District Human Development Report - 2017

Thanjavur District

State Planning Commission
Tamil Nadu

THANJAVUR

DISTRICT HUMAN DEVELOPMENT REPORT 2017

District Administration, Thanjavur and
State Planning Commission, Tamil Nadu
in association with
Annamalai University

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.

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PREFACE

UNDP has been supporting the preparation of Human Development Reports at various levels in the country. These Reports are important as they serve to focus on global, national and regional issues from a human development lens. Human development in India is not merely restricted to reporting at the national level but is characterized by State and district level human development analysis driven by State and local governments. The attempt to "operationalize" human development is another distinctive feature of human development. The emphasis on linking planning to human development reporting is unique and this ensures that the human development reports do not merely remain books on the shelf but are actually integrated into planning processes of the government at a decentralized level.

This document provides a broad framework covering human development, gender development, child development and multi-dimensional aspect of poverty. On the basis of selected indicators, indices were worked out to assess the levels of development and causes for backwardness. Certain aspects to be kept in mind while using this document. They are: (i) indices have been worked out with equal weightages, which may not portray the real picture. (ii) there is no rural and urban classification in the analysis; and two municipalities and one municipal corporation in the district has been grouped into the concerned rural blocks. High level of heterogeneity among eleven exclusively rural blocks and three rural cum urban blocks may give distorted results. These issues may be taken into account for the preparation of DHDR at the next level and evolving policies for achieving sustainable development in the district.

The present DHDR is to a large extent successful in inviting proper diagnosis of the matter and adequate policy prescription for amelioration of the same. It also identifies common development priorities of the districts on different aspects related to human development. Although, it is realised that indicators computed for different points of time facilitate catching up of cumulative achievement over time and understanding of inter temporal changes but due to paucity of numerical information we have been constrained in doing so. The important role played by time series indicators with regular periodicity relating to people's well-being in chalking out effective planning and policy formulation cannot be ruled out. There should be a continuous process for computation of the indicators at regular interval. For this purpose all-round efforts are to be made for building up a sound and strong database at disaggregate levels.

I am happy that I could associate myself with the UNDP-SPC sponsored project of preparation the District Human Development Report. The present DHDR has been prepared in association with the Annamalai University. It has turned out to be a very successful joint endeavor of an academic institution Annamalai University and the District Administration. This report portrays the various facets of district development from the human development perspective highlighting the positive Government intervention to achieve a faster and sustainable human development.

N. SUBBAIYAN

ACKNOWLEDGEMENT

In recent decades much attention has been laid on grass roots programmes aiming at human development. The State Planning Commission with the cooperation of the UNDP is utilizing the services of the academia, scholars and policy makers to study analyse and prepare reports on human development of different districts. The task of preparing Thanjavur District Human Development Report has been assigned to Annamalai University by the State Planning Commission in collaboration with the District Administration. The District level core committee was constituted with the **District Collector as the Chairman** and myself **Dr. E. Selvarajan,** Professor, Department of Economics, Annamalai University as the Coordinator.

This report has evolved as the result of the support and encouragement of numerous people and it is a pleasant task to express my thanks to all those who have associated with this project and contributed in many ways for developing this project through various stages.

First and foremost, I place on record my sincere thanks to **Tmt. Santha Sheela Nair, IAS (Retd),** Former Vice Chairman, State Planning Commission, Government of Tamil Nadu for her concrete suggestions which helped in shaping the report. I am extremely thankful to **Thiru M. Balaji, IAS,** the then Member Secretary, State Planning Commission who initiated this exercise and also my thanks is due to **Dr. Sugato Dutt, IFS,** former Member Secretary i/c, State Planning Commission and **Thiru Anil Meshram**, **IAS,** Member Secretary, State Planning Commission for providing all necessary administrative support.

I owe a deep sense of gratitude to **Dr.S.Manian,** Vice Chancellor, Annamalai University**, Thiru Shiv Das Meena, IAS,** Principal Secretary to the Government Tamil Nadu and former Administrator of Annamalai University; **Dr. K. Arumugam,** Registrar i/c, **Dr. J. Vasanthakumar**, Registrar i/c, **Dr. N. Panchanatham,** former Registrar, Annamalai University; **Mr. Dinesh Oliver Ponraj,** DRO I, Annamalai University and **Mr. T. Christuraj**, DRO II, Annamalai University for their constant encouragement and unstinting cooperation.

I express my thanks to **Thiru P. Selvarajan,** Head of Division, Rural Development, State Planning Commission; **Thiru K. Kumaresan,** Head of Division, Education and Employment, State Planning Commission; and **Selvi S. Namagiri,** Senior District Planning Officer, State Planning Commission, whose encouragement, and support from the preliminary to the concluding level enabled me complete this task. I thank **Dr. G. N. Krupa**, Planning Officer, State Planning Commission for providing critical inputs which helped me in enriching the report.

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I am grateful to **Dr. N. Ramagopal,** Head of the Department of Economics, Annamalai University, for his interest in the preparation of this report. I thank him for his valuable suggestions and constant encouragement.

The preparation of the DHDR was possible owing to the untiring efforts of the study team that gathered good deal of qualitative and quantitative information. I am thankful to my fellow study team members **Dr. I. Ravi,** Professor of Economics, **Dr. A. Pradhip Babu,** and **Dr. C. Subburaman,** Assistant Professors in Economics, Annamalai University for spending their precious time with me travelling the length and breadth of the district to take part in several stakeholders meet and focus group discussions and providing critical inputs.

It is my pleasure to acknowledge the help rendered by the Block Development Officers (BDOs), the elected representatives of the district, SHG members, and Municipal Commissioners. Besides, the various heads of department at the district level provided invaluable assistance. Specifically Project Director ,DRDA; Superintendent Engineer, TNEB; Joint Director, Health & Family Welfare; Joint Director, Agriculture; Deputy Director, Health Services; Chief Educational Officer; Chief Educational Officer (SSA), Project Officer, Mahalir Thittam; Executive Engineer, (Urban), TWAD; Executive Engineer, (RWS), TWAD, Deputy Director; Statistics; Special Deputy Collector, SSS, Thanjavur; District Elementary Educational Officer; District Social Welfare Officer; Project Officer, ICDS; Labour Officer; Manager, Lead Bank; Manager, NABARD; All Executive Officers of Town Panchayats; all Block Medical Officers; and others who have also co-ordinated with us in executing the work.

I express my deep sense of gratitude **to Dr. R. Elango,** former Dean, Faculty of Arts and former Head, Department of Economics, for meticulously reviewing the technical aspects of the report. I also take pleasure in thanking **Dr. Abdul Rahim,** Former Head, Department of English, Annamalai University, for enriching the language of the report.

I thank **Ms. R. Suriya Priya and Mr. S. Mohamed Nasar,** Project Assistants, Thanjavur DHDR who have shouldered the responsibility of executing various tasks of the project with involvement. They also deserve appreciation for their efforts behind the scene in organising several stakeholders meet and focus group discussions.

Lastly I acknowledge with a deep sense of appreciation, the unremitting cooperation and help of all the officers and staff of the SPC and District Administration, without whom the present endeavour would not have achieved fruition.

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CHAPTER 1
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1
Thanjavur District – A Profile

Topography

Thanjavur district lies in the East coast of Tamil Nadu. The district can be divided into two distinct divisions, viz., the deltaic region and the upland area or non-deltaic region. Also, called the granary of south India the district is bounded on the north by the Coleroon which separates it from Perambalur and Tiruchirapalli districts, and on the East, it is bounded by the Thiruvarur and Nagapattinam districts, and on the South by the Palk Strait and Pudukottai district, and on the West by Pudukottai and Tiruchirapalli districts.

The Cauvery, with its wide network of branches, irrigates more than half of the district. The whole of Kumbakonam taluk and parts of Thanjavur and Papanasam taluks present in the northern and eastern parts of the district falls under the deltaic division which is very fertile regions of the district. Southern and western areas of the district are non-deltaic and these upland regions which were dry have now been brought under irrigation with the help of Grand Anaicut canal, fed by the Cauvery-Mettur Project and by the extension of the Vadavar river. The geographic coordinates of the district are: longitude 78° 45' 50" E to 79° 35' 55" E and latitude10° 9' 50" N to 11° 25" N.

Land and Soil

Major areas of the district are occupied by the alluvial and tertiary deposits, though cretaceous formations occur as a small patch in West and South-West of Vallam. In the west of Grand Anaicut Canal and near Orathanadu the sand stone of tertiary age is well developed. The alluvial deposits of Cauvery and its tributaries lie over the tertiary sand stone in the east. Various types of geomorphic units like flood plains, delta plains, natural levees, and sedimentary high ground are noticed in Thanjavur district. The district is occupied by different geological formations namely Quaternary, Pliocene, Miocene and Cretaceous soils.

Drainage

Thanjavur district is very fertile as it is blessed with the river Cauvery and its tributaries viz., Grand Anicut canal, Vennar, Panaiyar, Koraiyar, Vettar, Kodamurutiyar, Nattar, Vadavar, Pamaniar, Mullaiar, Ayyanar, Adappar, Harichandranathi, Thirumalairajanar, Arasalar, Veeracholanar, Mudikondan, Noolar, Vanjiar, Vikramanar, Nattar, Kirtimanar, Nandalar, Manjalar, Mahimalayar, Palavar, Cholasundaranar, Puthar, Valapar, Pandaraiyuar, Odambogi, Kattar, and Kaduvarajyuar. The dam Kallanai, built by the Chola King "Karikalan" was renovated in a bigger scale during the 19th century, It was constructed with earth and stone and has stood the vagaries of nature for hundreds of years and the name of the historical dam has since been changed to "Grand Anicut" and stands as the head of great irrigation system in Thanjavur district. The river Cauvery flows through the entire district in different names through its tributaries and its branches.

Climate and Rainfall

North eastern monsoon results in heavy rainfall in the eastern part of the district namely Kumbakonam-698 mm, Aduthurai-611 mm, and Lower Anicut-706 mm. The interior and western parts of the district viz., Thiruvaiyaru-387 mm and Budalur-377 mm receives moderate rainfall. Cyclonic storms and depressions formed in the Bay of Bengal during the northeastern monsoon period account for heavy rains in the district. The district experiences humid and tropical climate and the relative humidity varies between 70 and 85 per cent.

Forests

The headquarters of Thanjavur forest division is located at Thanjavur and consists of one territorial range, five plantation ranges, and one farm foresting range. The forest division comprises natural forests in scattered patches, some of which are of special ecological value as these farms have the compact plantations raised on the banks of rivers and canals etc., over the entire district. The total area under forest in the district is around 1 per cent of the geographical area.

Fisheries

Thanjavur district east coast line occupies 45.1 kms stretch in Palk Strait with fishing hamlets stretching from Pattukkottai taluk in the north and Peravurani taluk in the south. The coastal aquaculture is being done in an area of 822 hectares, whereas the inland aquaculture covers an area of 2400 ha. Thanjavur district is also the richest in inland fishing due to the presence of the Cauvery river system. The irrigation channels, canals, major and minor tanks are richest in many varieties of fish. About 5,000 inland fishermen are engaged in fishing, and the production of fish from inland water sources.

History

Cholas, the Pandyas, the Nayakas, the Marathas, and also the British have left a mark in **t**he history of Thanjavur. Thanjavur was ruled by the Cholas for nearly one thousand years and under their rule Thanjavur was the centre of Tamil culture and the civilization. In addition to being able rulers the Chola kings also built a large number of splendid temples, which reveals the architectural skills of the Cholas. They also, encouraged fine arts, constructed dams, ports and cities. The dam Kallanai, built by the Chola King Karikalan has stood the wear and tear of nature for hundreds of years and is one example of the Cholas architectural strength. After the extinct of Cholas in the thirteenth century the Pandyas ruled Thanjavur for a short period only and was overpowered by the Muslim ruler Ala-Ud-Din Khilji, and Thanjavur district came under the Muslim rulers.

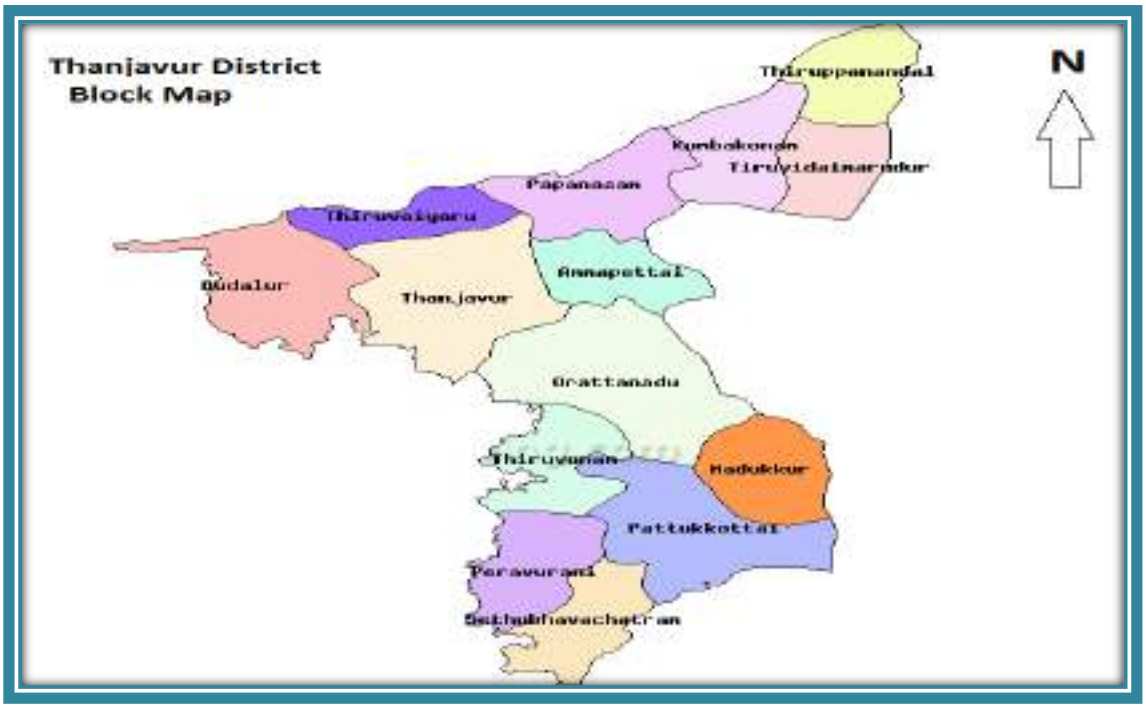
Later the district was conquered by the Vijayanagar Kings and during this period, the Nayak dynasty was established. Danish settlement was established at Tranquebar in 1620, during the reign the of Nayak king Ragunatha resulting in the decline of the Vijayanagar Empire. Ekogia brother of Chattrapathi Shivaji, established the Thanjavur Maratha kingdom in the latter half of the seventeenth century. The descendants of Marathi administrators, soldiers, and noblemen who migrated to Tamil Nadu during the rule of the Thanjavur Maratha kingdom still reside in some parts of Thanjavur and so the district has a sizeable population of Marathi speaking people. Meantime in 1798 a pact was signed between the English and the Maratha and the ruler of the Thanjavur was allowed to retain the fort of Thanjavur only with limited power of administration. When the ruler of Thanjavur died in

the year 1841 without an heir, the Thanjavur fort was annexed by the British. The district of Thanjavur remained under the British until 1947.

Language

Tamil is the widely spoken language, in the district. Today due to the steady stream of people migrating into the district, particularly to the district urban centres, several languages while such as Telugu, Thanjavur Marathi and Saurashtra are other languages spoken in the district.

District Map



Art, Architecture, and Culture

Thanjavur district is the home of a number of ancient temples, and most of them are located on the banks of river Cauvery and its tributaries. "Rajarajeswaram" temple, a world heritage site at Thanjavur, the Brahadeeswarar temple at Thanjavur and the Siva temple at Darasuram and Thirubhuvanam speaks out the expertise and skill of Tamil architecture. The shrines of various

religious interests are situated all over the district. Sri Brahadeeswarar temple has been constructed by large blocks of granite by Raja Raja –I. Fine arts also flourished during the chola period and the fine series of the 108 dance poses carved all around the walls of the first floor of the Sri Brahadeeswarar temple reveals this.

