | 0.57 | 0.73 | 0.85 | 0.14 |
| 7 | Melur | 0.06 | 1.00 | 0.99 | 0.71 | 0.88 | 0.47 | 0.53 | 0.34 | 0.66 | 0.34 | 0.57 | 0.22 | 0.43 | 0.22 |
| 8 | Sedapatti | 0.04 | 1.00 | 0.97 | 0.56 | 0.78 | 0.48 | 0.52 | 0.36 | 0.64 | 0.54 | 0.61 | 0.14 | 0.29 | 0.22 |
| 9 | T.Kallupatti | 0.05 | 1.00 | 0.99 | 0.65 | 0.84 | 0.47 | 0.53 | 0.34 | 0.66 | 0.47 | 0.60 | 0.25 | 0.48 | 0.14 |
| 10 | Vadipatti | 0.09 | 1.00 | 0.99 | 0.71 | 0.85 | 0.49 | 0.51 | 0.35 | 0.65 | 0.38 | 0.60 | 0.29 | 0.43 | 0.22 |
| 11 | Tirumangalam | 0.03 | 1.00 | 0.99 | 0.74 | 0.89 | 0.48 | 0.52 | 0.35 | 0.65 | 0.37 | 0.59 | 0.36 | 0.64 | 0.06 |
| 12 | Tirupparangunram | 0.19 | 1.00 | 0.99 | 0.78 | 0.90 | 0.49 | 0.51 | 0.35 | 0.65 | 0.27 | 0.59 | 0.75 | 0.89 | 0.22 |
| 13 | Usilampatti | 0.09 | 1.00 | 1.00 | 0.67 | 0.84 | 0.47 | 0.53 | 0.35 | 0.65 | 0.44 | 0.59 | 0.25 | 0.47 | 0.41 |
| 14 | Corporation | 0.11 | 1.00 | 1.00 | 0.87 | 0.95 | 0.49 | 0.51 | 0.34 | 0.66 | 0.18 | 0.59 | 0.98 | 0.99 | 1.00 |

## Annexure 2: Gender Inequality Index contd…

| S. No | Block | Female Health Indices | Male Health Indices | Female Emp Indices | Male Emp Indices | Female LF Indices | Male LF Indices | GF | GM | GFM | Health Bar | Emp Bar | LF Bar | GFM Bar | GII | Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Source | | | | | | | | | | | | | | | |
| | **Unit** | | | | | | | | | | | | | | | |
| 1 | Alanganallur | 0.33 | 1 | 0.48 | 0.75 | 0.35 | 0.33 | 0.38 | 0.63 | 0.48 | 0.66 | 0.62 | 0.34 | 0.52 | 0.08 | 8 |
| 2 | Chellampatti | 0.43 | 1 | 0.45 | 0.73 | 0.58 | 0.68 | 0.48 | 0.79 | 0.60 | 0.71 | 0.59 | 0.63 | 0.64 | 0.07 | 3 |
| 3 | Kallikudi | 0.33 | 1 | 0.47 | 0.73 | 0.37 | 0.44 | 0.39 | 0.69 | 0.49 | 0.67 | 0.60 | 0.40 | 0.54 | 0.09 | 9 |
| 4 | Kottampatti | 0.39 | 1 | 0.46 | 0.74 | 0.31 | 0.52 | 0.38 | 0.73 | 0.50 | 0.70 | 0.60 | 0.42 | 0.56 | 0.10 | 11 |
| 5 | Madurai East | 0.38 | 1 | 0.53 | 0.75 | 0.20 | 0.43 | 0.34 | 0.69 | 0.46 | 0.69 | 0.64 | 0.32 | 0.52 | 0.12 | 12 |
| 6 | Madurai West | 0.45 | 1 | 0.54 | 0.78 | 0.18 | 0.23 | 0.35 | 0.56 | 0.43 | 0.73 | 0.66 | 0.20 | 0.46 | 0.06 | 1 |
| 7 | Melur | 0.38 | 1 | 0.49 | 0.76 | 0.27 | 0.56 | 0.37 | 0.75 | 0.50 | 0.69 | 0.63 | 0.42 | 0.57 | 0.12 | 13 |
| 8 | Sedapatti | 0.33 | 1 | 0.45 | 0.71 | 0.34 | 0.44 | 0.37 | 0.68 | 0.48 | 0.67 | 0.58 | 0.39 | 0.53 | 0.10 | 10 |
| 9 | T.Kallupatti | 0.38 | 1 | 0.47 | 0.74 | 0.26 | 0.23 | 0.36 | 0.56 | 0.44 | 0.69 | 0.61 | 0.25 | 0.47 | 0.07 | 4 |
| 10 | Vadipatti | 0.45 | 1 | 0.50 | 0.74 | 0.29 | 0.44 | 0.40 | 0.69 | 0.51 | 0.72 | 0.62 | 0.36 | 0.55 | 0.07 | 5 |
| 11 | Tirumangalam | 0.29 | 1 | 0.51 | 0.76 | 0.15 | 0.43 | 0.28 | 0.69 | 0.40 | 0.65 | 0.63 | 0.29 | 0.49 | 0.19 | 14 |
| 12 | Tirupparangunram | 0.57 | 1 | 0.52 | 0.77 | 0.24 | 0.43 | 0.42 | 0.69 | 0.52 | 0.79 | 0.64 | 0.34 | 0.56 | 0.06 | 2 |
| 13 | Usilampatti | 0.44 | 1 | 0.48 | 0.74 | 0.42 | 0.68 | 0.45 | 0.79 | 0.57 | 0.72 | 0.61 | 0.55 | 0.62 | 0.08 | 7 |
| 14 | Corporation | 0.48 | 1 | 0.54 | 0.79 | 0.42 | 0.77 | 0.48 | 0.85 | 0.61 | 0.74 | 0.67 | 0.60 | 0.66 | 0.08 | 6 |

## Annexure 3: Child Development Index

| S. No. | Block name | Health | | | Education | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | U5MR-2013-14 | Juvenile Sex Ratio-(0-6)2011 | Percentage of Malnourished Children-2013-14 | Enrollment in Primary-2013-14 | Enrollment in Secondary-2013-14 | Childrens Never Enrolled in Schools-2013-14 | Transition Rate from Primary to Upper Primary-2013-14 | Transition rate Upper Primary to Secondary-2013-14 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Alanganallur | 32.45 | 931 | 17.35 | 91.39 | 76.72 | 0.00 | 97.91 | 85.86 |
| 2 | Chellampatti | 21.42 | 888 | 20.12 | 90.58 | 69.72 | 0.00 | 97.74 | 82.00 |
| 3 | Kallikudi | 32.54 | 908 | 19.47 | 94.84 | 77.09 | 0.00 | 98.03 | 74.82 |
| 4 | Kottampatti | 27.56 | 909 | 18.98 | 79.03 | 86.15 | 0.00 | 97.80 | 89.04 |
| 5 | Madurai East | 20.10 | 942 | 28.70 | 103.55 | 61.06 | 0.00 | 98.02 | 71.18 |
| 6 | Madurai West | 17.40 | 929 | 4.20 | 106.09 | 102.48 | 0.00 | 97.80 | 93.65 |
| 7 | Melur | 24.67 | 872 | 25.87 | 105.75 | 103.83 | 0.00 | 97.80 | 103.73 |
| 8 | Sedapatti | 25.35 | 895 | 17.55 | 92.46 | 102.77 | 0.00 | 97.69 | 88.77 |
| 9 | T.Kallupatti | 27.37 | 940 | 9.47 | 90.23 | 61.48 | 0.00 | 97.79 | 88.80 |
| 10 | Vadipatti | 19.84 | 958 | 12.18 | 97.10 | 115.07 | 0.00 | 97.75 | 93.31 |
| 11 | Tirumangalam | 24.87 | 923 | 18.75 | 108.37 | 84.54 | 0.00 | 97.69 | 96.37 |
| 12 | Tirupparangunram | 27.26 | 958 | 12.70 | 104.08 | 103.93 | 0.05 | 97.94 | 90.81 |
| 13 | Usilampatti | 20.08 | 882 | 22.53 | 95.61 | 81.03 | 0.00 | 97.91 | 88.50 |
| 14 | Corporation | 6.71 | 949 | 11.00 | 106.28 | 131.72 | 0.00 | 97.98 | 98.97 |

## Annexure 3: Child Development Index contd…

| S. No. | Block name | Health | | Nutrition | Education | | | | | Overall index | Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | U5MR | Juvenile Sex Ratio | Percentage of Malnourished Children | Enrollment in Primary | Enrollment in Secondary | Children's Never Enrolled in Schools | Transition Rate from Primary to Upper Primary | Upper Primary to Secondary | | |
| 1 | Alanganallur | 0.00 | 0.68 | 0.46 | 0.42 | 0.22 | 1.00 | 0.65 | 0.45 | 0.49 | 9 |
| 2 | Chellampatti | 0.43 | 0.18 | 0.35 | 0.39 | 0.12 | 1.00 | 0.15 | 0.33 | 0.37 | 14 |
| 3 | Kallikudi | 0.00 | 0.42 | 0.38 | 0.54 | 0.23 | 1.00 | 1.00 | 0.11 | 0.46 | 11 |
| 4 | Kottampatti | 0.19 | 0.43 | 0.40 | 0.00 | 0.36 | 1.00 | 0.32 | 0.55 | 0.41 | 13 |
| 5 | Madurai East | 0.48 | 0.80 | 0.00 | 0.84 | 0.00 | 1.00 | 0.97 | 0.00 | 0.51 | 7 |
| 6 | Madurai West | 0.59 | 0.66 | 1.00 | 0.92 | 0.59 | 1.00 | 0.32 | 0.69 | 0.72 | 2 |
| 7 | Melur | 0.30 | 0.00 | 0.12 | 0.91 | 0.61 | 1.00 | 0.32 | 1.00 | 0.53 | 6 |
| 8 | Sedapatti | 0.28 | 0.26 | 0.46 | 0.46 | 0.59 | 1.00 | 0.00 | 0.54 | 0.45 | 12 |
| 9 | T.Kallupatti | 0.20 | 0.79 | 0.78 | 0.38 | 0.01 | 1.00 | 0.29 | 0.54 | 0.50 | 8 |
| 10 | Vadipatti | 0.49 | 1.00 | 0.67 | 0.62 | 0.76 | 1.00 | 0.18 | 0.68 | 0.68 | 3 |
| 11 | Tirumangalam | 0.30 | 0.59 | 0.41 | 1.00 | 0.33 | 1.00 | 0.00 | 0.77 | 0.55 | 5 |
| 12 | Tirupparangunram | 0.20 | 1.00 | 0.65 | 0.85 | 0.61 | 0.00 | 0.74 | 0.60 | 0.58 | 4 |
| 13 | Usilampatti | 0.48 | 0.12 | 0.25 | 0.57 | 0.28 | 1.00 | 0.65 | 0.53 | 0.48 | 10 |
| 14 | Corporation | 1.00 | 0.89 | 0.72 | 0.93 | 1.00 | 1.00 | 0.85 | 0.85 | 0.91 | 1 |

## Annexure 4: Multidimensional Poverty Index

| S. No. | Block Name | Health | | | Education | | Living Standards | | | | Access to Electricity-2011 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | IMR-2013-14 | HOB-2013-14 | Malnourshied Children-2013-14 | Drop out in Primary-2013-14 | Drop out Secondary-2013-14 | Access to cooking fuel-2011 | Access to toilet facilities-2013-14 | Access to drinking water-2013-14 | Pucca house-2013-14 | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | Alanganallur | 16.47 | 9.31 | 17.35 | 0.78 | 2.66 | 24.79 | 26.47 | 100.00 | 99.40 | 89.83 |
| 2 | Chellampatti | 17.11 | 9.94 | 20.12 | 0.26 | 5.00 | 29.00 | 39.09 | 100.00 | 76.89 | 91.57 |
| 3 | Kallikudi | 13.66 | 16.86 | 19.47 | 0.94 | 5.76 | 23.08 | 66.68 | 100.00 | 62.57 | 92.08 |
| 4 | Kottampatti | 21.70 | 14.20 | 18.98 | 0.74 | 3.53 | 19.16 | 38.46 | 100.00 | 54.82 | 91.94 |
| 5 | Madurai East | 9.77 | 9.22 | 28.70 | 0.83 | 7.02 | 54.08 | 32.03 | 100.00 | 97.48 | 95.95 |
| 6 | Madurai West | 8.06 | 6.27 | 4.20 | 0.40 | 6.25 | 58.09 | 18.43 | 100.00 | 67.77 | 91.07 |
| 7 | Melur | 17.34 | 12.21 | 25.87 | 0.43 | 4.34 | 33.37 | 29.36 | 100.00 | 94.92 | 95.29 |
| 8 | Sedapatti | 21.57 | 11.56 | 17.55 | 2.11 | 4.35 | 26.52 | 47.33 | 100.00 | 77.16 | 96.11 |
| 9 | T.Kallupatti | 21.90 | 6.94 | 9.47 | 1.11 | 6.13 | 18.52 | 34.84 | 100.00 | 83.60 | 91.87 |
| 10 | Vadipatti | 18.06 | 7.44 | 12.18 | 0.10 | 3.71 | 30.51 | 39.15 | 100.00 | 71.86 | 91.28 |
| 11 | Tirumangalam | 23.36 | 7.77 | 18.75 | 0.64 | 2.43 | 41.13 | 26.73 | 100.00 | 97.17 | 96.82 |
| 12 | Tirupparangunram | 11.49 | 6.84 | 12.70 | 0.81 | 7.16 | 60.76 | 20.35 | 100.00 | 97.35 | 99.20 |
| 13 | Usilampatti | 18.93 | 9.09 | 22.53 | 0.69 | 6.18 | 29.37 | 49.73 | 100.00 | 81.25 | 96.91 |
| 14 | Corporation | 8.50 | 3.26 | 11.00 | 0.40 | 3.69 | 65.65 | 94.27 | 100.00 | 92.88 | 98.67 |