The 190 feet high arsenal tower which is an eight storied structure built inside the Sarafoji Maharaja palace is a vast building of architectural grandeur which attracts large number of tourists. Saraswathy Mahal Library, which has a rare collection of ancient books and manuscripts on a variety of subjects in various languages such as Sanskrit, Tamil, and Telugu, Marathi, and European language, is housed inside this palace. This library is famous for 10,000 priceless rare collections of palm leaf and paper manuscripts. The art gallery inside the palace established in 1951 depicts the rich cultural and historical heritage history of the Chola period. An acoustically perfect musical hall namely Sangeetha Mahal in the palace, is yet another proof for the engineering skill of its ancient builders. Kumbakonam was the capital of the Cholas during the 7th century, and hence a number of temples built by the Chola kings could be seen in and around Kumbakonam. To name a few, Sri Adikumbeswaraswamy temple, Sri Mahalingaswamy temple, Sri Naganathaswamy temple, Sri Uppiliappan and Sri Swaminathaswamy temple stand as a testimony for the architectural splendor of the Cholas. Famous icons have been discovered during recent renovation in another famous temple located in Darasuram built by Rajendira Chola – I, and this temple is a protected monument under the control of the Archaeological Survey of India.

Manora fort in Pattukkottai taluk, built in 1814 to commemorate the victory of British over Napoleon Bonaparte in the war of Waterloo is an example of architecture of the Marathas and it is a protected monument under the Archaeological Department of the Government of Tamil Nadu. The temple Panchanathiswara in Thiruvaiyaru is considered as the first of the seven shrines called "Sapthasthanams". The great Carnatic music composer and Saint Sri Thiyagaraja lived and died in Thiruvaiyaru. A celebration of annual musical festival at his Samadhi on the bank of river Cauvery is well-known, and is attended by thousands of musicians from all over the country. In Papanasam Taluk, **t**here is a famous granary of Naik Dynasty which can store about 1500 bags of paddy, and is a protected monument the of Archaeological Department and also the largest granary is situated in Sri

Palaivananathaswamy temple in Thirupalathurai village, 15 km south west of Kumbakonam. It was built by stone and lime.

Thanjavur painting is a major form of classical South Indian painting from Thanjavur in which the Hindu god Krishna being the most popular image depicted. In modern times, these paintings have become souvenirs and as wall decors. Thanjavur has a legacy of ancient tradition and rich cultural heritage. Dance forms like Bharathanatyam and various forms of music, including Carnatic music, have flourished here for centuries. Besides, handicrafts include the most intricately carved designs in wood, stone and metal.

Demography Indicator

The demography provides comprehensive and detailed information on the population growth, sex ratio, and literacy rate. The geographical extent of the district is 3348.4 Sq. kms and covers only 3% of the total area of Tamil Nadu. According to the census data of the year of 2011, Thanjavur ranks 185th district in India and 14th in the state with the total population of 24,05,890 out of which 11,82,416 are males and 12,23,474 are females.

Table 1.1: District Basic Demographic Indicators

S. No	Indicators	2001	2011
1	Population	22,16,138	24,05,890
2	Decennial Growth (%)	7.91	8.56
3	Density of population per Sq km	638	705
4	Urban population (%)	33.78	35.39
5	Sex ratio	1021	1035
6	Percentage of 0-14 year old	20.3	23.52

Source: Census of India, 2001 and 2011.

Its population growth rate over the decade 2001-2011 was 8.56%. The population comprises 15,54,532 (64.61%) rural inhabitants and 8,47,249 (35.39%) urban inhabitants. Most of the inhabitants of this district depend on agriculture for earning their livelihood. The population density

of the district increased from 638 (2001) to 705 (2011) per square kilometer. Similarly, the sex ratio has also increased from 1021 to 1035 females for every 1000 males. The percentage of 0-14 year's population has marginally increased from 20.3 to 23.52 during 2001 and 2011 respectively. Overall, the performance of population growth is satisfactory in terms of all the parameters discussed above.

Economy

The economy of the district is mainly based on agriculture and its allied activities. Tourism also plays an important role as the district is the home place of temples, buildings and monuments of historical importance. Fishing also contributes to the economy of the district though the district economy is predominantly agrarian. Due to the vagaries of nature, agricultural sector of the district is experiencing a high degree of risk and today people have turned towards for a more stable and continuous employment and additional income.

Box 1.1: Inland Fishing : Fish Hatcheries

The objective of the case study is how government helps in developing fish hatcheries and provides financial assistance along with subsidy. These experiences could be treated as a model for further emulation. According to the fisheries department, there are around 5,000 inland fish farmers in the district. Progressive fish farmers in the district have set up hatcheries to meet the demand for fingerlings and to improve their economic activity. Five hatcheries have come up in the district, thanks to the fisheries department and National Agriculture Development Programme, which have subsidized them. Manal Paramasivam is one such progressive fish farmer who has put up a hatchery. He has got a subsidy of Rs.5 lakh and has spent another Rs.12 lakh to establish a hatchery at his fish farm at Orathanadu 27 km from Thanjavur.

"One kg fish can produce lakhs of fingerlings, and we can now supply fingerlings up to three lakh at a time with the help of this hatchery," said Mr. Paramasivam. First, the brood stock conditioning is done the processes of bringing fish to spawning condition. This is done in brood stock holding tank, and eggs and sperms are released into water. Fertilization takes place in the water and the seeds are brought to the hatchling tank. The seeds hatch and young ones come out. They are safely grown into fingerlings in the hatchery. Hatcheries are places of breeding, hatching, and rearing through the early life stages of fish. Hatcheries are safe because they provide the necessary condition for breeding, and protecting young fish from predators. Farmers who purchase fingerlings and use hatcheries to rear would be able to get a good yield. "We supply fingerlings of Katla, Rohu, Common Carp, and Cross Carp from our hatchery," said Mr. Paramasivam. Fingerlings from this farm are sold to other states as well as Tamil Nadu. Mr.Paramasivam has also taken up inland prawn farming. The farm has 12 fish ponds. Mr.Paramasivam says that the investment for an acre of land in fish farming is Rs.35,000 and one can earn a profit up to Rs.65,000. According to the fisheries department, there are 5,000 inland fish farmers in the district. They rear inland fish farm varieties such as Rohu, Mrigal, Catla, Common Carp, and Silver Carp.

Agriculture

The census data shows that most of the native inhabitants of Thanjavur reside in the villages of the district and are engaged in agricultural activities. The western part of the district is rain-fed. The major crops cultivated in Thanjavur district are paddy, pulses, gingelly, groundnut and sugarcane. The minor crops like maize, soyabeans, redgram are in rice fallows. In new delta area, the groundnut is the principal crop. Paddy is the principal crop grown in three seasons viz. Kuruvai, Samba and Thaladi. Pulses like black gram, green gram and cash crops like cotton and gingelly are grown. Sugarcane is cultivated both in new delta and old delta. Banana is primarily grown in Padugai lands.

The cultivators of Thanjavur are classified into three distinct categories small cultivators, marginal cultivators, and agricultural laborers. The district plays a key role in Tamil Nadu by producing about one-fourth of the total output of rice in the state and is rightly called the "Granary of South India". Normally paddy is raised in different periods in the entire district such as "Kuruvai", "Thaladi", and "Samba" crops. The services rendered by the Agricultural Research Station at Aduthurai, Water use management Research station at Kattuthottam, and Coconut Research station in Pattukkottai are very important, especially for the improvement of paddy cultivation in the district.

Apart from Nationalized Banks, Central co-operative banks and Primary Agricultural Credit Societies issue loans to farmers in the district. Besides, 17 Primary Land Development Banks are functioning to provide loan for purchase of farm machinery and erecting tube wells etc. Escalation of cost of production of paddy due to various reasons, agriculturists are changing the cropping pattern from the traditional paddy cultivation and are effectively using the new methods of cultivation directed by the agriculture department. As new sugar mills have come up in Thirumattangudi, Papanasam taluk, the farmers of Kumbakonam, Thiruvidaimarudur, and Papanasam taluks have started sugarcane cultivation which seems to be profitable for them. Soya beans, sunflower, and plantain are also cultivated by the farmers to a small extent.

Box 1.2: Integrated Farming : Duck Rearing cum Rice Cultivation

The objective of the case study is to follow the innovative practices like integrated farming introduced in certain pockets of the district. These integrated farming practices would help in utilizing the available resources in an optimal way and enhancing total factor productivity. Duck rearing is catching up in Cauvery delta as paddy fields provide a good habitat for ducks. Ducks eat fallen grains in paddy fields, insects, snails, and earth worms. They also eat aquatic plants, grass, and small amphibians. Ducks wading through water-filled paddy fields is a common sight in Cauvery delta districts of Thanjavur and Thiruvarur.

Velu, a labourer engaged in rearing ducks for the past 10 years, said: "I rear them in paddy fields and put them in the field near the owners' house at night. They lay eggs in the morning. Usually, ducks lay eggs before nine a.m. Ducks can lay eggs throughout the year. I used to get a maximum of 500 eggs. Nowadays, I get around 300. I sell one egg for Rs 4.50. They are sent to Kerala. Here farmers have raised nurseries and have started transplantation of Kuruvai in pump set irrigated areas. I use to go to Kumbakonam, where harvest of paddy has been completed in some areas and where ducks can get good feed," Velu said. Normally, ducks are moved in lorries to distant places. They are allowed to walk on roads for short distances.

Veterinary doctors said ducks lay more eggs a year than chickens. The size of the egg is larger by about 15 to 20 grams. Ducks thrive well in scavenging conditions. Marshy riverside, wet land, and barren moors are good for duck farming. They are suitable for integrated farming systems such as duck-cum-fish farming, and duck farming with rice cultivation. The droppings of ducks serve as feed for fish and also as manure for the land. However, with rice cultivation, they promote inter tillage for as they search for food, their bills loosen the soil around the plant and these help in removing weeds.

Agricultural Research Institutions in the District

1. Indian Institute of Crop Processing Technology, Thanjavur
2. SWMRI – TNAU Institution, Thanjavur
3. Coconut Research Station, Veppankulam (TNAU)
4. ARS – TNAU, Pattukkottai
5. TRRI – TNAU, Aduthurai

Industries

SIDCO estates exist in Thanjavur, Nanjikottai, Kumbakonam, Pillayarpatti, Tirubhuvanam and Budhalur. According to the district Industries Centre, the district has got 8723 SSI units, 9 medium and large scale units, 5187 cottage industries, and 7805 handicrafts units. Agro-processing industries, especially rice milling and oil extraction mills, have significant potential for further expansion in the district which is ideally placed in terms of agro-climatic conditions, raw material availability, and skilled manpower supply. Thanjavur is famous for its traditional handicrafts and industrial clusters involved in the production of Thanjavur plates & Arts, Thanjavur brass articles, coir products, silk

weaving handloom, icon and art plate works are located in Thanjavur, Nachairkoil, Ammapettai, Swamimalai, Korkai, Kumbakonam, Pattukkottai, Tirubhuvanam, and Budhalur.

Box 1.3: Coir based Industries

The objective of the case study is to highlight how coconut waste material used for making bricks. Earlier, these materials could not be used profitably with lack of technology. The present venture is not only reduce the waste and also provide sustainable income to the people. Coconut Coir is a 100-percent natural by-product of harvesting coconut. Coir consists of the coarse fibers extracted from the husk on the outer shell of a coconut. Because of its superior water holding capacity, excellent air space and drainage, coir is a useful soil amendment for potted plants, containers and gardens. Coir is a sustainable alternative to peat moss - it does not produce the same environmental damage caused by peat mining and grows quickly for harvest. In addition, coir is easier to hydrate and lasts longer in soil than peat moss. Coir's neutral pH of 5.8–6.8 allows it to efficiently release nutrients to plant roots and reduces the need to use dolomite lime in the garden. When used in sandy soils, coir helps to keep nutrients and moisture close to plant roots instead of washing away. When used in clay soils, coir helps to break up hard-packed earth and move nutrients and moisture through the soil. By adding one part coir to two parts soil or potting mix containing compost one can make a perfect growing medium for potted plants or an outdoor garden or raised bed.

Coir-based industries are coming up in Peravurani area in Thanjavur district. Recently, a new Co-Co Peat Bricks industry was inaugurated at Sengamangalam in Peravurani area. The industry uses coir pith which is hitherto discarded as waste and produces coir bricks called Co-Co Peat Bricks. They are used around the world for horticultural purpose. The brick making helps in utilization of waste material i.e. coir pith, which is normally dumped and burnt along roadways in the area. The unit gives workforce for more than 45 persons directly and 100 persons indirectly. It helps in earning foreign exchange in industrially backward area.

According to R. G. Deepak Kumar, Proprietor of the unit, coir pith waste material obtained after defibering the husk is the raw material. This pith is segregated using 10 mm wire mesh taken from coir factory. Segregated coir pith along with baby fibre was dumped in the yard and washed with plain water to reduce electrical conductivity. Washed Co-Co Peat is dried in the drying yard. The yard is prepared by laying kadappa stone. After the moisture is dried completely, it is collected to operation zone. Since all process is carried out in open atmosphere there are more possibilities for contamination with mud and other foreign substances. All these substances have to be removed before making the block with the help of winnowing machine. The prepared Co-Co Peat is made into five kg blocks with the help of hydraulic machine. The size of the Co-Co Peat brick is 300 mm X 300 mm X 100 mm. A fully-hydrated brick can hold eight to ten times its volume in water. By maintaining a consistent level of moisture and air and by being naturally disease and weed free, coir creates a perfect environment for starting seeds and cuttings and can be used as a seed-starting medium. Improve your soil structure and water-holding capacity with 100-percent natural Coconut Coir today. "The bricks have a very good export market.

Livestock

The fertile soil and water potential provide ample scope for livestock rearing in the district. The livestock rearing provides ample employment and income generating activities to small farmers, marginal farmers, and agricultural labourers. More than hundred veterinary institutions are present in this district to take care of the health of the livestock population.

Income

Table 1.2 highlights the sectoral distribution of Gross district domestic product in Thanjavur district during 2011-2012. During 2011-2012, the district's GDDP is Rs. 11,15,056 in lakhs. Of this, the contribution of tertiary sector is very high (70.43) followed by secondary (16.57) and primary (13.01).

Table 1.2: Sectoral Distribution of Gross District Domestic Product

Year	GDDP - At Constant (2004-05) Prices (In Lakhs)					
	Thanjavur			Tamil Nadu		
Sector	2009-10	2010-11	2011-12	2009-10	2010-11	2011-12
Primary	1,07,482 (11.91)	1,11,750 (10.97)	1,45,040 (13.01)	32,79,727 (9.20)	35,16,987 (8.72)	38,72,767 (8.94)
Secondary	1,44,038 (15.96)	1,74,101 (17.09)	1,84,722 (16.57)	1,08,57,492 (30.44)	1,25,42,302 (31.09)	1,30,39,248 (30.10)
Tertiary	6,51,076 (72.13)	7,33,095 (71.95)	7,85,294 (70.43)	2,15,25,966 (60.36)	2,42,82,284 (60.19)	2,64,11,788 (60.96)
Total	9,02,596 (100)	10,18,946 (100)	11,15,056 (100)	3,56,63,185 (100)	4,03,41,573 (100)	4,33,23,803 (100)

Source: Department of Economics and Statistics, Govt. of Tamil Nadu, 2014.

Thanjavur economy is highly dependent on agriculture, its allied sectors, and tourism. Presence of ancient temples and monuments in the district, which depict the culture of the ancient Tamil attracts tourists from all over India and abroad, and hence tourism industry is a major contributor of the district economy. However, the district economy is predominantly agrarian with about 75% of work depending on agriculture. Out of the total working population, agricultural labourers constitute the largest group followed by cultivators indicating excessive occupational dependence on agriculture.

Per Capita Income

Development of the region is measured with various parameters. However, certain proxy indicators are introduced to assess the sectoral specific development. In this context, PCI has been considered as one of the indicators highlighting the economic development of the region.

Table 1.3: Per Capita Income

At Constant Price (2004-2005)		In Rupees
Year	Thanjavur	Tamil Nadu
2004-05	26,578	33,998
2005-06	29,954	38,435
2006-07	34,117	43,941
2007-08	35,768	46,293
2008-09	37,623	48,473
2009-10	39,293	53,359
2010-11	44,234	59,967
2011-12	48,284	63,996

Source: Department of Economics and Statistics, Govt. of Tamil Nadu, 2014.