## Annexure 4: Multidimensional Poverty Index contd…

| S. No. | Block Name | Health | | | Education | | Living Standards | | | | | Overall index | Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | IMR | HOB | Malnourished Children | Drop out in primary | Drop out in secondary | Access to cooking fuel | Access to toilet facilities | Access to drinking water | Pucca house | Access to Electricity | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 1 | Alanganallur | 0.45 | 0.56 | 0.46 | 0.66 | 0.95 | 0.13 | 0.11 | 1.00 | 1.00 | 0.00 | 0.47 | 7 |
| 2 | Chellampatti | 0.41 | 0.51 | 0.35 | 0.92 | 0.46 | 0.22 | 0.27 | 1.00 | 0.50 | 0.19 | 0.52 | 10 |
| 3 | Kallikudi | 0.63 | 0.00 | 0.38 | 0.58 | 0.30 | 0.10 | 0.64 | 1.00 | 0.17 | 0.24 | 0.60 | 13 |
| 4 | Kottampatti | 0.11 | 0.20 | 0.40 | 0.68 | 0.77 | 0.01 | 0.26 | 1.00 | 0.00 | 0.23 | 0.63 | 14 |
| 5 | Madurai East | 0.89 | 0.56 | 0.00 | 0.64 | 0.03 | 0.75 | 0.18 | 1.00 | 0.96 | 0.65 | 0.43 | 5 |
| 6 | Madurai West | 1.00 | 0.78 | 1.00 | 0.85 | 0.19 | 0.84 | 0.00 | 1.00 | 0.29 | 0.13 | 0.39 | 4 |
| 7 | Melur | 0.39 | 0.34 | 0.12 | 0.84 | 0.60 | 0.32 | 0.14 | 1.00 | 0.90 | 0.58 | 0.48 | 8 |
| 8 | Sedapatti | 0.12 | 0.39 | 0.46 | 0.00 | 0.59 | 0.17 | 0.38 | 1.00 | 0.50 | 0.67 | 0.57 | 12 |
| 9 | T.Kallupatti | 0.10 | 0.73 | 0.78 | 0.50 | 0.22 | 0.00 | 0.22 | 1.00 | 0.65 | 0.22 | 0.56 | 11 |
| 10 | Vadipatti | 0.35 | 0.69 | 0.67 | 1.00 | 0.73 | 0.25 | 0.27 | 1.00 | 0.38 | 0.15 | 0.45 | 6 |
| 11 | Tirumangalam | 0.00 | 0.67 | 0.41 | 0.73 | 1.00 | 0.48 | 0.11 | 1.00 | 0.95 | 0.75 | 0.39 | 3 |
| 12 | Tirupparangunram | 0.78 | 0.74 | 0.65 | 0.65 | 0.00 | 0.90 | 0.03 | 1.00 | 0.95 | 1.00 | 0.33 | 2 |
| 13 | Usilampatti | 0.29 | 0.57 | 0.25 | 0.71 | 0.21 | 0.23 | 0.41 | 1.00 | 0.59 | 0.76 | 0.50 | 9 |
| 14 | Corporation | 0.97 | 1.00 | 0.72 | 0.85 | 0.73 | 1.00 | 1.00 | 1.00 | 0.85 | 0.94 | 0.09 | 1 |

## Annexure 1.1: Crude Birth Rate

| District/State | 2013-14 |
|---|---|
| District | 15.3 |
| State | 15.9 |

Source : Deputy Director of Health, Madurai.

## Annexure 1.2: Infant Mortality Rate

| District/State | 2013-14 |
|---|---|
| District | 16.13 |
| State | 21 |

Source: Deputy Director of Health, Madurai

## Annexure 3.1: Worker participation rate

| Sl. No | Block wise/District | Total workers | | Main Workers | | Marginal Workers | | Non-Workers | | Total Population | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 |
| 1 | Alanganallur | 50.00 | 51.79 | 87.37 | 83.17 | 12.63 | 16.83 | 50.00 | 48.21 | 101365 | 111627 |
| 2 | Chellampatti | 58.86 | 58.11 | 76.73 | 75.99 | 23.27 | 24.01 | 41.14 | 41.89 | 84725 | 87132 |
| 3 | Kallikudi | 59.76 | 56.29 | 89.62 | 88.29 | 10.38 | 11.71 | 40.24 | 43.71 | 64763 | 73413 |
| 4 | Kottampatti | 50.51 | 52.09 | 76.27 | 77.98 | 23.73 | 22.02 | 49.49 | 47.91 | 99856 | 114339 |
| 5 | Madurai East | 43.08 | 43.98 | 80.30 | 84.25 | 19.70 | 15.75 | 56.92 | 56.02 | 169172 | 224708 |
| 6 | Madurai west | 38.34 | 40.37 | 82.34 | 86.63 | 17.66 | 13.37 | 61.66 | 59.63 | 180148 | 269787 |
| 7 | Melur | 47.48 | 46.04 | 76.64 | 85.78 | 23.36 | 14.22 | 52.52 | 53.96 | 152063 | 177059 |
| 8 | Sedapatti | 53.58 | 57.40 | 78.83 | 77.97 | 21.17 | 22.03 | 46.42 | 42.60 | 102993 | 111928 |
| 9 | T.Kallupatti | 51.13 | 53.51 | 85.90 | 85.91 | 14.10 | 14.09 | 48.87 | 46.49 | 83846 | 88582 |
| 10 | Vadipatti | 44.07 | 49.04 | 89.44 | 81.32 | 10.56 | 18.68 | 55.93 | 50.96 | 109833 | 122841 |
| 11 | Tirumangalam | 47.60 | 48.18 | 86.71 | 85.03 | 13.29 | 14.97 | 52.40 | 51.82 | 131321 | 156232 |
| 12 | Thiruparamkundram | 41.35 | 43.07 | 91.93 | 89.03 | 8.07 | 10.97 | 58.65 | 56.93 | 274740 | 374115 |
| 13 | Usilampatti | 47.28 | 51.93 | 80.39 | 81.64 | 19.61 | 18.36 | 52.72 | 48.07 | 94507 | 108624 |
| 14 | Madurai Corpn. | 34.18 | 38.44 | 96.06 | 92.90 | 3.94 | 7.10 | 65.82 | 61.56 | 928869 | 1017865 |
| **District** | | **42.22** | **44.59** | **87.23** | **86.66** | **12.77** | **13.34** | **57.78** | **55.41** | **2578201** | **3038252** |

Source: Census 2001 and 2011

## Annexure 3.2: Distribution of workers

| Sl. No | Block wise/ District /State | Total workers | | Cultivators | | Agri. Labourers | | Others | | Household workers | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 | 2001 | 2011 |
| 1 | Alanganallur | 50679 | 57814 | 6896 | 5646 | 21846 | 31338 | 18120 | 19820 | 893 | 1010 |
| 2 | Chellampatti | 49865 | 50633 | 16982 | 9051 | 15589 | 30729 | 18296 | 9915 | 987 | 938 |
| 3 | Kallikudi | 38703 | 41321 | 9094 | 5479 | 18540 | 22974 | 13157 | 12088 | 663 | 780 |
| 4 | Kottampatti | 50437 | 59564 | 14287 | 10730 | 15445 | 34202 | 21480 | 12908 | 1560 | 1724 |
| 5 | Madurai East | 72877 | 98837 | 5394 | 4401 | 14011 | 20930 | 27120 | 68540 | 5086 | 4966 |
| 6 | Madurai west | 69074 | 108919 | 4216 | 3255 | 8914 | 16793 | 22802 | 86087 | 1615 | 2784 |
| 7 | Melur | 72199 | 81522 | 17166 | 15426 | 22699 | 37502 | 35032 | 26951 | 1365 | 1643 |
| 8 | Sedapatti | 55188 | 64248 | 13208 | 7485 | 19905 | 42564 | 17137 | 12769 | 1320 | 1430 |
| 9 | T.Kallupatti | 42869 | 47396 | 9411 | 5071 | 15297 | 24590 | 18586 | 16018 | 2054 | 1717 |
| 10 | Vadipatti | 48404 | 60244 | 5060 | 4585 | 25346 | 32923 | 18291 | 21307 | 855 | 1429 |
| 11 | Tirumangalam | 62509 | 75266 | 9778 | 5201 | 18138 | 30127 | 35270 | 38483 | 1263 | 1455 |
| 12 | Tirupparangunram | 113604 | 161145 | 6567 | 5323 | 14935 | 19791 | 44496 | 123071 | 9771 | 12960 |
| 13 | Usilampatti | 44682 | 56408 | 9104 | 9454 | 17418 | 25571 | 5691 | 19819 | 1608 | 1564 |
| 14 | Corporation | 317453 | 391315 | 2077 | 1612 | 2336 | 2794 | 302320 | 374016 | 10720 | 12893 |
| **District** | | **1088543** | **1354632** | **129240** | **92719** | **228083** | **372828** | **295478** | **841792** | **39760** | **47293** |

Source: District Census Handbook - 2001 & 2011

## Annexure 3.3: Details of SSI units

| Sl. No. | Name of Block | Registered SSI units | Registered LMI units. |
|---|---|---|---|
| **MOST BACKWARD BLOCKS** | | | |
| 1. | Kottampatti | 101 | 0 |
| 2. | Sedapatti | 147 | 0 |
| | Total | 248 | 0 |
| **BACKWARD BLOCKS** | | | |
| 1. | Alanganallur | 139 | 01 |
| 2. | Chellampatti | 131 | 01 |
| 3. | Kallikudi | 128 | 0 |
| 4. | Madurai (East) | 590 | 0 |
| 5. | T.Kallupatti | 475 | 01 |
| 6. | Usilampatti | 365 | 0 |
| 7. | Vadipatti | 458 | 02 |
| | Sub Total | 2296 | 05 |
| **OTHER BLOCKS** | | | |
| 1. | Madurai West | 667 | 04 |
| 2. | Melur | 198 | 05 |
| 3. | Tirumangalam | 605 | 05 |
| 4. | Tirupparangunram | 1542 | 04 |
| | Sub Total | 3012 | 18 |
| | Madurai Corporation | 12364 | 06 |
| | Melur Municipality | 105 | 0 |
| | Usilampatti Municipality | 247 | 0 |
| | Tirumangalam Municipality | 374 | 0 |
| | Sub Total | 13090 | 06 |
| | **Grand Total** | **18646** | **29** |

Source: District Industries Centre

The following are the activity-wise data of existing SSI units.

| Sl. No. | Name of activity | No. of units |
|---|---|---|
| 1. | Food and food based industries | 2426 |
| 2. | Cotton textiles | 262 |
| 3. | Hosiery & readymade | 3621 |
| 4. | Wood and wood based industries | 1318 |
| 5. | Paper based & printing industries | 1976 |
| 6. | Leather & leather based industries | 292 |
| 7. | Rubber and plastic based industries | 891 |
| 8. | Chemical & chemical based industries | 756 |
| 9. | Non-metallic and mineral based industries | 510 |
| 10. | Basic metal industries | 128 |
| 11. | Metal based industries | 2840 |
| 12. | Mfg. of machineries and accessories | 398 |
| 13. | Electrical & electrical based industries & spares | 973 |
| 14. | Transport equipments & spares manufacturing | 28 |
| 15. | Miscellaneous industries | 1146 |
| 16. | Individual Service based units | 224 |
| 17. | Individual service business based units | 55 |
| 18. | Repairing and servicing units | 800 |
| | Total | 18646 |

## Annexure 4.1: CBR and CDR

| S. No. | Block | Birth | | Death | |
|---|---|---|---|---|---|
| | | 2010 | 2013-14 | 2010 | 2013-14 |
| 1 | Alanganallur | 17.4 | 16.55 | 7.4 | 4.63 |
| 2 | Chellampatti | 17.7 | 17.60 | 7.4 | 6.78 |
| 3 | Kallikudi | 16.6 | 15.47 | 7.7 | 7.04 |
| 4 | Kottampatti | 17.3 | 16.46 | 8.2 | 6.66 |
| 5 | Madurai East | 17.8 | 16.70 | 3.4 | 6.40 |
| 6 | Madurai West | 17.3 | 17.49 | 5.9 | 6.98 |
| 7 | Melur | 18.8 | 17.08 | 6.7 | 5.16 |
| 8 | Sedapatti | 17.8 | 17.15 | 7.5 | 7.82 |
| 9 | T.Kallupatti | 14.4 | 12.81 | 7.8 | 8.36 |
| 10 | Vadipatti | 15.8 | 15.25 | 6.4 | 7.13 |
| 11 | Tirumangalam | 15.9 | 15.17 | 6.7 | 7.65 |
| 12 | Tirupparangunram | 17.3 | 17.05 | 5.8 | 7.42 |
| 13 | Usilampatti | 17.3 | 17.80 | 7.5 | 7.40 |
| 14 | Madurai corporation | 18.0 | 1.67 | 5.1 | 0.45 |
| District | | 17.1 | 15.3 | 6.6 | 6.49 |

Source : Deputy Director of Health, Madurai.