Table 1.3 highlights the per capita income of the district as well the state. During 2004-05 the district PCI is Rs. 26,578, which is far below the state PCI of Rs. 33,998 at constant prices. During 2011-12 the PCI of the district has increased to Rs. 48,284 and the State PCI has also increased to Rs. 63,996. In order to measure the real growth of PCI, per capita is worked out at constant prices (2004-05). It reveals that the district economic activities are somewhat slower than that of the State level.

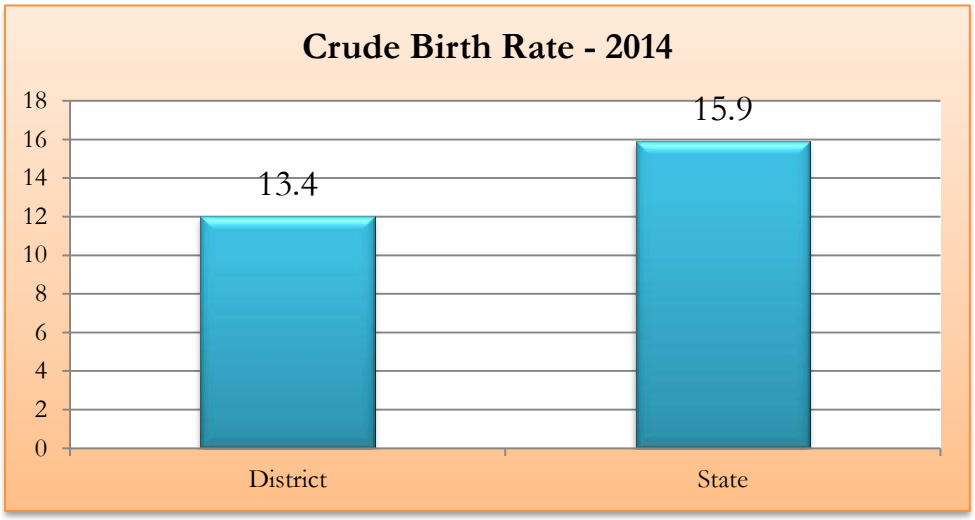
Social Sector

Health

The district has one district headquarter government hospital, 6 taluk hospitals and 6 non taluk hospitals are functioning in the district, with the doctors of 22, 19, and 13 respectively. Another one Government Raja Mirasdar Hospital under the medical college is also catering to the need of the

population. This hospital has 27 doctors, 173 nurses, and 91 para medical staff. In rural areas, there are 63 primary health centres and 309 health sub centres are functioning in 2014.

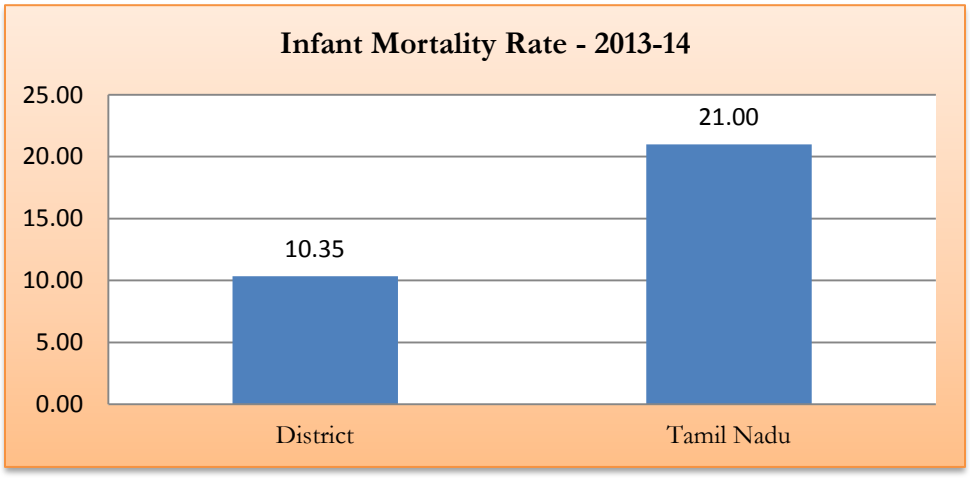
Figure 1.1: Crude Birth Rate in District and State



Source: Health Department, Thanjavur, 2014.

Figure 1.1 shows the crude birth rate of the district along with the state performance. The District crude birth rate is significantly low (13.4), when compared to the State (15.9).

Figure 1.2: Infant Mortality Rate in District and State



Source: Health Department, Thanjavur, 2014.

Similarly, the infant mortality rate has marginally differed between the State (21.0) and district (10.35) (Figure 1.2). The reduction of IMR is observed not only in the district as well as in the State over the years. The services of village and community health nurses are appreciable in tracking all pregnant mothers and providing all types of essential services in reduction of IMR. It reveals that the district health care activities are moving parallel to the level of state.

Literacy and Education

Globally, literacy is a key for socio economic progress. The number of literates increased in Thanjavur district from 1476 thousands to 1791 thousands during 2001 and 2011, and literacy rate has increased by 21.34% from 2001 to 2011. According to the 2011 census, the literacy rate Thanjavur district is 82.64%, the level is well above the Tamil Nadu state average literacy rate of 80.1%.

In total, 2429 schools are functioning in the district. Thanjavur has the prestigious Tamil University. The government medical college and other hospitals have brought advanced and comprehensive medical care to the people. In addition to these 15 engineering colleges, 1 nursing institute, 14 polytechnics, 54 teacher training institutes, 32 arts and Science colleges, 4 Universities and 5 agricultural research institutions and other small educational institutions are functioning in the district.

Conclusion

This chapter gives a broad outlook of the district with the help of certain macro indicators. It accommodates topography as well as the socio-economic and demographic profile of the district, which has paved way for making an in-depth analysis for measuring human development with various dimensions. The setting of this chapter brings focus of the core issues as well as some developments occurred over the years through various Central and State Government sponsored programmes in the district. A detailed analysis is presented in the following chapters.

CHAPTER 2

STATUS OF HUMAN DEVELOPMENT

Chapter
2
Status of Human Development in Thanjavur District

Introduction

All the nations of the world have understood the importance of their people's well-being and in the past decades are making substantial progress in many aspects of human development. Even in developing economies people today have better access to health facilities and life expectancy has increased, have better access to education, public goods and services. People's power has been enlarged, to decide for themselves to be who they are, who their leader should be, and this has allowed them to influence public decisions, and share knowledge.

Human Development Index

The value of the HDI is usually measured on a scale of 0–1, and in places where the value is nearer unit, higher will be the human development. These values help in identifying the gap between the current level of development in the district and the immense possibilities that the district can realize with respect to human development. Hence, it paves the way for evolving a growth strategy and setting the development goals with a high degree of precision. Inter and intra district imbalances in growth prospects can also be assessed using the above scale.

Dimensions	Indicators
Standard of living	Access to Cooking Fuel Access to Toilet Facilities Access to Drinking Water Access to Electricity Access to Pucca Houses
Health	Infant Mortality Rate Maternal Mortality Rate Under 5 Mortality Rate
Education	Literacy Rate Gross Enrollment in Primary Gross Enrollment in Secondary

An attempt has been made to measure the human development index of the district level using the available data. In total 11 indicators are used to asses of living standard, education and health. These indicators are valid indicators and would help in ascertaining the level of human development in the district. After making a data validation exercises at different levels, various block wise sectoral indices namely health, education and living standards are computed. There are three indicators for measuring health, three for education and five for standard of living. All these indicators reflect human development.

Human Development Index —Inter-Block Variations

Table 2.1 shows the performance of blocks in Thanjavur district. Thanjavur, Pattukottai and Peravurani blocks have performed well and reached the top level. On the other side, Thiruvidaimarudur, Thiruvonam and Orathanadu index values have reached to bottom level.

Table 2.1: Top and Bottom three blocks in Human Development Index, 2014

Top 3			Bottom 3		
Thanjavur	–	0.854	Thiruvidaimarudur	–	0.431
Pattukottai	–	0.782	Thiruvonam	–	0.390
Kumbakonam	–	0.734	Orathanadu	–	0.370
Source: Computed.					

The population of Thanjavur block is 4,02,289 during 2011 and the sex ratio is 1024. The proportion of SC population is 16.40, which is marginally lower than that of district proportion (18.91). The worked out human development index value is 0.854 and the block has reached to the position of 1st rank. This block population comprises of both rural and urban population. Recently, the Thanjavur Municipality has been upgraded as Municipal Corporation. Among the three sectoral indices of HDI, this block has scored well in all the three sectoral indices such as, standard of living, education, and health. In the context of standard of living, the block has scored well in the provision of drinking water (83.58%) and electricity (96.61%). At the next level, 95.15 per cent of the households live in pucca houses. The toilet facilities are used only 68.51 per cent of the households. Special interventions are needed to control open defecation and also to provide pucca houses to the remaining uncovered households. The modern cooking fuel like LPG is used only 49.76 per cent of

the population. Using locally available firewood and residues of crops as cooking fuel generates negative impacts on health of women folk, specifically socially deprived population. In the context of HDI health index, Thanjavur block has scored the value of 0.853. The rates of IMR, MMR and U5MR are lower than the district performance. However, the ongoing health care services may be implemented in an effective way with a due care for reaching the targets. The literacy rate of block is 87.44. It shows that there is a scope to achieve hundred per cent literacy through informal education and be provided to the illiterate adults. The primary and secondary enrolment rates are up to the mark. The government may concentrate on quality of education on par with rest of the urban areas.

The population of Pattukottai block is 2,17,432 during 2011 and the sex ratio is 1061. The proportion of SC population is 10.25, which is very lower than that of district proportion (18.91). The worked out human development index value is 0.782 and the block has reached to the position of 2nd rank. This block population comprises of both rural and urban areas. Among the three sectoral indices of HDI, this block has not scored well in standard of living (0.580). In the context of standard of living, the block has scored well in the provision of drinking water (88.28 %) and electricity (92.14 %). At the next level, 76.63 per cent of the households live in pucca houses. The toilet facilities are used only in 62.90 per cent of the households. These facilities have to be provided with a caution to enhance overall hygienic status of the block. The modern cooking fuel like LPG is used by only 18.34 per cent of the population. It is noticed that significant proportion of households use only firewood for cooking, which create some adverse impact on women health.

In the context of HDI health index, Pattukottai block has scored the value of 0.977. The rates of IMR, MMR, and U5MR are relatively below the level of district performance. However, the ongoing health care services may be implemented in an effective way with a due care to reduce the rates further. The literacy rate of block is 82.95. It shows that there is a scope to achieve hundred per cent literacy by way of identifying the target groups and providing education on the basis of their level and need. The primary and secondary enrolment ratios are up to the mark. Innovative teaching practices may be introduced in enhancing the quality of education.

The population of Kumbakonam block is 1,10,840 during 2011 and the sex ratio is 1043. The proportion of SC population is 12.17, which is very lower than that of other blocks and district population (18.91). The worked out human development index value is 0.734 and the block has reached to the top category of 3rd rank. Among the three sectoral indices of HDI, this block has scored fairly well in all the three sectoral indices such as, standard of living, education, and health. However, the performance of health is relatively poor compared to other two sectoral indices. In the context of standard of living, the block has scored well in the provision of drinking water (78.88 %) and electricity (86.06 %). At the next level, 93.32 per cent of the households live in pucca houses. The toilet facilities are used only by 61.48 per cent of the households. It reveals that the population follows the practice of open defecation and they have not realized the importance of using toilets. The modern cooking fuel like LPG is used only 44.24 per cent of households. Using locally available firewood as cooking fuel generates negative impacts on health of women folk and sizably reduces their future employment and income.

In the context of HDI health index, Kumbakonam block has scored the value of 0.685. The rates of IMR (10.21) and MMR (48) are marginally below the level of district performance. In the case of U5MR, the performance is marginally above the level of the district. However, the ongoing health care services may be implemented in an effective way with a due care for reaching the targets and reducing to the optimum level. The literacy rate of block is 85.83. It shows that there is a scope to achieve hundred per cent literacy through informal education provided to the illiterate adults. The primary and secondary enrolment ratios are up to the mark. Since most of the population is first generation literates, the importance and quality of education have not been realized. The quality of education has to be scaled up at all levels by way of enhancing the quality of physical and information infrastructure.

The population of Thiruvidaimarudur block is 2,17,357 during 2011 and the sex ratio is 1009. The proportion of SC population is 19.88, which is marginally higher than that of district population (18.91). The worked out human development index value is 0.431 and the block has reached to the position of 12th rank. Among the three sectoral indices of HDI, this block has scored moderately well in education compared to health and standard of living. In the context of standard of living, the

block has scored well in the provision of drinking water (94.84 %) and electricity (80.06%). At the next level, 60.49 per cent of the households live in pucca houses. The toilet facilities are used only by 56.41 per cent of the households. The modern cooking fuel like LPG is used only by 48.53 per cent of the population. Special interventions are needed to control open defecation and using locally available firewood as cooking fuel, which generates negative impacts on health of women folk. The poor performance on the above three indicators do reveal the deterioration of standard of living.

In the context of HDI health index, Thiruvidaimarudur block has scored the value of 0.212. The rates of IMR (21.55) and U5MR (22.31) are relatively high in the block. The ongoing health care services may be implemented in an effective way with a due care for reaching the targets. It is expected that the population have to cooperate with the block medical professions to achieve the targets. The literacy rate of block is 84.86. It shows that there is a scope to achieve hundred per cent literacy through informal education provided to the illiterate adults. The primary and secondary enrolment ratios are up to the mark. However, the situation arises to concentrate on quality of education. The perception of the people is to have high quality school infrastructure.

The population of Thiruvonam block is 86,513 during 2011 and the sex ratio is 1038. The proportion of SC population is 23.38, which is marginally higher than that of district population (18.91). The worked out human development index value is 0.390 and the block has reached to the bottom position of 13th rank. Among the three sectoral indices of HDI, this block has not performed well in all the three sectoral indices such as, standard of living, education, and health. In the context of standard of living, the block has scored well in the provision of drinking water (99.07%) and electricity (91.57%). At the next level, 24.56 per cent of the households live in pucca houses. The toilet facilities is used only 24.72 per cent of the households. It reveals that the population follows the practice of open defecation and they have not realized the importance of using toilets. The modern cooking fuel like LPG is used only 18.39 per cent of the population. Using locally available fire wood as cooking fuel generates negative impacts on health of women folk and sizably reduces their opportunities.

In the context of HDI health index, Thiruvonam block has scored the value of 0.386. The rates of IMR (12.73), MMR (159), and U5MR (12.73) are relatively high in the block. This has resulted in high MMR. It is observed during 2014, there are 1257 live births are registered in the block. Of this only 2 mothers have died at the time of delivery. Since MMR has been computed for one lakh live births, the figure at the block level seems to be very high. The same trend could not be seen over the years in this block. The ongoing health care services may be implemented in an effective way with a due care for reaching the targets. The literacy rate of block is 73.99. It shows that there is a scope to achieve hundred per cent literacy through informal education provided to the illiterate adults. The primary and secondary enrolment ratios are up to the mark. The quality of education has to be scaled up at all levels.

The population of Orathanadu block is 1,71,462 during 2011 and the sex ratio is 1065. The proportion of SC population is 13.95, which is lower than the district population (18.91). The worked out human development index value is 0.370 and the block has reached to the position of 14th rank. Among the three sectoral indices of HDI, this block has not performed well in standard of living. In the rest of two sectoral indices, performances are relatively better. In the context of standard of living, the block has not performed in terms cooking fuel (11.16%), toilet facilities (29.89%), and pucca houses (21.93%). The performance of these three indicators pulls back the development of the block. This has to be addressed with making special provisions. It is observed that the level of open defecation is very high in the block and it may create adverse impact on health. Further, a significant proportion of people use only locally available firewood and they use the same in the country made firewood stoves, which creates adverse impact on female health.

In the context of HDI health index, Orathanadu block has scored the value of 0.549. The rate of IMR (13.56) and U5MR (16.10) is relatively high in the block. The rate of MMR is 42 during 2014. It is noticed that the population still avoid female children and try to follow certain traditional and illegal practices, ignoring the advices of medical professionals. The literacy rate of block is 75.78. It shows that there is a scope to achieve hundred per cent literacy through informal and formal education. The primary and secondary enrolment ratios are up to the mark. Since the state government introduced unique policy in promoting students without fail up to 9th standard, the

quality of education is questionable and the passing rate at the 10th and +2 levels has come down drastically. Attention may be given to improve the quality of infrastructure to enhance the quality of education on par with other private schools functioning in the urban area.

Overall, standard of living used to be assessed to examine the efficacies of various development programmes. Standard of living has been conceptualized to measure the overall development at the sub-district level with the help of available secondary data. They are: type of cooking fuel, availability of toilet facilities, water supply, provision, and accessibility of electricity, and pucca house. Appendix : Table 9.2 shows the block wise standard of living index. A close scrutiny of the sectoral index values, one can easily identify the poor performance blocks. In this district, there are eight blocks come under the category. They are: Thiruvidaimarudur ((0.621), Pattukottai (0.580), Thiruppanandal (0.574), Peravurani (0.551), Sethubavachatram (0.477), Budhalur (0.304), Thiruvonam (0.261) and Orathanadu (0.165). The performance of Budhalur block is very poor in respect of provision Toilet (0.038) and safe drinking water (0.167). Since these indices are reflecting the relative performances of the blocks considering the minimum and maximum values, some of the blocks performance seems to be very poor. The actual values of toilet facilities and safe drinking water of the Budhalur block are 19.38 per cent and 66.68 per cent, which is very below the level of district performance. This block is situated far away from the district headquarter, which has certain disadvantages compared to other blocks of the district. Hence the district administration can prioritize the blocks and make provision of the basic needs. These basic needs differ significantly among the blocks of the district. On comparison, only three blocks performances are better. They are Thanjavur, Madukkur, and Kumbakonam. Since the standard of living is poor in eight blocks of the district, adequate attention may be given to those blocks.

On comparison, only six blocks have performed very fairly. They are Budhalur (1.000), Thanjavur (0.922), Thiruvidaimarudur (0.894), Ammapettai (0.825), Kumbakonam (0.794), and Thiruppanandal (0.756). Among the fourteen blocks of the district poor performance is registered in three blocks, such as Thiruvonam (0.194), Pattukottai (0.193), and Orathanadu (0.026). The indicator on cooking fuel accommodates the modern fuels like LPG, Electricity, Gas, etc. The actual values of cooking fuel differ more than four times between the two extremes of minimum and maximum. The

minimum value is recorded in Orathanadu block (11.16 per cent) and the maximum value is registered in Budhalur block (53.10 per cent). It is observed that the people have habituated to use locally available firewood and this practice facilitate them to save sizable amount of money. Hence the performance is very poor in Orathanadu, Pattukottai and Thiruvonam blocks of the district. It could be construed that the fuel supplies have not been distributed equally either on their income levels or any other factors in this matter.

Creation of toilets and making use of them regularly in the rural areas would create good living environment. There is no uniform picture in possession of toilets and using the same by all the members of the household. The maximum score is reached in Thanjavur block (1.000). Among the fourteen blocks of the district, only three blocks performance is very poor. They are Orathanadu (0.244), Thiruvonam (0.143), and Budhalur (0.038). As per the actual data, no block has reached to the level of hundred per cent in creations of toilets. The maximum value is only to the tune of 68 per cent recorded in Thanjavur block. It is noticed that the people have not prioritized and earmarked their income or utilize the governmental programmes. The Central and State governments have introduced various programmes in controlling open defecation and created community as well as individual household toilets. But these benefits have not been trickled down to the blocks of Orathanadu, Thiruvonam, and Budhalur as targeted by the government. However the rest of the blocks performances are at the level of satisfaction. It reveals that the government can create the assets only with the participation and cooperation of the people.

The population is entitled to have potable water for their day to day use. The accessibility of potable water has been taken into account as one of the indicators for measuring the standard of living. Habitation wise data generated by rural development department of the district and compiled by Ministry of Rural Development, Government of India. As per the records of the year 2014, block wise analysis is carried out and presented in the Appendix : Table 9.2. Among the fourteen blocks of the district, the performance is very poor in Budhalur block (0.167). The performances differed significantly among the fourteen blocks of the district. It varies around five times between the minimum and maximum index values. Even though the government has committed to provide drinking water to all the households, except Budhalur block, all other blocks have acquired the same

from the range of 78 to 99 per cent. It reveals that there is a scope in scaling up the activities of provision of drinking water. There are two major problems reported in this district, such as over exploitation of ground water and improper use of available water. In realizing the importance, the State Government introduced integrated drinking water supply programme in this district. However the benefits have not been reached to all the villages of the district. There are certain stumbling blocks in execution of the programme. In realizing the problem of widening gap between demand and supply, awareness may be created among the people in making use of available water in a judicious way.

Electricity is a vital input for meeting their needs and enhancing life style. Most of them have availed the services on their own and marginalized population enjoyed the same as free of cost. The government has given top priority in making provision of electricity to all households inclusive of free electricity to all huts. Among the blocks, the performances are very poor in the blocks of Sethubavachatram (0.419), and Thiruvidaimarudur (0.286). Around 80 per cent of the households of these two blocks have the provision of electricity supply. However steps may be taken to identify the left out households and making provision to all.

Having a house is a social status in the society. Hence all of them try to create own house or live in a rented house, depends on their income level. In view of the facts, pucca house is introduced another proxy indicator for measuring the standard of living. The governments have introduced various housing schemes to the socially and economically deprived population of the country. The district too has enjoyed the benefits of the schemes. The poor performance is recorded in Orathanadu (0.029), Thiruvonam block (0.064) and Thiruppanandal (0.217). At the next level, 46.77 per cent of households have possessed pucca houses in Sethubavachatram block and index value is 0.358. These blocks may be prioritized and funds be earmarked in creation of pucca houses on par with the performance of other blocks. Overall, 70 per cent of the households have possessed pucca house in the district. However the size, pattern, materials, location, etc. vary among the households.

Health is one of the indicators for measuring the human development. Health index has been evolved after taking a stock of all available health data both at the district and block levels. Finally,

there are three indicators identified for assessing health status of the population. Appendix : Table 9.2 shows the performance of health index and it comprises of IMR, MMR, and U5MR. Among the blocks, Thiruvidaimarudur block has scored very poorly in terms of the two indicators, such as IMR (0.103) and U5MR (0.109). The same picture could not be seen in MMR (0.849). The better performance is recorded in Pattukottai block (0.977). The better performance is associated with the better health care services provided by the government as well as the private hospitals and clinics. The minimum and maximum health index values differ around four times. The authorities have to bestow additional attention towards achieving the targets. Further, trend analysis has to be seen for making provision of critical infrastructural inputs.

It reveals that the district has reached half way mark to the level of the scale. The better IMR performance is registered in Sethubavachatram block (1.000) and the worst performance is reported in Thiruvidaimarudur block (0.103). The differences between minimum and maximum index values are around nine times. There is no constant records in registration of IMR both at block and district levels. It shows that the occurrence of IMR is not only due to health factors and also socio-economic and cultural factors.

Maternal mortality rate is worked out considering one lakh live births during a year. Governments have taken serious steps in tracking pregnant mother and provide all type of assistances. The role of VHNs and CHNs are remarkable in reducing mortality rates specifically MMR. Overall, the MMR is more than 100 in the blocks of Madukkur (101), Thiruvaiyaru (118), Thiruvonam (159) and Ammapettai (176). It is observed that the population tries to avoid female children following certain traditional practices, ignoring the advices provided by the health officials. This has resulted in high MMR recorded in certain blocks of the district. The best score is registered in Budhalur, Pattukottai, Peravurani and Thiruppanandal blocks (1.000) and worst performance is recorded in Ammapettai block (0.096). However, the performances are relatively better in the rest of ten blocks of the district. The role of NRHM is witnessed in all rural and urban areas of the district. However, there is a scope in strengthening existing health care services and creating effective delivery mechanism.

Under five mortality rate is one of the indicators for measuring health status of the population. The performance is good in Sethubavachatram block (1.000) and the performance is poor in Thiruvidaimarudur block (0.109). The differences between minimum and maximum index values are more than nine times. Even though governments have created adequate health infrastructure in all areas of the district, the performances are not uniform both in rural and urban areas. It shows that the provision of medical services are not alone enough but proper counseling have to be provided to the parents in taking care of their kids.

Education can transform the population and bring them to the higher level. Education has been accepted as the most powerful tool for empowerment. These services are provided at the door steps of the poor and needy, especially the economically deprived and socially depressed classes. In view of the same, the government with a noble intention of imparting free and compulsory education to all children and to encourage them to complete their schooling with ease had announced 14 welfare schemes. Besides, the government has announced other welfare schemes for enhancing the quality of education at all levels. An attempt has been made to assess the education attainment of the population of the district, incorporating literacy rate, primary and secondary school enrolment (Appendix : Table 9.2). A close scrutiny of block wise education index values reveal that there is a significant difference among the fourteen blocks of the district. Better performance is registered in Budhalur block (0.912) and the poor performance is recorded in Sethubavachatram block (0.403). The educational services are provided by the government as well as the private schools. The objective of the government schools is promoting education and achieving over all welfare of the children. The primary goals of private schools are profit and their secondary goal is imparting education. Hence the effectiveness in delivering education services differs between private and public schools. The overall performance is ranked and presented in Appendix : Table 9.2. Only five block's performances are better in the district. They are Budhalur (0.912), Papanasam (0.854), Pattukottai (0.844), Peravurani (0.810) and Thanjavur (0.847). These better performances may be treated as a model for further emulation.

Literacy rate is one of the macro parameters reveal the educational development of the people. The literacy rate is obtained from the Census of India 2011 data and they define that the total percentage of the population of an area at a particular time aged seven years or above who can read and write with understanding. The overall literacy rate of the district is 82.64. The performance of literacy rate differs significantly among the fourteen blocks of the district. The better performance is registered in Thanjavur block (1.000), which is not only headquarters of the district and also accommodates both rural and urban areas. The poor performance is reported in the blocks of Orathanadu (0.441) and Thiruvonam (0.355). The differences between the minimum and maximum values are around three times. It shows that government has a rich scope in strengthening the educational system in achieving hundred per cent literacy both in rural and urban areas of the district.

Various steps have been taken by the state government in promoting primary education and arresting dropout of school children. It is interesting to note that there is no much difference in the performances of providing primary education. All the blocks index values are more than 0.9, which is a remarkable achievement of the school education department of the district. The same picture could be seen in the gross enrolment of secondary education. The district secondary gross enrolment rate is 95.06. A similar picture is noticed in all blocks of the district. Since the index values are portraying the relative block wise performances, the index values differ significantly between minimum and maximum. The maximum score of secondary enrollment ratio is recorded in Peravurani block (1.000) and minimum score is reported in Sethubavachatram block (0.129). In this context, actual rates may also be utilized for evolving policies and making specific block wise interventions.

Gender Inequality Index—Inter-Block Variations

Gender discrimination and deprivation is a major stumbling block in the society, specifically for achieving women empowerment and development. In realizing the importance, both central and state governments have developed various programmes for achieving the goals of women development. In this context, an attempt has been made to assess the status of gender inequality that

prevails in the district. The Gender Inequality Index (GII) reflects women's disadvantage in three dimensions-reproductive health, empowerment, and the labour market. The indicators of reproductive health that are considered for calculating GII, are MMR, Institutional deliveries, and Antenatal coverage. The indicators of empowerment are female literacy rate and female elected members. Labour market indicators include non-agricultural female workers, female work participation rate, female agricultural wage rate. Gender Inequality Index has been worked out and the details are given below.

Dimensions	Indicators
Health	MMR
	Share of Institutional Delivery
	Share of Antenatal Coverage
Empowerment	Female Literacy Rate
	Male Literacy Rate
	Share of Female Children 0 – 6 years
	Share of Male Children 0 – 6 years
	Share of Male Elected Representatives in RLBs and ULBs
	Share of Female Elected Representatives in RLBs and ULBs
Labour market	Female Work Participation Rate
	Male Work Participation Rate
	Female Work Participation Rate in Non-Agriculture Sector
	Male Work Participation Rate in Non-Agriculture Sector
	Female Agriculture Wage Rate
	Male Agriculture Wage Rate

Using the above indicators, the three sectoral indices namely health, empowerment and labour market are calculated block wise, based on which the final GII is calculated. The GII shows the loss in human development due to inequality between female and male achievements in these dimensions. It ranges from 0, which indicates that female and male fare equally, to 1, which indicates that female fare as poorly as possible in all measured dimensions.

Table 2.2 depicts gender performance in Thanjavur district. The index values are marginally differed among the fourteen blocks. The top performers are Thanjavur, Orathanadu and Kumbakonam. The bottom performers are Thiruvaiyaru, Madukkur and Ammapettai. The Thanjavur block scores 1st

rank in GII and worked out index values is 0.030. Among the three sectors of health, empowerment and labour market, this block has performed well (Appendix : Table 9.3, 9.4 and 9.5). The performance of literacy rate differs significantly between male (92.26) and female (82.77). The differences are around 9.5 percentiles. In the case of 0-6 year population, the differences between girls (48.27) and boys (51.73) have come close together. A better performance is recorded in male (66.17) and female (33.83) elected representatives. Since the index shows a relative performance of the blocks, the block performance is better than other blocks in terms of gender development. The gender differences on wages are marginally differ between male (285) and female (250). Since the opportunities are higher for the female population, the wage rates are lower than that of male. In the context of health, this block performs better and reaches to the score value of 100 in terms of MMR, Institutional Deliveries and Antenatal Coverage.

Table 2.2: Top and Bottom three blocks in Gender Inequality Index, 2014

Top 3			Bottom 3		
Thanjavur	–	0.030	Thiruvaiyaru	–	0.126
Orathanadu	–	0.047	Madukkur	–	0.131
Kumbakonam	–	0.047	Ammapettai	–	0.146
Source: Computed.					

The Orathanadu block scores 2nd rank in GII and worked out index values is 0.047. Among the three sectors of health, empowerment and labour market, this block has performed well (Appendix : Table 9.3, 9.4 and 9.5). The performance of literacy rate differs significantly between male (84.94) and female (67.27). The differences are around 17 percentiles. In the case of 0-6 year population, the differences between girls (48.95) and boys (51.05) have come close together. A better performance is recorded in male (64.75) and female (35.25) elected representatives. Since the index shows a relative performance of the blocks, the block performance is better than other blocks in terms of gender development. It is observed that gender development and human development move together in this block. On the other hand the same block has performed very poorly in human development reached the rank of 14th. The gender differences on wages are very significant between male (257)

and female (125). Since the opportunities are restricted for the female population, the wage rates are lower than that of male.

The Kumbakonam block scores 3rd rank in GII and worked out index values is 0.047. Among the three sectors of health, empowerment and labour market, this block has performed well (Appendix : Table 9.3, 9.4 and 9.5). The performance of literacy rate differs significantly between male (91.09) and female (80.70). The differences are around 10 percentiles. In the case of 0-6 year population, the differences between girls (49.02) and boys (50.98) have come close together. A better performance is recorded in male (63.16) and female (36.84) elected representatives. Since the index shows a relative performance of the blocks, the block performance is better than other blocks in terms of gender development. The gender differences on wages are very significant between male (242) and female (121). Since the opportunities are restricted for the female population, the wage rates are lower than that of male. In the context of health, this block performs in MMR, Institutional Deliveries and Antenatal Coverage.

The performance of bottom three blocks are Thiruvaiyaru, Madukkur and Ammapettai. The Thiruvaiyaru block scores 12th rank in GII and worked out index values is 0.126. Among the three sectoral indices of GII, this block has scored very poor in all the three sectoral indices such as, health, empowerment and labour market, (Appendix : Table 9.3, 9.4 and 9.5). The performance of literacy rate differs significantly between male (89.64) and female (77.96). The differences are around 11 percentiles. In the case of 0-6 year population, the differences between girls (48.74) and boys (51.26) have come close together. A skewed performance is recorded in male (61.79) and female (38.21) elected representatives.