## Annexure 4.2: Infant Mortality Rate

| Sl. No. | Block | 2010 | 2013-14 |
|---|---|---|---|
| 1 | Alanganallur | 21.4 | 16.5 |
| 2 | Chellampatti | 19.2 | 17.1 |
| 3 | Kalligudi | 19.9 | 13.7 |
| 4 | Kottampatti | 29.8 | 21.7 |
| 5 | Madurai East | 15.3 | 9.8 |
| 6 | Madurai West | 14.1 | 8.1 |
| 7 | Melur | 23.4 | 17.3 |
| 8 | Sedapatti | 28.9 | 21.6 |
| 9 | T.Kallupatti | 17.5 | 21.9 |
| 10 | Vadipatti | 21.5 | 18.1 |
| 11 | Tirumangalam | 33.8 | 23.4 |
| 12 | Tirupparangunram | 18.1 | 11.5 |
| 13 | Usilampatti | 30.6 | 18.9 |
| 14 | Corporation | 8.50 | 6.4 |

Source: Deputy Director of Health Services, Madurai

## Annexure 4.3: Institutional Delivery -2013-14

| Sl. No. | Block wise/District | Home | Sub health centre | Primary Health centre | GH | Private Hospitals | No. of inst. Deliveries | Total deliveries | % of Institu-tional Delivery |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Alanganallur | 0 | 1 | 687 | 830 | 222 | 1740 | 1740 | 99.78 |
| 2 | Chellampatti | 1 | 0 | 594 | 774 | 150 | 1518 | 1519 | 100 |
| 3 | Kalligudi | 0 | 0 | 346 | 602 | 102 | 1050 | 1050 | 100 |
| 4 | Kottampatti | 1 | 1 | 758 | 634 | 465 | 1858 | 1859 | 99.95 |
| 5 | Madurai East | 1 | 1 | 1079 | 1564 | 544 | 3188 | 3189 | 99.97 |
| 6 | Madurai West | 1 | 0 | 1072 | 1577 | 1048 | 3697 | 3698 | 100 |
| 7 | Melur | 0 | 0 | 888 | 1076 | 755 | 2719 | 2719 | 100 |
| 8 | Sedapatti | 0 | 1 | 586 | 1026 | 247 | 1860 | 1860 | 99.95 |
| 9 | T.Kallupatti | 1 | 1 | 374 | 443 | 276 | 1094 | 1095 | 99.92 |
| 10 | Vadipatti | 1 | 0 | 477 | 876 | 366 | 1719 | 1720 | 100 |
| 11 | Tirumangalam | 1 | 1 | 416 | 1346 | 397 | 2160 | 2161 | 99.74 |
| 12 | Tirupparangunram | 0 | 0 | 1947 | 2356 | 1198 | 5501 | 5501 | 99.96 |
| 13 | Usilampatti | 0 | 0 | 391 | 905 | 300 | 1596 | 1596 | 100.00 |
| 14 | Corporation | 3 | 6 | 2840 | 6493 | 10120 | 19459 | 19462 | 99.85 |
| | District | 7 | 6 | 9615 | 14009 | 6070 | 29700 | 29707 | 99.91 |

Source: Deputy Director of Health, Madurai

## Annexure 4.4: Anganwadi Status of Availability of Water

| Sl. No. | Block | | No water facilities | | | | | In repair | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Govt Bldg | G Panch | T.Panch | Munci-palities | Corpor | Total | G Panch | T.Panch | Muncipalities | Corpor | total |
| 1 | Alanganallur | 71 | 8 | 1 | 0 | 0 | 9 | 15 | 0 | 0 | 0 | 15 |
| 2 | Chellampatti | 69 | 1 | 0 | 0 | 0 | 1 | 27 | 0 | 0 | 0 | 27 |
| 3 | Kalligudi | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 5 |
| 4 | Kottampatti | 80 | 1 | 0 | 0 | 0 | 1 | 9 | 0 | 0 | 0 | 9 |
| 5 | Madurai East | 83 | 3 | 0 | 0 | 1 | 4 | 28 | 0 | 0 | 1 | 29 |
| 6 | Madurai West | 77 | 0 | 3 | 0 | 14 | 17 | 0 | 0 | 0 | 0 | 0 |
| 7 | Melur | 98 | 8 | 4 | 1 | 0 | 13 | 14 | 0 | 0 | 0 | 14 |
| 8 | Sedapatti | 93 | 2 | 0 | 0 | 0 | 2 | 37 | 0 | 0 | 0 | 37 |
| 9 | T.Kallupatti | 71 | 1 | 5 | 0 | 0 | 6 | 29 | 0 | 0 | 0 | 29 |
| 10 | Tirumangalam | 76 | 6 | 0 | 3 | 0 | 9 | 6 | 0 | 0 | 0 | 6 |
| 11 | Tirupparangunram | 99 | 7 | 0 | 0 | 14 | 21 | 4 | 0 | 0 | 20 | 24 |
| 12 | Usilampatti | 70 | 3 | 7 | 0 | 0 | 10 | 19 | 0 | 0 | 0 | 19 |
| 13 | Vadipatti | 73 | 9 | 8 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 |
| 14 | Shenoy nagar - Corp | 60 | 0 | 0 | 0 | 30 | 30 | 0 | 0 | 0 | 5 | 5 |
| 15 | Simmkal - Corp | 37 | 0 | 0 | 0 | 23 | 23 | 0 | 0 | 0 | 0 | 0 |
| 16 | Palanganatham - Corp | 49 | 0 | 0 | 0 | 20 | 20 | 0 | 0 | 0 | 3 | 3 |
| 17 | Arapalayam- Corp | 39 | 0 | 0 | 0 | 19 | 19 | 0 | 0 | 0 | 0 | 0 |
| | | 258 | 49 | 28 | 4 | 92 | 109 | 0 | 0 | 0 | 8 | 8 |