Since the index shows a relative performance of the blocks, the block performance may not be construed as a better block in terms of gender development. On the other hand the same block has performed very poorly in human development and reached the rank of 7th. The gender differences on wages are very significant between male (254) and female (94). Since the opportunities are restricted for the female population, the wage rates are lower than that of male. Further the use of female folk restriction to involvedly in certain activities, the wage differences are very high. In the

context of health, this block performs better and reaches to the score value of 100 in terms of Institutional Deliveries and Antenatal Coverage. The MMR is 118 during 2014 and this rate is not constant over the years in this block.

The Madukkur block scores 13th rank in GII and worked out index values is 0.131. Among the three sectoral indices of GII, this block has scored very poor in all the three sectoral indices such as, health, empowerment and labour market, (Appendix : Table 9.3, 9.4 and 9.5). The performance of literacy rate differs significantly between male (86.17) and female (71.91). The differences are around 14 percentiles. In the case of 0-6 year population, the differences between girls (48.90) and boys (51.10) have come close together. A skewed performance is recorded in male (63.37) and female (36.63) elected representatives. It shows that the block has enjoyed the women reservation. Since the index shows a relative performance of the blocks, the block performance may not be construed as a better block in terms of gender development. On the other hand the same block has performed middle level in human development and reached 6th rank. The gender differences on wages are very significant between male (300) and female (100). Since the opportunities are restricted for the female population, the wage rates are lower than that of male. Further the female folk use to restrict to involve only in certain activities, the wage differences are very high. In the context of health, this block performs better and reaches to the score value of 100 in terms of Institutional Deliveries and Antenatal Coverage. The MMR is 101 during 2014 and this rate is not constant over the years in this block.

The Ammapettai block scores 14th rank in GII and worked out index values is 0.146. Among the three sectoral indices of GII, this block has scored very poor in all the three sectoral indices such as, health, empowerment and labour market, (Appendix : Table 9.3, 9.4 and 9.5). The performance of literacy rate differs significantly between male (85.61) and female (72.05). The differences are around 13 percentiles. In the case of 0-6 year population, the differences between girls (48.60) and boys (51.40) have come close together. A skewed performance is recorded in male (62.06) and female (37.94) elected representatives. It shows that the block has enjoyed the women reservation. Since the index shows a relative performance of the blocks, the block performance may not be construed as a better block in terms of gender development.

On the other hand the same block has performed poorly in human development and reached 11th rank. The gender differences on wages are very significant between male (275) and female (100). Since the opportunities are restricted for the female population, the wage rates are lower than that of male. Further the female folk use to restrict to involve only in certain activities, the wage differences are very high. In the context of health, this block performs better and reaches to the score value of 100 in terms of Institutional Deliveries and Antenatal Coverage. The MMR is 176 during 2014 and this rate is not constant over the years in this block. The live birth at Ammapettai block is 1702 and the mortality is only 3. Since we workout MMR for one lakh live birth, the figure seems to be very high at the block level.

Child Development Index—Inter-Block Variations

Table 2.3 portrays the performance of Child Development and has been identified as top and bottom three blocks. The differences between minimum and maximum values are around two times. Child Development Index has been worked out and the details are given below.

Dimensions	Indicators
Health	U5MR Child Sex Ratio Percentage of Malnourished Children
Education	Gross Enrollment Ratio in Primary Gross Enrollment Ratio in Secondary Children Never Enrolled in Schools Transition Rate from Primary to Upper Primary Transition Rate from Upper Primary to Secondary

In the context of child development index, the Pattukottai block has reached the rank of 1st reflects as one of the top performance blocks. The worked out index is 0.711 (Appendix : Table 9.7). Of the chosen indicators of CDI, the block has performed well in reduction of U5MR (4.42) except malnourished children (17.21). The ongoing programmes may be scaled up for reducing the same. In the case of educational attainment, the block performance in primary (99.42) and secondary (106.07) enrolment is upto the mark. Since the index shows the relative performance, Pattukottai block enjoys 1st rank. However, the activities may be sustained to the level of hundred per cent by way of enhancing the quality of services.

Table 2.3: Top and Bottom three blocks in Child Development Index, 2014

Top Three blocks with higher CDI value			Bottom Three blocks with lower CDI value		
Pattukottai	–	0.711	Ammapettai	–	0.433
Thanjavur	–	0.676	Orathanadu	–	0.426
Thiruvonam	–	0.648	Thiruppanandal	–	0.378
Source: Computed.					

Thanjavur block has reached the rank of 2nd in CDI reflects as one of the top performance blocks. The worked out index is 0.676 (Appendix : Table 9.7). The block has performed well in reduction of U5MR (6.40) and malnourished children (13.23) as compared to the district U5MR (11.00) and malnourished children (13.23). The ongoing programmes may be executed for reducing the same. In the case of educational attainment, the block performance in primary (99.56) and secondary (96.83) enrolment is up to the mark and this also may be strengthened to reach the level of 100. The enrollment rate has gradually come down when the level of education goes up. This has to be viewed seriously and control the dropouts at the level of secondary education. Since the index shows the relative performance, this block enjoys 2nd rank. However, the activities may be monitored to reach the level of hundred per cent.

The 3rd rank holder in CDI is Thiruvonam block. It reveals as one of the top performance blocks. The worked out index is 0.648 (Appendix : Table 9.7). Of the identified indicators in CDI, the block

has performance marginally above the level of district's performance in terms of U5MR (12.73) and malnourished children (12.06). The ongoing programmes may be evaluated and identify the loopholes in reaching the targets. In the case of educational attainment, the block performance in primary (99.37) and secondary (95.37) enrolment is up to the mark and steps to be taken to reach the target of 100. Thiruvonam block enjoys 3rd rank, which shows only relative performance. However, there is a scope in enhancing the activities at all dimensions.

Ammapettai block has reached the rank of 12th in CDI reflects as one of the bottom level blocks. The worked out index is 0.433 (Appendix : Table 9.7). The block has not performed well in reduction of U5MR (12.93) and above the level of district's performance (11.00) (Appendix : Table 9.6). The ongoing programmes may be strengthened and periodically monitored to achieve the efficacy of the programmes. In the context of educational attainment, the block performance in primary (99.39) and secondary (84.32) enrolment is low and this also being promoted to reach the level of 100. This has to be viewed seriously and control the dropouts both at the level of primary and secondary education. This block enjoys 12th rank, which highlights the relative performance. However, the activities may be executed effectively to reach the level of hundred per cent.

Orathanadu block has reached the rank of 13th reflects as one of the bottom performance blocks of the district. The worked out index is 0.426 (Appendix : Table 9.7). The block has not performed well in reduction of U5MR (16.10) and malnourished children (17.43). Juxtaposing to the performance of the district, the block performs very poorly. Proper incentive mechanism may be introduced to execute the programs as well as to achieve the targets. The block performance in primary (99.22) and secondary (85.86) enrolment is not upto the mark and this also be scaled up to reach the level of 100.

Thiruppanandal block has reached the rank of 14th in CDI reflects as one of the bottom level blocks, which is also one of the backward blocks of the district. The computed index is 0.378 (Appendix : Table 9.7). The block has not performed well in reduction of U5MR (12.25) and malnourished children (13.22). The relative performance along with the district is not uniform to all the selected

indicators. The efficacy in execution of programmes may be strengthened for achieving the targets. The block performance in primary (99.31) and secondary (72.59) enrolment is low and has to be strengthened to reach the level of 100. This has to be viewed seriously and control the dropouts both at the level of primary and secondary education.

In the context of child development, health has been considered as one of the primary indicators. Health index is worked out as a component of CDI, incorporating U5MR, percentage of malnourished children and juvenile sex ratio as shown in the (Appendix : Table 9.6). Under-five mortality index minimum and maximum values of the blocks varies around ten times. The district's U5MR is 11.00. The maximum rate is 22.31 reported in Thiruvidaimarudur block and minimum value is 4.16 recorded in Sethubavachatram block. The differences between the minimum and maximum are around five times. It is observed that the attention is not uniform in all the blocks of the district. Further, the people have to come forward in participating in all the health care activities of the government to reduce under five mortality rate. These rates are not uniform over the years and it varies significantly. The per cent of malnourished children in the district is 15.21, which is 13,854 children live in the district. The proportion is very high in the block Papanasam (27.67) and it is very low in Madukkur block (5.41). The ongoing ICDS activities may be streamlined and implemented to reduce the malnourished children in the district. The lowest index is recorded in Papanasam (0.000) and the highest index is witnessed in Madukkur block (1.000). In the case of malnourished children, the difference is also around ten times. Juxtaposing the index values of U5MR and the malnourished children, there is no correlation between the two. However these variables are related to one another and the contribution of other factors also has to be identified in assessing the overall development of the children in the district.

The juvenile sex ratio of the district is 957, which is lower than the overall sex ratio of the district. The sex ratio is very high in Thiruvidaimarudur block (973) and it is very low in Thanjavur block (933). It is observed that the people used to prefer male children rather than girl children. Since they have faced various hurdles in their life, they try to avoid the female children through various ways and means. Among the blocks, the index values differ around ten times. This has to be viewed very

seriously and implement the ongoing social welfare and health care programs effectively to control all types of social evils. Education index is one of the proxy indicators for assessing child development (Appendix : Table 9.6 and 9.7).

The education development is measured by using five indicators namely enrolment rate in the primary and secondary, transition rate in the primary and secondary, and children never enrolled in school level education. Irrespective of blocks, community, and religion, all the people put their children in schools for providing good quality education. Besides, the government as well as the private schools is contributing for the development of education in the district. Overall, the performance of the district is close to hundred. However, the quality of education may be improved at all levels.

Multi-Dimensional Poverty Index —Inter-Block Variations

Multi Dimension Poverty Index includes the following indicators. Table 2.4 shows top and bottom three blocks performed in MDPI.

Dimensions	Indicators
Health	IMR
	Higher Order Birth Rate
	Malnourished Children
Education	Dropout in Primary
	Dropout in Secondary
Standard of living	Access to Cooking Fuel
	Access to Toilet Facilities
	Access to Drinking Water
	Access to Pucca Houses
	Access to Electricity

The top performers are Madukkur, Peravurani, and Pattukottai and bottom performers are Thiruvonam, Sethubavachatram and Orathanadu. Hence, the district administration can prioritize the blocks and make provision of the basic needs.

Table 2.4: Top and Bottom three blocks in Multidimensional Poverty Index, 2014

Top Three blocks with Lower MDPI value	Bottom Three blocks with Higher MDPI value
Madukkur – 0.332	Thiruvonam – 0.558
Peravurani – 0.352	Sethubavachatram – 0.582
Pattukottai – 0.376	Orathanadu – 0.588
Source: Computed.	

Madukkur block has performed well in MDPI and earned the score of 1st and the index value is 0.332 (Appendix : Table 9.9). Of the three sectoral indicators of health, education, and living standard, the performance of health is not upto the mark. However, this has to be viewed seriously and try to reduce IMR (11.06), HOB (6.41), and Malnourished children (5.41). The proportion of households live below poverty is 24.40 during 2014, which is below the level of district average (37.37) (Table: 3.7). Health specific interventions may also be given by way of making temporal analyses to avoid sporadic incidences and outbreak.

Peravurani block has performed well in MDPI (0.352) and earned the rank of 2nd (Appendix : Table 9.9). The district administration under TNSRLM has enumerated the BPL for the implementation of developmental programmes. This statistics has been worked out on the basis of participatory method. The current poverty level is 34.32 per cent (Table: 3.7). The on-going income and asset creation programmes may be implemented with effective participation of the targeted groups. Of the three sectoral indicators of health, education, and living standard, the performance of health is poor in this block. This has to be viewed seriously and try to reduce IMR (7.59), HOB (7.18), and malnourished children (10.64). All the health parameters have to be examined over the years for execution of all health care programmes.

The 3rd rank reached to Pattukottai block and the computed MDPI is 0.376 (Appendix : Table 9.9). The proportion of poverty is 30.28, which is also below the mark of district level (37.37) (Table: 3.7).

Of the three sectoral indicators of health, education, and living standard, the performance of health is relatively poor in this block. This has to be viewed seriously and try to reduce IMR (3.96), HOB (9.22), and malnourished children (17.21).

Among the three bottom scored blocks in Thanjavur district, Thiruvonam block has not performed well in MDPI (0.558) and earned the score of 12th rank (Appendix : Table 9.9). The current poverty level is 35.43 per cent (Table 3.7). The performances are below the levels of district's performance (37.37). Of the three sectoral indicators of health, education, and living standard, the performance of health is poor in this block. This has to be viewed seriously and try to reduce IMR (12.73), HOB (11.29), and malnourished children (12.06). Further, these health parameters have to be examined not only for a specific period and have to be seen over the years for assessing the chronic ailments prevail in the block. In the context of living standards the performance is very poor in using cooking fuel (18.39%) and pucca houses (24.56%). Specific interventions are needed to enhance the living standard of the block population.

Sethubavachatram block has not performed well in MDPI (0.582) and earned the score of 13th. The level of poverty is 34.05 per cent (Table 3.7), which is worked out on the process social mapping. Of the three sectoral indicators of health, education, and living standard, the performance of health is very poor in this block. This has to be examined and try to reduce IMR (2.78), HOB (12.38), and malnourished children (20.59). The HOB and malnourished children performances are well above the levels of district's performance. In the case of living standard, the performances are very poor in respect of cooking fuel (27.21%) and toilet facilities (38.92%). These issues have to be addressed to enhance the overall living standard.

Orathanadu block has not performed well in MDPI (0.588) and earned the score of 14th. It is rather surprise to see very high level of poverty in the district 33.98% (Table 3.7). Efficacy of poverty alleviation programmes may be evaluated; and making provision of exclusion and inclusion of households under BPL. Of the three sectoral indicators of health, education, and living standard, the performance of living standard is very poor in this block. The performance of consuming cooking

fuel (11.16%) and using toilet facilities (29.89%) is not up to the mark. Further, the performance of health indicators IMR (13.56) and malnourished children (17.43%) are relatively high as compared to the district, except HOB (7.88). These parameters have to be prioritized and funds be earmarked to enhance the overall development of the block.

Integrated Analysis: Human Development Index

Human development index has been evolved following the methodology of UNDP. Since the data is not available at the sub district level, the following three indicators are incorporated in evolving HDI. The indicators are standard of living, health, and education. At the first phase, sector wise index values were worked out. At the next level, geometric mean is worked out for all the three sectoral indices and evolve human development index. On comparing the block performances, the Thanjavur block (0.854) reached at higher level and Orathanadu block (0.370) reached at lower level. It reveals that the overall performance differs significantly among the fourteen blocks of the district. Since the data has not been classified as rural and urban, it gives better picture in Thanjavur (0.854) and Pattukottai (0.782) blocks. These values help in identifying the gap between the current levels of development in the district. This has been presented in Table 2.5. The differences between minimum and maximum HDI values are around two times. On human development perspective adequate attention may be given to the rest of ten blocks of the district. Among the ten blocks, government can prioritize sectors and earmark the funds for achieving human development uniformly in all the areas of the district.

Integrated Analysis: Gender Inequality Index

GII is the measure of these inequalities built on the same framework as the Human Development Index to better expose differences in the distribution of achievements between female and male. Among the fourteen blocks of the district (Table 2.5), the minimum value of the GII index is recorded in Thanjavur block (0.030) and the maximum value is registered in Ammapettai block (0.146), but the space between the high score of one and the maximum score reached by the district, viz., Ammapettai (0.146) is large. It could be seen that there is no correlation in the performance of various indicators identified for measuring the gender development. As per the

classification, some blocks performed at higher level in some respect, and the same blocks too have performed very poorly in some other aspects.

Table 2.5: Blocks in overall index and ranking in Thanjavur district

S.No	Block / District	HDI	Rank	GII	Rank	CDI	Rank	MDPI	Rank
1	Ammapettai	0.513	11	0.145	14	0.433	12	0.462	8
2	Budhalur	0.569	9	0.053	4	0.577	7	0.547	11
3	Kumbakonam	0.734	3	0.047	3	0.634	4	0.420	5
4	Madukkur	0.643	6	0.131	13	0.574	8	0.332	1
5	Orathanadu	0.370	14	0.047	2	0.426	13	0.588	14
6	Papanasam	0.671	5	0.100	11	0.553	9	0.543	10
7	Pattukottai	0.782	2	0.085	8	0.711	1	0.376	3
8	Peravurani	0.721	4	0.054	5	0.627	5	0.352	2
9	Sethubavachatram	0.553	10	0.091	9	0.583	6	0.582	13
10	Thanjavur	0.854	1	0.030	1	0.676	2	0.391	4
11	Thiruppanandal	0.576	8	0.083	7	0.378	14	0.432	7
12	Thiruvaiyaru	0.628	7	0.125	12	0.541	10	0.422	6
13	Thiruvidaimarudur	0.431	12	0.059	6	0.450	11	0.489	9
14	Thiruvonam	0.390	13	0.091	10	0.648	3	0.558	12

Source: Computed.

Among the fourteen blocks of the district (Table 2.5), the minimum value of the GII index is recorded in Thanjavur block (0.030) and the maximum value is registered in Ammapettai block (0.146). The space between the high score of one and the maximum score reached by the district viz., Ammapettai (0.146) is large. As per the classification, some blocks performed at higher level in some respect, and the same blocks too have performed very poorly in some other aspects.

Integrated Analysis: Child Development Index

Assessing and measuring the levels of child development is one of the indicators of human development. This has been presented in Table 2.5. The health and education sectoral indices are taken into account in arriving at the Child Development Index. The minimum and maximum value ranges between 0.711 in Pattukottai and 0.378 in Thiruppanandal block. Besides, tracking the children at different levels during their schooling period, the children are also promoted compulsorily up to ninth standard to reduce the dropout rate. Sometimes, this might have an

adverse effect when the students opt for higher studies and competitive exams. Health index is worked out as a component of CDI, incorporating U5MR, Juvenile Sex ratio, and percentage of malnourished children as shown in the Appendix : Table 9.7.

Integrated Analysis: Multidimensional Poverty Index

The Multidimensional Poverty Index (MDPI) identifies multiple deprivations at the individual level in health, education, and standard of living. Table 2.5 shows the multidimensional poverty index computed for the fourteen blocks of the district. This index comprises of health, education, and standard of living. The worked out minimum and maximum value is reaching around two times. The index value of Madukkur block is 0.332 reaching as top one, and the index value of Orathanadu block is 0.588 reaching as the number one in the category of bottom block. It shows that attention is needed in all the bottom blocks on human development perspective.

Conclusion

This chapter portrays theoretical and conceptual framework and the methodology for evolving various indices such as HDI, GII, CDI, and MDPI. Each index reflects the development of specific sector and reveals the pros and cons of each block. This analysis would help the policy makers for evolving policies and achieving overall development of the block both at the household and regional levels. Further, it gives prescriptions for removing stumbling blocks in the execution of various development programmes conceived for alleviating poverty and reduction of inequality in the district. Each index, indicators and blocks wise performances are categorized as top and bottom three blocks. Juxtaposition of the results, there is no symbiotic relationship among the indices as well as within the index. It shows that the level of development varies among the blocks as well as various sectors. It clearly prescribes specific sector and block wise interventions needed in achieving sustainable and balanced development in the district.

CHAPTER 3

EMPLOYMENT, INCOME AND POVERTY

Chapter
3
Employment, Income and Poverty

Introduction

This chapter portrays the employment, income, and poverty status of Thanjavur district. Further it provides a detailed block wise intra-district analysis and also between rural and urban areas.

Employment

An attempt has been made to examine the total and type of workers available in various blocks of the district from the census data of 2001 and 2011. It is expected that these analysis would help in formulating plans at the sub-district level for utilizing the labour effectively.

Table 3.1: Total Workers and Non-Workers during 2001 and 2011

S. No	Block / District	Total workers		Total Workers				Non Worker		Total Population	
				Main Workers		Marginal Workers					
		2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
1	Ammapettai	52210	55124	40748	47031	11462	8093	69014	73828	121224	128952
2	Budhalur	55285	67993	42094	56238	13191	11755	88002	104655	143287	172648
3	Kumbakonam	109210	124857	98864	111149	10346	13708	195435	206929	164691	191630
4	Madukkur	36733	34800	31031	27503	5702	7297	44874	47983	81607	82783
5	Orathanadu	80422	80629	65777	68014	14645	12615	87426	90833	167848	171462
6	Papanasam	51051	55571	42528	48484	8523	7087	82818	88988	133869	144559
7	Pattukkottai	80332	83025	67371	72650	12961	10375	118410	134407	133209	144297
8	Peravurani	48921	49217	39169	39474	9752	9743	56489	61623	105410	110840
9	Sethubavachatram	44046	43279	35435	37617	8611	5662	46765	54063	90811	97342
10	Thanjavur	132045	151860	117320	131686	14725	20174	234677	250429	151408	179346
11	Thiruppanandal	43300	48095	35177	37178	8123	10917	65867	70505	109167	118600
12	Thiruvaiyaru	46173	50974	37792	43625	8381	7349	67197	72353	113370	123327
13	Thiruvidaimarudur	76376	84132	65743	74423	10633	9709	125390	133225	201766	217357
14	Thiruvonam	41019	44523	30983	39412	10036	5111	36651	41990	77670	86513
	District	897123	974079	750032	834484	147091	139595	1319015	1431811	2216138	2405890

Source: Census of India, during 2001 and 2011.

Note: Municipality, CT and TP are added in the respective rural blocks.

Table 3.1 reveals block-wise size of workforce and work participation rate of Thanjavur district during the period of 2001 and 2011. All the urban areas have been clubbed into the concerned rural blocks of the district. It is observed that the population has increased from 22.16 lakhs to 24.05 lakhs in the district, but there is no substantial increase in the workers participation. The total workers of the district increased from 897 thousands to 974 thousands between the year 2001 and 2011. The decadal growth rate of total workers is 8.58 in the district. The same performance could not be seen in all the blocks of the district. This may be attributed to endowment of natural and manmade resources. For instance, the total workers are very high in Thanjavur, Kumbakonam, and Orathanadu blocks compared to other blocks. In some of the blocks, the total workers are relatively low. It is observed that the size and number of Panchayat villages differ significantly among the fourteen blocks of the district. Hence, there is a significant variation in terms of population and total workers. The main workers of the district has steadily increased from 7,50,032 (2001) to 8,34,484 (2011). The decadal growth rate of the district is 11.26. A similar trend could be seen in all blocks of the district. The government aims to reduce marginal workers as well as non-workers by way of generating additional employment both in farm and non-farm sectors. However, the growth rate of marginal workers is very low to the level of -5.10 in the district. These marginal workers are very close proportion to total population. In the case of non-workers, the growth rate of the district is 8.55. However, there is a rich scope in eliminating non- workers by way of enhancing their working skills through formal and informal short term training after assessing the potential of the workers.

Work Participation Rate

Table 3.2 shows gender and area wise workers of Thanjavur district between the period of 2001 and 2011. During 2001, the proportion of rural and urban workers of Thanjavur district was 44.19 per cent and 33.22 per cent respectively. These proportions are marginally changed as 43.56 per cent in rural areas and 34.88 per cent in urban areas during the year 2011. The percentage of the total workforce of the district has marginally increased during 2001 and 2011 and it stood as 40.48 and 40.49 respectively. However, there is a marginal increase in the male workforce from 68.94 (2001) to 69.86 (2011). This may be attributed to the migration of labourers from rural to urban area. Among

female workers in urban areas, the work participation rate is marginally increased and it is calculated as 20.86 and 21.64 during 2001 and 2011 respectively.

Table 3.2: Work Participation Rate during 2001 and 2011

Rural/Urban		2001	2011
Rural	Male	65.03	66.13
	Female	34.97	33.87
	Persons	44.19	43.56
Urban	Male	79.14	78.36
	Female	20.86	21.64
	Persons	33.22	34.88
Total	Male	68.94	69.86
	Female	31.06	30.14
	Persons	40.48	40.49

Source: Census of India, during 2001 and 2011.

Box 3.1: Status of Child Labour in Thanjavur District

Child labour percentage of children aged 5 to 14 years of age involved in child labour activities at the moment of the survey. A child is considered to be involved in child labour activities under the following classification: (a) children 5 to 11 years of age that during the week preceding the survey did at least one hour of economic activity or at least 28 hours of domestic work, and (b) children 12 to 14 years of age that during the week preceding the survey did at least 14 hours of economic activity or at least 42 hours of economic activity and domestic work combined.

Table: Particulars of Child Labour during 2012-2014

Year	Number of Inspection	Number of companies inspected	No.of Child Labour Identified (Below 14 years)
2012	12	1,012	2
2013	10	875	5
2014	-	-	2
Total	22	1,887	9

Source: Department of Industry, Labour Inspector, Thanjavur, 2014.

The department of industry of the state government periodically inspect and identify the child labour prevails in the major and minor industries and commercial establishments. In this district, the labour inspectors conducted 22 inspections in 1887 companies during last three years (2012 – 2014). Of these inspections, there are nine child labourers identified and cases registered against the owners of the companies. They paid penalty of Rs.5,000 and Rs.10,000 depending on the nature of cases. It is observed that the child labour has been reduced drastically in the district due to continuous inspections and vigil of the labour department.

Sectoral Composition of Workers

Sectoral composition of workers gets changed over the years due to development registered in the district. Block wise sectoral composition workers of the district is presented in Table 3.3. The total workers are classified in four categories, such as cultivators, agricultural labourers, household industry workers, and other workers. The growth rate of cultivators during 2001 and 2011 is -10.13. The negative growth of cultivators shows that they have switched over to non-agricultural activities due to vagaries of monsoon and unstable farm income. Due to the introduction of modern technology in agriculture, there is a significant reduction in labour absorption.

Table 3.3: Composition of Workers in Major Sector

S.No	Block / District	Total workers		Cultivators		Agricultural Labourers		Household Industry		Other Worker	
		2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
1	Ammapettai	52210	55124	6619	6374	34465	34199	1327	1204	9799	13347
2	Budhalur	55285	67993	8522	7178	24465	25017	1499	1825	20799	33973
3	Kumbakonam	109210	124857	6627	7210	31129	33795	8629	6504	62825	77348
4	Madukkur	36733	34800	9869	7150	19484	18655	565	692	6815	8303
5	Orathanadu	80422	80629	26116	23853	42060	41772	1838	1452	10408	13552
6	Papanasam	51051	55571	6346	5916	26430	28644	2876	2243	15399	18768
7	Pattukkottai	80332	83025	13605	11097	31509	28107	1846	1866	33372	41955
8	Peravurani	48921	49217	13262	10087	26045	27011	912	1027	8702	11092
9	Sethubavachatram	44046	43279	11004	9127	23713	21142	408	481	8921	12529
10	Thanjavur	132045	151860	11253	11541	38370	36269	5854	4591	76568	99459
11	Thiruppanandal	43300	48095	6701	5823	26522	30289	1239	1168	8838	10815
12	Thiruvaiyaru	46173	50974	6367	6313	28646	29813	835	866	10325	13982
13	Thiruvidaimarudur	76376	84132	7057	7558	32912	31842	9395	6722	27012	38010
14	Thiruvonam	41019	44523	11594	10686	24968	28806	763	559	3694	4472
	District	897123	974079	144942	129913	410718	415361	37986	31200	303477	397605

Source: Census of India, during 2001 and 2011.
Note: Municipality, CT and TP are added in the respective rural blocks.

The number of cultivators is less than 10,000 in nine blocks of the district. They are Ammapettai (6,374), Budhalur (7,178), Kumbakonam (7,210), Madukkur (7,150), Papanasam (5,916), Sethubavachatram (9,127), Thiruppanandal (5,823) Thiruvaiyaru (6,318) and Thiruvidaimarudur

(7,558). Of these nine blocks, number of cultivators has increased only one block, Thanjavur. Apart this one block, the cultivators of Thanjavur block has increased from 11,253 to 11,541 during 2001 and 2011. The growth rate of agricultural labourers in the district is 1.13 during 2001 and 2011. It increased from 4,10,718 to 4,15,361. The increase of agricultural labourers has been noticed in seven blocks of the district. They are: Kumbakonam, Madukkur, Papanasam, Peravurani, Thiruppanandal, Thiruvaiyaru, and Thiruvidaimarudur. Another seven blocks, has marginally decreased such as Ammapettai, Budhalur, Orathanadu, Pattukkottai, Sethubavachatram, Thanjavur, and Thiruvidaimarudur of agricultural labourers during 2001 and 2011.

Sethubavachatram block is situated in the flood prone area of the district and the farmers have been forced to reduce the agricultural activities. Hence there is a reduction in the number of agricultural labourers. Household industrial activities have been encouraged by way of providing various financial and physical incentives to the eligible households by the government. However the growth rate is negative 17.86 in the district, which is very low compared to other category of workers except cultivators. Among the fourteen blocks, the number of household industry workers increased in six blocks, such as Budhalur, Madukkur, Pattukkottai, Peravurani, Sethubavachatram, and Thiruvaiyaru. This may be attributed to SHGs activities in the district.

The growth rate of other workers is 31.02, which is relatively high compared to other composition of workers in the district. The number of workers increased from 3,03,477 to 3,97,605 during 2001 and 2011. A uniform picture can be seen in all the blocks of the district. However, the growth rate differs among the blocks. It is observed that the skills of the workers, accessibility, communication facilities, and other infrastructure facilitate to diversify their activities and sustain in enjoying employment opportunities in the district. It is interesting to note that occupational changes could be seen for the last four generations in the district. In the course of development, they acquire additional skills and take up new employment, which is totally different from their traditional activities.

Box 3.2: MGNREGA – Employment and Income

MGNREGA has been introduced in all the blocks of the district expecting to provide sustainable employment during lean season and strengthening the basic infrastructural facilities aiming to enhance the total factor productivity. During the financial year 2012-13, 3,934 works were completed with the expenditure of Rs. 16,507 lakhs. Since the works have not covered any material costs, this total expenditure has turned down as income of the beneficiaries works under MGNREGA during the financial year 2013-2014 in Thanjavur district include: laying rural roads, flood control, water conservation and water harvesting, renovation of traditional water bodies, rural sanitation etc.

Table shows job cards issued, households provided with employment, households completed 100 days of employment and number of disabled beneficiaries in the district. In total, 3,21,088 job cards were issued to the entitled households. Across the blocks, the possessions of job card holders vary in relation to the proportion of households live in the blocks. Of the total job card holders, only 70.24 per cent of them availed employment through the scheme.

Table: Employment Generated During The financial Year 2013-2014

S.No	Block / District	No. of HH issued job cards	No. of HH provided employment	No. of HH completed 100 days	No. of Disabled beneficiary individuals
1	Ammapettai	18,671	12,682	1,433	224
2	Budhalur	23,422	18,083	1,828	274
3	Kumbakonam	31,789	22,735	2,581	353
4	Madukkur	14,052	8,009	2,365	178
5	Orathanadu	29,253	19,503	2,147	227
6	Papanasam	22,353	16,739	1,364	296
7	Pattukkottai	21,211	12,619	1,100	159
8	Peravurani	19,233	13,916	1,133	203
9	Sethubavachatram	18,908	11,878	2,466	214
10	Thanjavur	33,198	18,530	1,820	293
11	Thiruppanandal	22,972	19,866	1,412	298
12	Thiruvaiyaru	21,862	16,961	1,563	235
13	Thiruvidaimarudur	25,427	21,785	1,426	581
14	Thiruvonam	18,737	12,219	825	230
	District	3,21,088	2,25,525	23,463	3,765

Source: Ministry of Rural Development, DRDA, Thanjavur, 2014.

It is understood that some of the households received job cards and they have not taken any employment from the scheme due to low wages and expecting some future benefits using the cards. It is interesting to note that only 10.40 per cent of households (23,463) have received employment of 100 days. Most of the households treat MGNREGA as a complementary input for their livelihood. Since, the market wage is relatively high, the 100 days employment has not been realized in the district. The scheme also gives provision to entertain disabled people. Accordingly, beneficiaries have registered in all the blocks of the district. In total, there are 3,765 (1.97 %) beneficiaries received employment as per the guidelines of the scheme. It reveals that the disabled population lives in all the blocks of the district.

Employment Registration

Table 3.4 gives a picture about the number of employment registrations made in Thanjavur district and the percentage of people given placements. In 2013, only 576 people were employed through employment exchanges, which accounts for 1.25 percent of the registered number of people.