Source: ICDS Madurai

## Annexure 5.1: District wise Literacy Rate 2001 and 2011

| Sl. No. | Block | 2001 | | | 2011 | | |
|---|---|---|---|---|---|---|---|
| | | Female (%) | Male (%) | Total literacy | Female (%) | Male (%) | Total literacy |
| 1 | Alanganallur | 56.60 | 78.04 | 67.36 | 69.02 | 84.78 | 76.94 |
| 2 | Chellampatti | 51.20 | 77.01 | 64.65 | 58.91 | 80.96 | 70.17 |
| 3 | Kalligudi | 51.01 | 80.37 | 65.44 | 62.27 | 83.72 | 72.94 |
| 4 | Kottampatti | 50.10 | 76.29 | 62.94 | 60.65 | 83.00 | 71.79 |
| 5 | Madurai East | 68.09 | 84.89 | 76.60 | 76.01 | 88.61 | 82.37 |
| 6 | Madurai West | 75.88 | 89.52 | 82.78 | 84.46 | 93.46 | 88.95 |
| 7 | Melur | 61.65 | 83.06 | 72.35 | 71.34 | 87.99 | 79.68 |
| 8 | Sedapatti | 47.29 | 74.61 | 61.06 | 56.28 | 77.76 | 67.06 |
| 9 | T. Kallupatti | 55.14 | 80.01 | 67.52 | 64.51 | 84.18 | 74.24 |
| 10 | Vadipatti | 61.87 | 80.98 | 71.42 | 70.73 | 85.24 | 77.97 |
| 11 | Tirumangalam | 66.23 | 86.03 | 76.21 | 73.69 | 88.78 | 81.25 |
| 12 | Thirupprankundram | 70.32 | 86.37 | 78.41 | 78.39 | 90.11 | 84.28 |
| 13 | Usilampatti | 59.65 | 81.04 | 70.54 | 67.22 | 83.61 | 75.52 |
| 14 | Corporation | 81.64 | 92.28 | 87.01 | 87.06 | 94.77 | 90.91 |
| | **District** | **69.35** | **86.17** | **77.82** | 77.16 | 89.72 | 83.45 |

Source: Census 2001

## Annexure 8.1: Road Length in Km -2013-14

| Sl. No. | Name of Block | No of roads | Road Length | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Earthen | Gravel | WBM | WBM | BT | CC | Total |
| 1 | Alanganallur | 83 | 3.40 | 1.50 | 7.65 | 2.90 | 80.45 | 2.99 | 98.89 |
| 2 | Chellampatti | 118 | 22.04 | 3.30 | 0.00 | 4.80 | 70.94 | 0.00 | 101.08 |
| 3 | Kallikudi | 92 | 50.13 | 19.94 | 2.38 | 0.00 | 32.90 | 0.00 | 105.35 |
| 4 | Kottampatti | 107 | 0.80 | 23.85 | 18.31 | 0.00 | 95.90 | 0.60 | 139.46 |
| 5 | Madurai East | 91 | 3.00 | 0.60 | 4.45 | 0.00 | 81.06 | 2.40 | 91.51 |
| 6 | Madurai West | 33 | 0.00 | 0.00 | 0.00 | 0.80 | 57.65 | 0.00 | 58.45 |
| 7 | Melur | 248 | 14.25 | 23.12 | 15.67 | 9.88 | 183.87 | 3.49 | 250.28 |
| 8 | Sedapatti | 136 | 147.53 | 10.91 | 1.32 | 0.56 | 102.87 | 2.07 | 265.26 |
| 9 | T.Kallupatti | 95 | 0.00 | 6.80 | 3.43 | 0.00 | 115.82 | 26.83 | 152.88 |
| 10 | Tirumangalam | 90 | 45.17 | 1.40 | 0.00 | 5.57 | 78.29 | 1.51 | 131.94 |
| 11 | Tirupparangunram | 63 | 10.30 | 4.58 | 1.45 | 1.00 | 44.70 | 0.00 | 62.03 |
| 12 | Usilampatti | 66 | 3.00 | 0.20 | 3.40 | 0.20 | 62.42 | 1.70 | 70.92 |
| 13 | Vadipatti | 89 | 7.49 | 7.63 | 4.41 | 0.00 | 47.78 | 5.88 | 73.19 |
| | **Total** | **1311** | **307.10** | **103.84** | **62.47** | **25.71** | **1054.64** | **47.47** | **1601.221** |
| 1 | Madurai Corporation | | 207.52 | 125.80 | 207.52 | -- | 974.94 | 268.99 | 1572.53 |

Source: PO, DRDA & AD, TownPanchayat, Madurai.

# Technical Notes

## Construction of Indices

### Introduction

The latest UNDP Report-2010 on HDI continues to adopt the same basic three indicators of education, health and standard of living/income for the calculation of HDI. Simultaneously, an effort was also made to arrive at Gender Inequality Index. To compute HDI, 10 indicators were used covering the area of living standard, education and health.

HDI presents information on the human development in three dimensions while GII provides information gender differentials in achievements.

### Indicators for HDI

The indicators that may be used for deriving HDI at the block level are as follows:

**Indicators for measuring HDI**

| Dimensions | Indicators |
|---|---|
| **Living standards** | Percentage of HHs having access to Cooking fuel |
| | Percentage of HHs having access to Toilet |
| | Percentage of habitations having access to Drinking Water |
| | Percentage of HHs having access to Electricity |
| | Percentage of HHs having access to Pucca house |
| **Health** | Infant Mortality rate |
| | Maternal Mortality Ratio |
| | Under 5 Mortality Rate |
| **Education** | Literacy Rate |
| | Gross Enrolment Rate (Primary And Gross enrollment in secondary) Schools |

There are three indicators for measuring health, three for education and five for standard of living. All these indicators reflect human development.

### Method of Estimating HDI

For the estimation of the HDI, the following steps may be followed:

1. All computations would be done at two stages. The first computation would help in understanding the relative positions of different blocks within the district. The second set of computation would relate to the position of a block with reference to other blocks

As a first step, a minimum and maximum value has to be set for each of the above 11 indicators to transform them into indices lying between zero and one. For this purpose, the observed minimum and maximum figures for each of the indicators will be taken. Since the Geometric Mean has to be calculated, in the case of a positive indicator, the minimum value would be taken as 10% less than the observed minimum value in the block similarly, in the case of a negative indicator, the maximum value would be taken as 10% more than the observed maximum value.