Table: 3.4: Registration and placement provided by Employment office

S. No	Block / District	2013			2014		
		Registration	Placement	%	Registration	Placement	%
1	Ammapettai	1,116	5	0.45	860	2	0.23
2	Budhalur	1,356	9	0.66	1,149	9	0.78
3	Kumbakonam	2,859	58	2.03	6,363	153	2.40
4	Madukkur	1,062	0	0.00	1,008	1	0.10
5	Orathanadu	4,828	73	1.51	3,662	86	2.35
6	Papanasam	4,434	59	1.33	3,354	151	4.50
7	Pattukkottai	1,700	93	5.47	1,143	59	5.16
8	Peravurani	3,245	18	0.55	2,499	24	0.96
9	Sethubavachatram	600	1	0.17	475	0	0.00
10	Thanjavur	20,045	128	0.64	17,351	266	1.53
11	Thiruppanandal	1,119	0	0.00	907	3	0.33
12	Thiruvaiyaru	1,932	84	4.35	1,262	120	9.51
13	Thiruvidaimarudur	1,194	45	3.77	992	127	12.80
14	Thiruvonam	650	3	0.46	500	0	0.00
	District	46,140	576	1.25	41,525	1001	2.41

Source: District Employment Officer, Thanjavur, 2014.

The number of people employed during 2014 is marginally high (1001). At the same time, the number of people registered for employment has also increased in the same year. However, there is marginal change in the percentage of employed people in the district, which stood at 2.41. The number of registrations differs among the blocks of the district. The potential employees know their skills and select people alone have registered in the employment exchanges. It shows that the people have to enrich their educational qualification and working skills to meet the employment demand in the market. Besides, the population is inclining towards secondary and tertiary employment, and the

primary agricultural sector has started to lose its scene. In general, the placement percentage in the government sector is very poor in the district.

Box 3.3: Outsourcing Paddy Nurseries

The objective of the case study is to solve the problem of size inefficiency in developing nurseries on their own farms. In the course of development, the fragmentation of land holdings has been increased in all the areas of the district, resulting technical and economic inefficiencies. Outsourcing is one of the alternative method has been tried by the farmers of the district. Agriculture in parts of Cauvery delta attained an industrial flavour with farmers outsourcing paddy nurseries from some private operators and also from farming peers. One could see the workers loading ADT 43, ADT 36 variety of nurseries grown in special mats into a mini lorry from a farm located in Saliyamangalam village. A multinational firm which has taken the farm for lease from a local farmer, raises nurseries for farmers who are in for Kuruvai cultivation. An official of the firm on conditions of anonymity said "We take orders from farmers about the variety of paddy to be grown. Once the farmer pays the advance, we raise nurseries in our farm". At present, Rs.5,500 per acre has been charged which includes cost of the seed, raising the nursery with inputs, transplanting, the nurseries using the machines in the farmers field and also spraying weedicide, the official added. Usually, 16-day old nurseries were transplanted in the fields, he said.

Unconfirmed estimates say that the private firm alone supplied seedlings to 10,000 acres during the last samba season in the Cauvery delta districts. The areas that have been planted with the transplanting machines would be much higher with many farmers owning such machines themselves. Ramalingam, a farmer from Kottaiyur village near Kumbakonam, who now owns a transplanter, said he was also approached by the representatives of the private firm. Since he felt the rate quoted by them was a little higher, he purchased a machine for himself. "The transplanting by the machine has been even throughout the field and one could get a good yield. The depth to which the seedling is immersed is uniform," he says. Moreover, the labour shortage was also an added reason why he opted for machine transplantation. The cost of the machine with six rows cost "10 lakhs and the farmer could get a subsidy of "4 lakhs. Sundara Vimalnathan, the secretary of Thanjavur District Cauvery Farmers Protection Association, says with the machine one could transplant eight acres per day which may go up to 11 acres with the skill of the operator. "The machine is suitable for System Rice intensification and one could have upto 56-60 tillers in a clump of seedling" he added. In Thanjavur district, the transplanters have been widely used in Ammapettai, Melattur, and Thiruvidaimarudur areas.

Income

Table 3.5 highlights the sectoral distribution of Gross district domestic product in Thanjavur district during 2011-2012. During 2011-2012, the district's GDDP is Rs. 11,15,056 in lakhs. Of this, the contribution of tertiary sector is very high (70.43) followed by secondary (16.57) and primary (13.01).

Table 3.5: Sectoral Distribution of Gross District Domestic Product

Year	GDDP - At Constant (2004-05) Prices (In Lakhs)					
	Thanjavur			Tamil Nadu		
Sector	2009-10	2010-11	2011-12	2009-10	2010-11	2011-12
Primary	1,07,482 (11.91)	1,11,750 (10.97)	1,45,040 (13.01)	32,79,727 (9.20)	35,16,987 (8.72)	38,72,767 (8.94)
Secondary	1,44,038 (15.96)	1,74,101 (17.09)	1,84,722 (16.57)	1,08,57,492 (30.44)	1,25,42,302 (31.09)	1,30,39,248 (30.10)
Tertiary	6,51,076 (72.13)	7,33,095 (71.95)	7,85,294 (70.43)	2,15,25,966 (60.36)	2,42,82,284 (60.19)	2,64,11,788 (60.96)
Total	9,02,596 (100)	10,18,946 (100)	11,15,056 (100)	3,56,63,185 (100)	4,03,41,573 (100)	4,33,23,803 (100)

Source: Department of Economics and Statistics, Govt. of Tamil Nadu, 2014.

Per Capita Income

Development of the district can be assessed with the help of district income and per capita income. This may be examined both with current and constant prices of income. Over the years, the sectoral composition as well as the growth of income differs significantly due to various natural and manmade factors. PCI is one of the proxy indicators highlighting the economic development of the region.

Table 3.6: Per Capita Income (In Rupees)

At Constant Price (2004-2005)		In Rupees
Year	Thanjavur	Tamil Nadu
2004-05	26,578	33,998
2005-06	29,954	38,435
2006-07	34,117	43,941
2007-08	35,768	46,293
2008-09	37,623	48,473
2009-10	39,293	53,359
2010-11	44,234	59,967
2011-12	48,284	63,996
CAGR	7.77	8.23

Source: Department of Economics and Statistics, Govt. of Tamil Nadu, 2014.

Table 3.6 shows the per capita income of the district as well the state. During 2009-10 the district PCI is Rs. 39,293, which is far below the state PCI of Rs. 53,359 at constant prices. During 2011-12 the PCI of the district has increased to Rs. 48,284 and the state PCI has also increased to Rs. 63,996. Compound Annual Growth Rate of the district is 7.77, which is lower than State (8.23).

Box 3.4: Horticulture : High Tech Poly Green House for Capsicum Cultivation

The objective of the case study is to portray the farm under high tech poly green house for capsicum cultivation through NHM. Farmers of Thanjavur have taken to capsicum cultivation in a big way, thanks to the National Horticulture Mission implemented by the horticulture department. Capsicum used in eatables such as pizza, burger, and fried rice has a good market potential.

R. Manivannan, a farmer of Eachankottai village, has raised capsicum on 1000 Sq mts in his R.R. Farm under high tech poly green house. Every alternate day, they harvest capsicum and send it to Trichirapalli market, he said. "We raise the seedlings in a poly tray using seeds given by the horticulture department. Later, the seedlings are planted. Yield starts after 55 days of planting. From seed to yield it takes 90 days. We harvest 150 to 200 kilos of capsicum every alternate day," Mr. Manivannan said. Each plant gives a yield of two kilos. The selling price was Rs.33 per kilo. Drip irrigation is done and fogger is used to maintain humidity. A met chamber indicates the temperature of the green house so that sprinkling water or irrigation can be taken up. The deputy director of horticulture said that the department is giving Rs.215 per Sqmt as subsidy. Mr. Manivannan has also raised chilies in another 1000 Sqmt. Canara Bank, Vallam branch, has given a loan of Rs.20 lakh to Manivannan for raising capsicum and chillies. Manivannan has also raised yellow and red capsicum for seed purpose. "We are doing integrated farming. Besides, capsicum we have raised black gram, paddy, tissue culture banana, and a dairy farm. There are twelve milch animals now which give 60 litres of milk per day. The horticulture department has taken steps to increase the area under horticulture crops. Cocoa has been raised in 300 hectares in Thanjavur district. Pepper has been raised as an intercrop in coconut groves in Peravurani area.

Poverty

Quantitative and qualitative aspects of an individual's well-being are captured through indicators of longevity, literacy, and per capita income etc. UNDP strives to generate global Human Development. The concept of human well-being not only includes consumption of goods and services but also the accessibility of all sections of population to the basic necessities of a productive and a socially decent life. Attainments in areas of education and knowledge, health, and longevity and the quality of overall social and physical environment of life are some measures for assessing

human well-being. Per capita income does not always ensure substantial improvement in the quality of life as reflected by the broader dimensions of well-being such as indicators of longevity, literacy, and environmental sustainability. These are all socially desirable outcomes, and therefore carry more weight than the sole per capita income criterion.

Socio-Economic and Caste Census (SECC)

The SECC-2011 is a comprehensive door-to-door enumeration both in rural and urban India with the aim to identify the vulnerable or poor households in the country. Information on the housing conditions, living conditions, work profile, and other indicators of the social and economic status of the households are being collected on the individual households and the exercise has been completed and the SECC report will be released shortly.

Box 3.5: Bronze Artisans of Swamimalai

The objective of the case study is to portray the traditional skills of bronze idol making in Swamimalai in Kumbakonam Taluk, Thanjavur district. It is a production centre for bronze idols of Gods and Goddesses and great leaders. **The town has a heritage of bronze making dating back to the Chola period.** Most of the village people of this place are exclusively involved in making bronze icons. This village has the school that teaches the craft of making bronze icons. Swamimalai is the sole surviving traditional center for Bronze casting in Tamil Nadu. Nearly 650 families are engaged in Panchaloga idol (Aimpon) making profession and the icon artisans are mainly dependent on the sales of their finished icon idols. Low profit and wages in this industrial activity has led to the lack of interest of new learning artisans and descendant artisans. Absence of modern sales/display centre and show room with modern tools like A.C., Sophisticated Sales Rack, Almira, and Furniture to attract the customers and to promote the bronze idol sales of the artisans is a major setback which hinders the growth of this industry. Further the absence of sales/display centre for marketing their bronze idols, has also resulted in middlemen involvement in their business activity.

The only sales showroom available to the icon artisans is the Swamimalai Icon Manufacturers Co-op. Cottage Industrial Society Ltd., Swamimalai running under the control of the General Manager, District Industries Centre, Thanjavur, which is a 30 years old building. The Swamimalai Icon Manufacturers' Cottage Industrial Co-op. Society has 450 idol making artisan members from the entire Swamimalai and surrounding villages and well talented and famed for their workmanship. They are more interested in making new innovative idol designs. Steps could be taken to renovate and upgrade the Swamimalai Display cum Sales Showroom to assist the downtrodden artisan communities and provide them a platform for ensuring sustainable livelihood opportunities. It will expand the innovative ideas of idol making artisans and increase the productivity and sales which in turn will help improve their quality of life, and bring up the artisan families above the poverty line.

Below Poverty Line Status

Poverty statistics was generated by the district administration during 2014 and was followed by all the line departments for executing the programmes and distributing the benefits as per the guidelines of the programmes of Central and State Governments.

Table 3.7: Below Poverty Line Status during 2013 – 2014

S. No	Block / District	Total No. of Households	Total No. of BPL Households	% of BPL families
1	Ammapettai	31,974	10,815	33.82
2	Budhalur	43,728	21,646	49.50
3	Kumbakonam	83,749	34,241	40.89
4	Madukkur	22,320	5,446	24.40
5	Orathanadu	43,211	14,686	33.98
6	Papanasam	36,336	12,082	33.25
7	Pattukkottai	54,425	16,478	30.28
8	Peravurani	28,530	9,792	34.32
9	Sethubavachatram	25,124	8,555	34.05
10	Thanjavur	99,724	43,242	43.36
11	Thiruppanandal	29,137	10,127	34.76
12	Thiruvaiyaru	31,429	10,286	32.73
13	Thiruvidaimarudur	54,599	21,383	39.16
14	Thiruvonam	21,077	7,468	35.43
	District	6,05,363	2,26,247	37.37

Source: Project Director, DRDA, Thanjavur, 2014.

Note: Municipalities, CTs, and TPs are added in the respective rural blocks.

Table 3.7 shows the BPL statistics of the district and blocks. The district level BPL is 37.37 per cent which comprises both rural and urban areas. Among the blocks, Budhalur block has recorded the highest BPL percentage 49, and the lowest percentage is registered in Madukkur 24. Within the district, income and employment opportunities are different.

PDS

State governments hold the responsibility for distributing the essential commodities to the consumers through the established network of PDS outlets. The governments are also responsible

for operational responsibilities including allocation and identification of families below poverty line, issue of ration cards, supervision and monitoring the functioning of Fair Price Shops. The State Government uses PDS outlets for distributing various benefits to the targeted groups. These outlets are located in all the revenue villages of the district.

Family Card Holders

Table 3.8 shows the family card holders in the district of Thanjavur during 2014. All the 906 revenue villages are covered with PDS outlets in the district. PDS shops are functioning in delivering the essential goods and services. The district supply office maintains data at the taluk levels, hence analysis has been made on the same line.

Table 3.8: Family Card Holders

S. No	Taluk Wise	HH Provided Family Cards
1	Kumbakonam	1,18,469
2	Orathanadu	66,103
3	Papanasam	70,808
4	Pattukkottai	1,06,201
5	Peravurani	35,070
6	Thanjavur & Budhalur	1,55,301
7	Thiruvaiyaru	33,268
8	Thiruvidaimarudur	62,433
District		6,47,653

Source: District Supply Officer, Thanjavur, 2014.

The district supply office maintains data at the taluk level, hence analysis has been made on the same line. It is interesting to note that 6,47,653 family card holders have benefitted in the district. Across nine taluks, the number of family card holders varies around five times between Thiruvaiyaru 33,268 and Thanjavur & Budhalur 1,55,301. It shows the proportion of population live in these taluks.

Conclusion

In view of the facts discussed above, it could be concluded that the district's work participation rate has increased between 2001 and 2011. In the context of composition of workers, the number of cultivators has drastically come down in the district. This has been offset in agricultural labourers, household industry workers, and other workers. It reveals that there is a transition from agriculture to non-agriculture activities due to vagaries of monsoon and to avoid risk in agriculture. Further avenues opened up in the district to switch over for having high profit. Besides, government has implemented MGNREGS in all the blocks of the district for providing sustainable employment. The secondary objective of the scheme is building and strengthening the existing infrastructure in the villages in expectation of enhancing productivity in agriculture. This has been witnessed in all the blocks of the district. The role of district employment exchange in providing employment is very marginal and the opportunities are very limited in government sector. The district per capita income is low compared to state income. It reflects in the number of below poverty line households. The level of poverty marginally varied among the blocks. However, on-going poverty and alleviation programmes may be implemented with effective participation of the stakeholders to reach the goals. This government is providing a lot of freebies, subsidies and various incentives to the targeted population expecting to fill the income gap at the household level. This chapter leads to make further analysis on demography, health, and nutrition, which follows in the next chapter.

CHAPTER 4

DEMOGRAPHY, HEALTH AND NUTRITION

Chapter

4

Demography, Health and Nutrition

Introduction

This chapter portrays the demographic profile of Thanjavur district and its decadal growth rate, health, and nutritional status of the population of the district. Demographic analysis has been done totally on the basis of Census of India 2001 and 2011. The Resource Institution sensitized health and other officials and gathered the relevant data and finally validated the same for making further intra- district analysis.

Demography

Demography is the study of human population dynamics. It encompasses the study of the size, structure, and distribution of populations, and how population change over time due to births, deaths, migration, and aging. Demographic analysis can relate to whole societies or to smaller groups defined by criteria such as education, religion, or ethnicity. This section analyses the various areas of demographic data viz., gender and area wise population change, children below the age of six, sex ratio, SC/ST population change etc. Decadal growth rate in all the sectors has also been studied to understand how populations change over time.