2. The index value (in the case of a positive indicator) can be calculated using the formula –

**Index Value = (Actual Value – Min. Value) / (Max.Value – Min.Value)**

Eg.: calculations will be based on highest values being assigned highest ranking

3. The index value (in the case of a negative indicator) can be calculated by using the formula –

**Index Value = (Max. Value – Actual Value) / (Max.Value – Min.Value)**

.For Computing sectoral indices (health, education and standard of living) geometric mean is to be used and the method of calculation is as below. Thus there will be three indices one for Standard of living, another for health and the last for education.

Sectoral Index = If $I_1$. $I_2$….. $I_n$ are the n indices for a particular sector, then the Geometric mean for the sector = $(I_1 \times . I_2 \times \ldots .. I_n)^{(1/n)}$.

4. To compute HDI, aggregate the three sectoral indices using geometric mean with the following formula.

HDI= $(SI_l \times SI_h \times SI_e)^{(1/3)}$; where $SI_l$ is the sectoral index for living standard, $SI_h$ is the sectoral index for health and $SI_e$ is the sectoral index for education.

**Construction of Gender Inequality Index (GII)**

**Introduction**

GII measures the loss in potential of human development due to inequality between female and male achievements. As it reflects an inequality situation, a value of zero represents no inequality and a value of one represents highest level of inequality in the society. The UNDP report of 2010 has brought out the GII index for all the countries.

**Indicators considered for measuring GII**

| Dimensions | Indicators |
|---|---|
| Health | Maternal Mortality Rate (MMR) |
| | Share of Institutional deliveries (ID) |
| | Ante-natal coverage |
| Empowerment | Share of female and male elected representatives in Urban and Rural Local Bodies ($PR_F$ and $PR_M$) |
| | Share of female and male literacy ($LIT_F$, $LIT_M$) |
| | Share of Female and Male Children (0-6) years |
| Labour market | Share of female and male Work Participation Rate ($WPR_F$, $WPR_M$) |
| | Share of female and male workers in the non agricultural sector ($NAG_F$, $NAG_M$) |
| | Female and male Agricultural wage rate ($WAGE_F$, $WAGE_M$) |

**Method**

1. Aggregating across dimensions within each gender group using geometric mean.

For females

$$G_F = \sqrt[3]{\left[\left(\frac{1}{MMR}\right)\times ID \times ANE\right]^{1/3} * \left[PR_F \times CHLD_F \times LIT_F\right]^{1/3} * \left[WPR_F \times NAG_F \times WAGE_F\right]^{1/3}}$$

For Males

$$G_M = \sqrt[3]{1 * \left[PR_M \times CHLD_M \times LIT_M\right]^{1/3} * \left[WPR_M \times NAG_M \times WAGE_M\right]^{1/3}}$$

2. Aggregating across gender group using a Harmonic mean.

$$HARM\,(G_F, G_M) = \left[\frac{(G_F)^{-1} + (G_M)^{-1}}{2}\right]^{-1}$$

3. Calculate the geometric mean of the Arithmetic means of the each indicator

$$G_{\overline{F},\overline{M}} = \sqrt[3]{\overline{health}.\overline{empowerment}.\overline{LFPR}}$$

Where $$\overline{health} = \left[\frac{\left[\left(\frac{1}{MMR}\times ID \times ANE\right]^{1/3} + 1\right.}{2}\right]$$

$$\overline{empowerment} = \frac{\left[PR_F \times CHLD_F \times LIT_F\right]^{1/3} + \left[PR_M \times CHLD_M \times LIT_M\right]^{1/3}}{2}$$

$$\overline{LFPR} = \frac{\left[WPR_F \times NAG_F \times WAGE_F\right]^{1/3} + \left[WPR_M \times NAG_M \times WAGE_M\right]^{1/3}}{2}$$

4. Calculating the GII by comparing the equally distributed gender index to the reference standard. The GII value ranges from zero (no gender inequality across dimensions) to one (total inequality across dimensions)

$$GII = 1 - \frac{HARM(G_F, G_M)}{G_{\overline{F},\overline{M}}}$$

**Construction of Child Development Index (CDI)**

**Introduction**

Child Development Index (CDI) is an index combining performance measures specific to children - education, health and nutrition - to produce a score on a scale of 0 to 100. A zero score would be the best. The higher the score, the worse children are faring.

The Child Development Index (CDI) was developed by the campaign in UK, "Save the Children" in 2008 through the contributions of Terry McKinley, Director of the Centre for Development Policy and Research at the School of Oriental and African Studies (SOAS), University of London, with support from Katerina Kyrili.

The indicators which make up the index are chosen because they are easily available, commonly understood, and clearly indicative of child well-being. At the international level, the three indicators used for measuring child development index are.

**Indicators for Child Development**

In the preparation of District Human Development reports , the following indicators would be used to measure the CDI:

| Dimension | Indicator |
|---|---|
| Health | U5MR |
| | Child Sex Ratio(0-6) |
| Nutrition | Percentage of Malnourished Children |
| | Enrollment in Primary and Secondary |
| Education | Children never enrolled in schools |
| | Transition rate from Primary to Upper Primary and Upper Primary to Secondary |

**Computation of Child Development Index**

- The indicators have been broadly categorised under the 3 parameters that influence the HDI.
- All the above indicators are negative and positive in nature.

The index value (in the case of a positive indicator) can be calculated using the formula –

**Index Value = (Actual Value – Min. Value) / (Max.Value – Min.Value)**

Eg.: calculations will be based on highest values being assigned highest ranking

The index value (in the case of a negative indicator) can be calculated by using the formula –

**Index Value = (Max. Value – Actual Value) / (Max.Value – Min.Value)**

- The index values for each of the indicators would range between 0 and 1 - 0 indicating the lowest ranking for the blocks and 1 indicating highest ranking of the block
- The Child Development Index would be the average of the index values of the three indicators – with highest value indicating better child development.
- The composite index is the average of the consolidated index values of all sectors and this is to be used to assign the ranks for the blocks within the district.

**Multidimensional Poverty Index**

**Indicators**

| **Dimension** | **Indicator** |
|---|---|
| Health | IMR |
| | Higher order Birth |
| | Malnourished Children |
| Education | Drop out in primary and secondary |
| Living Standards | Access to cooking fuel |
| | Access to toilet facilities |
| | Access to drinking water |
| | Access to Electricity |
| | Pucca house |

**Computation of Multidimensional Poverty Index**

- The indicators have been broadly categorised under the 3 parameters that influence the HDI.
- All the above indicators are negative and positive in nature.

- The index value (in the case of a positive indicator) can be calculated using the formula –

  **Index Value = (Actual Value – Min. Value) / (Max.Value – Min.Value)**

  Eg.: calculations will be based on highest values being assigned highest ranking

- The index value (in the case of a negative indicator) can be calculated by using the formula –

  **Index Value = (Max. Value – Actual Value) / (Max.Value – Min.Value)**

- The index values for each of the indicators would range between 0 and 1 - 0 indicating the lowest ranking for the blocks and 1 indicating highest ranking of the block
- The composite index is the average of the consolidated index values of all sectors and this is to be used to assign the ranks for the blocks within the district.

# Abbreviations

| | |
|---|---|
| A&R | Animator and Representative |
| ABL | Activity Based Learning |
| ADEPTS | An innovative strategy to improve educational performance through teacher support |
| AEEO | Assistant Elementary Education Officer |
| ALM | Active Learning Methodology |
| ASER | Annual status of Education report |
| AWCs | Anganwadi centres |
| BPL | Below Poverty Line |
| BRTE | Block Level Resource Teacher for Education |
| CBR | Crude birth rate |
| CDI | Child Development Index |
| CDR | Crude death rate |
| DAPCU | District AIDS Prevention and Control Unit |
| DEWATS | Decentralized Waste Water Treatment System |
| DHDR | District Human Development Report |
| DISE | District Information System for Education |
| DDWP | Deserted wives Pension-Srilankan Tamil (Refugees) |
| DDAP | Differently Abled-Srilankan Tamil (Refugees) |
| EDP | Entrepreneaur Development Programme |
| EGS | Education Guarantee Scheme |
| GDI | Gender Development Index |
| GDP | Gross Domestic Product |
| GEM | Gender Empowerment Measure |
| GER | Gross Enrollment Ratio |
| GH | Government Hospital |
| GII | Gender Inequality Index |
| GSDP | Gross State Domestic Product |
| HB | Hemoglobin |
| HDI | Human Development Index |
| ICDS | Integrated Child Development Services |
| IFA | Iron and Folic Acid |
| IMR | Infant Mortality Rate |
| KRCH | Kalanjiam Reproductive and Child Health |
| LEB | Life Expectancy at Birth |
| MMR | Maternal Mortality Rate |
| MPI | Multidimensional Poverty Index |

| | |
|---|---|
| NER | Net Enrollment Ratio |
| NRHM | National Rural Health Mission |
| OAP | Old Age Pension |
| PHC | Primary Health Centre |
| PRI | Panchayat Raj Institution |
| PTR | Pupil Teacher Ratio |
| RLB | Rural Local Body |
| SBGF | State Balanced Growth Fund |
| SBR | Still Birth Rate |
| SHG | Self Help Group |
| SLL | Special and Local Laws |
| SSA | Sarva Siksha Abhiyan |
| SSI | Small Scale Industries |
| U5MR | Under5Mortality Rate |
| UHP | Urban Health Posts |
| ULB | Urban Local Body |
| UNDP | United Nations Development Programme |
| VCTC | Voluntary Counseling and Testing Centre |
| VEC | Village Education Committee |
| VHN | Village Health Nurse |
| VTP | Vocational Training Programme |
| WPR | Worker Participation Rate |

# References

Alanganallur Block Statistical Hand Book, 2011

Anand, Sudir and Amartya Sen, 1999- The income component in the Human Development Index.

Assistant Director, Panchayat

Below Poverty Line, India- en.wikipedia.org/wiki/Below_Poverty_Line (India)

Brief Industrial Profile of Madurai District-2012-2013, Ministry of MSME, Government of India

Census of India 2001, Government of India

Census of India 2011, Government of India

Chellampatti Block Statistical Hand Book, 2011

Child Labour Survey, March 2003, Tamil Nadu

Department of Public Distribution System, Madurai district

Deputy Director of Health, Madurai

Deputy Director of Rural health services and Family Welfare

Deputy Director of Rural health services and Family Welfare

Deputy Director statistics

District Income Estimates – 2004-2005 to 2010-2011, Department of Economics and Statistics, Chennai-06

District Industries Centre, Madurai

District Information System for Education, Madurai

District Social Welfare Department, Madurai

Dr C Chandramouli Registrar General & Census Commissioner, Child Sex Ratio in India

Dr. N. Subburaj, Principal, Padmavani Arts and Science College for Women, Salem, 2012- Functioning of Fair Price Shops under PDS in Madurai District

Executive Engineer, Tamil Nadu Electricity Board, Madurai

History of Madurai Wikipedia

Inspector of Police, Madurai

Integrated Child Development Services

JD, Agriculture Office

Joint Director of College Education

Kallikudi Block Statistical Hand Book, 2011

Lead District Manager

Madurai CHDR-2010

Narasaiah , (2009). Aalavai – Madurai Managarathin Kadhai.

R. Albert Christopher Dhas and M.Helen Mary Jacquelin, 2008-Trends in Health Status and Infrastructural Support in Tamil Nadu.

Rashtriya Madhyamik Shiksha Abhian, Madurai

Representative from Local Bodies

Reynolds, Holly Baker (1987). The City as a sacred center: essays on Six Asian contexts – Madurai: Kovil Nagar.

S. Sridhar, M. Anandan and S. Ramasamy-2013, An Economic Analysis of Health Status on Madurai District, Tamilnadu: A Case study of Tirumangalam Taluk

Sarva Siksha Abhiyan, Madurai

Scaling up Primary Health Services in Rural Tamil Nadu- Nirupam Bajpai, Ravindra H. Dholakia and Jeffrey D. Sachs

Sedapatti Block Statistical Hand Book, 2011

Statistical Handbook of Tamil Nadu-2010 and 2011

Statistical Profile on Women Labour-2007 -2008, Government of India

T.Kallupatti Block Statistical Hand Book, 2011

Vital Events Survey-2009

Zevebil, Kamil, 1992) Companion Studies to the History of Tamil Literature,

Madurai District Statistical Hand Book, 2011

Ajay Tankha, 2002, Self-help Groups as Financial Intermediaries in India: Cost of Promotion, Sustainability and Impact and Concerns-New Delhi

Centre for Study of Society and Secularism, Mumbai -2010-2011Status of Women in India: Problems

K.R.Shanmugam, 2012, Monitorable Indicators and Performance –Tamil Nadu

National Health Profile-2011- Demographic Indicators

National Informatics Centre, Collectorate, Madurai,

Tamil Nadu Human Development Report- 2003, Government of Tamil Nadu

The Associated Chambers of Commerce and Industry of India, 2012 Vision Tamil Nadu-Building Sustainable Tomorrow