Demographic Trends and Health Indicators

Table 4.1 shows that the population of the district has increased by 1.89 lakhs between 2001 and 2011. Among the blocks, Thiruvidaimarudur has the highest population (2.17 lakhs) in the district and Madukkur (0.81 lakhs) has recorded the lowest during 2011. Its population growth rate over the decade 2001-2011 was 8.56 and it is significantly low as compared to the state growth rate of 15.6. The growth rate varies marginally among blocks of the district. The net growth can be seen in the form of in-migration, out-migration, and births recorded in the blocks concerned. The population density of the district is 705 persons per Sq.km in 2011 when compared to 638 during 2001. The density of population has increased in all the blocks and the district. Specifically the density is very

high in the blocks of Kumbakonam (1639), and Thiruvidaimarudur (1037). These blocks has good access to the other parts of the district and neighbouring districts. These blocks have sizeable industrial, educational and social infrastructure; and these structures attract population to enjoy the benefits. The density is very low in the blocks of Sethubavachatram (402), Thiruvonam (406), and Madukkur (411). It has lot of agricultural lands and there is a little scope for industrial development. Hence the density of population is very closer to dry blocks.

Table 4.1: Demographic Profiles during 2001 and 2011

S.No	Block / District	Population		Density		% of SC pop	
		2001	2011	2001	2011	2001	2011
1	Ammapettai	1,21,224	1,28,952	460	489	30.27	32.45
2	Budhalur	1,43,287	1,72,648	433	522	20.79	21.08
3	Kumbakonam	3,04,645	3,31,786	1505	1639	16.03	18.10
4	Madukkur	81,607	82,783	406	411	11.80	12.01
5	Orathanadu	1,67,848	1,71,462	414	423	13.57	13.95
6	Papanasam	1,33,869	1,44,559	912	984	19.32	20.61
7	Pattukkottai	1,98,742	2,17,432	622	681	10.17	10.25
8	Peravurani	1,05,410	1,10,840	488	513	11.67	12.17
9	Sethubavachatram	90,811	97,342	375	402	9.77	10.17
10	Thanjavur	3,66,722	4,02,289	866	950	16.05	16.40
11	Thiruppanandal	1,09,167	1,18,600	643	699	38.41	38.99
12	Thiruvaiyaru	1,13,370	1,23,327	668	727	24.40	25.78
13	Thiruvidaimarudur	2,01,766	2,17,357	963	1037	19.04	19.88
14	Thiruvonam	77,670	86,513	364	406	22.91	23.38
	District	22,16,138	24,05,890	638	705	18.03	18.91

Source: Census of India during 2001 and 2011.

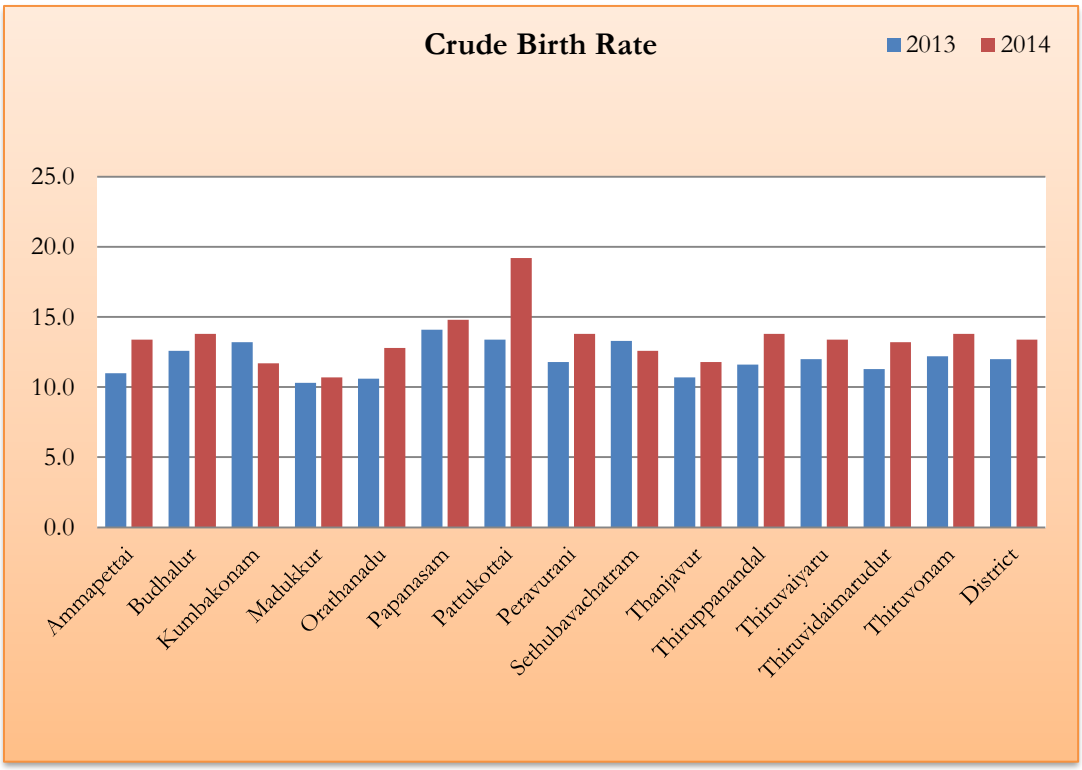
Note: Population of Municipality, CT and TP are added in the respective rural blocks.

The proportion of SC has marginally increased in the district from 18.03 % to 18.91 % during 2001 and 2011 respectively. The proportion is relatively high in Thiruppanandal block (38.99) and low in Sethubavachatram block (10.17) during the period of 2011. The total ST population in Thanjavur district is 3,641 in 2001 and 3,561 in 2011. The proportion of ST population is less than one per cent in all the blocks of the district.

Crude Birth and Death Rate

Crude Birth Rate is the number of resident live births for a specified geographic area during a calendar year divided by the total population for that area and multiplied by 1,000. The Crude Birth Rate (CBR) and Crude Death Rate (CDR) are statistical values that can be utilized to measure the growth or decline of a population. Birth and death rates are the deciding indicators of population growth. The crude birth rate of the Thanjavur district is given in the Figure 4.1. The average CBR is 12.0 in 2013 and 13.4 in 2014. The progress during 2013 – 2014 is only 1.4 per cent (Appendix : Table: 9.10). Across the blocks, the crude birth rate varies marginally. For instance, 12.4 are registered in Papanasam block and 19.2 are reported in Pattukottai block during 2014. There is no uniform trend across the blocks of the district.

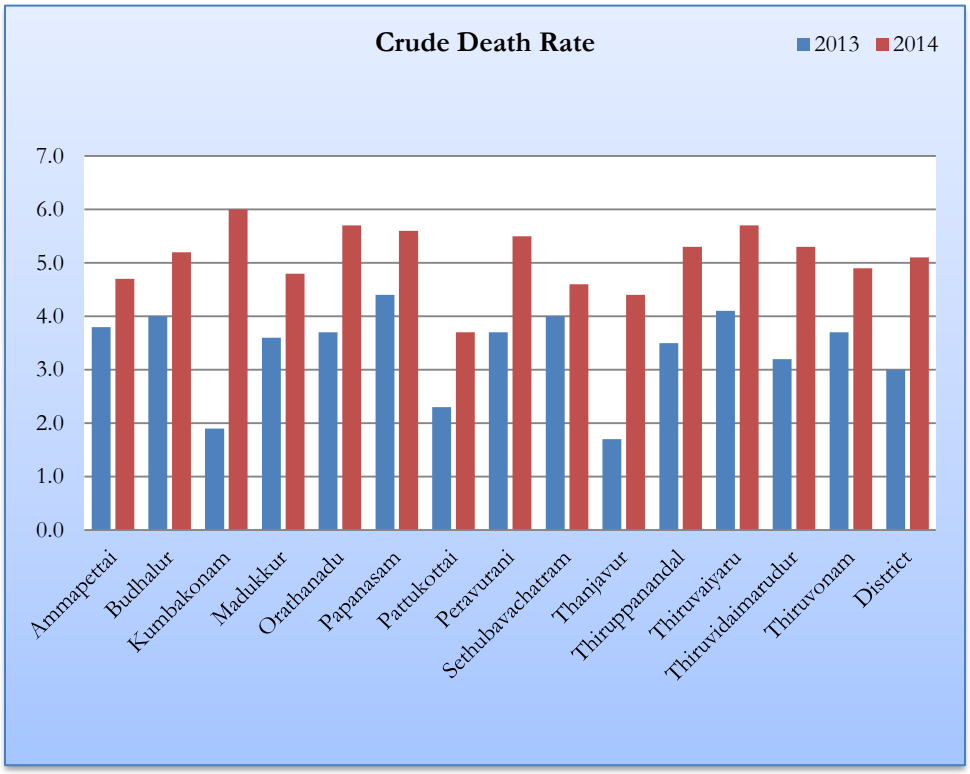
Figure 4.1: Trends in Crude Birth Rate



Source: Health Department, Thanjavur, 2014.

Further, the district's CDR has marginally increased from 3.0 to 5.1 during 2013 and 2014 (Figure 4.2). This trend has been noticed in all the blocks of the district (Appendix : Table 9.10). The Central and State Governments have taken adequate measures in controlling both CBR and CDR.

Figure 4.2: Trends in Crude Death Rate



Source: Health Department, Thanjavur, 2014.

Sex Ratio

Sex Ratio is a sensitive indicator that displays the status of women. Sex ratios affect various aspects of social life, including the availability of potential marriage partners and the composition of the labour force. The sex ratio of Thanjavur district during 2001 and 2011 is given in Table 4.2. Overall, sex ratio of Thanjavur district is 1021 and 1035 between 2001 and 2011. SC sex ratio is marginally varied as compared to overall sex ratio of the district. Among the fourteen blocks sex ratios have increased marginally.

Table 4.2: Sex Ratio during 2001 and 2011

S.No	Block / District	General		Increase or Decrease	SC	
		2001	2011		2001	2011
1	Ammapettai	1011	1018	7	1010	1009
2	Budhalur	1007	1019	12	1012	1011
3	Kumbakonam	1005	1017	12	996	999
4	Madukkur	1070	1133	63	1036	1082
5	Orathanadu	1038	1065	27	1018	1053
6	Papanasam	1042	1064	22	1004	1012
7	Pattukkottai	1036	1061	25	1036	1073
8	Peravurani	1031	1043	12	1055	1054
9	Sethubavachatram	1038	1054	16	1020	1006
10	Thanjavur	1017	1024	7	1017	1012
11	Thiruppanandal	1000	1006	6	999	997
12	Thiruvaiyaru	1021	1022	1	1027	1018
13	Thiruvidaimarudur	1002	1009	7	980	992
14	Thiruvonam	1024	1038	14	1013	1019
	District	1021	1035	14	1010	1015

Source: Census of India during 2001 and 2011.

Note: Population of Municipality, CT and TP are added in the respective rural blocks.

Among the SC population in the district, the sex ratio has increased from 1010 to 1015 between 2001 and 2011. However, the sex ratio has significantly increased in Kumbakonam, Madukkur, Orathanadu, Papanasam, Pattukkottai, Thiruvonam, and Thiruvidaimarudur blocks. It could be seen that the sex-ratio has reduced significantly in Ammapettai, Budhalur, Peravurani, Sethubavachatram, Thanjavur, Thiruppanandal, and Thiruvaiyaru blocks.

Child Sex Ratio

Child sex ratio is another vital indicator of population dynamics. Altering the sex structure of births include sex selective induced abortion, contraception and female infanticide. Concerted efforts are needed to create equal regard and affection for the girl child. The sex ratio among children (0 to 6 years) is showing a marginal decline. Many families wilfully decide to remove the female foetus in a quest for sons. Unfortunately this happens in the more educated and affluent localities. The

motivation is primarily to protect property, family business and to avoid giving dowry. If there has to be a change in mind-set, leaders in society have to show the way. Otherwise the population will become skewed leading to a host of societal problems like increased crime against women.

Table 4.3: Child Sex Ratio during 2011

S.No	Block / District	Population in the age group of 0-6		Sex-ratio
		Male	Female	
1	Ammapettai	6,517	6,163	946
2	Budhalur	8,813	8,400	953
3	Kumbakonam	16,624	15,984	962
4	Madukkur	4,145	3,966	957
5	Orathanadu	8,549	8,196	959
6	Papanasam	7,736	7,380	954
7	Pattukkottai	11,219	10,859	968
8	Peravurani	5,458	5,246	961
9	Sethubavachatram	5,101	5,026	985
10	Thanjavur	19,132	17,853	933
11	Thiruppanandal	6,388	6,119	958
12	Thiruvaiyaru	6,389	6,074	951
13	Thiruvidaimarudur	11,231	10,928	973
14	Thiruvonam	4,647	4,455	959
	District	1,21,949	1,16,649	957

Source: Census of India, 2011.

Note: Population of Municipality, CT and TP are added in the respective rural blocks.

The child sex ratio of Thanjavur district is given in Table 4.3. The child sex ratio is relatively high in the blocks of Sethubavachatram (985), Thiruvidaimarudur (973), Pattukkottai (968), Kumbakonam (962), Peravurani (961), Orathanadu (959), Thiruvonam (959), and Thiruppanandal (958). In the rest of the six blocks, the child sex ratio is less than district average 957. The district average is 957 girls' per 1000 boys. It will turn out to be a serious social problem in future. If the same trend would persist, it will create social disaster in the system. Therefore, the state as well as the district administration has to address the issues of illegal abortions, foeticide and female infanticide very seriously. Most of the reported and unreported cases follow the traditional practices and try to avoid girl children.

Life expectancy

Life expectancy is the expected number of years of life remaining at an age. It is denoted by, which means the average number of subsequent years of life for someone now aged, according to a particular mortality experience. Because life expectancy is an average, a particular person may well die many years before or many years after their "expected" survival. The term "maximum life span" has a quite different meaning. The "median life span" is also a different concept although fairly similar to life expectancy.

Table 4.4: Life Expectancy at Birth

S.No	District/State	2013-14		
		Male	Female	Combined
1	Thanjavur	68.9	71.2	70.1
2	Tamil Nadu	71.8	75.2	73.4

Source: State Planning Commission, 2014.

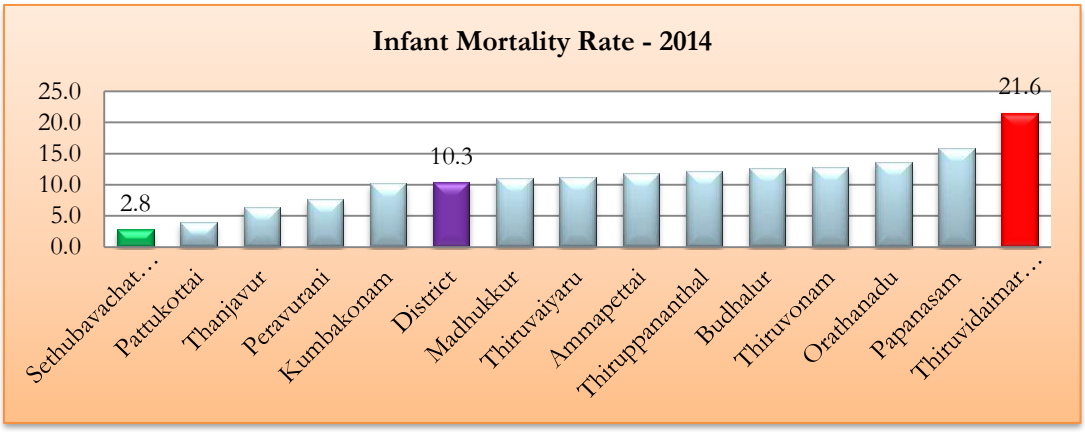
Table 4.5 shows the life expectancy at birth during the period of 2013-2014, the district value and the State value are very close to one another. Interestingly, on an average, women live longer (71.2) than men (68.9) in the district.

Infant Mortality Rate

Infant Mortality Rate (IMR) measures the number of infant less than one year deaths per 1000 live births. It is a measure of the yearly rate of deaths in children less than or at exact age one year. It is the sum of the neonatal mortality rate and the post-neonatal mortality rate. Figure 4.3 reveals the details of IMR from the years 2014, and it is found that there is an overall improvement in the district as a whole with exceptions here and there. The district average stood at 10.3 in 2014 (Appendix : Table 9.11). Thiruvidaimarudur block recorded the highest (21.6), and the lowest was recorded in Sethubavachatram block (2.8). Pattukkottai (4.0) and Sethubavachatram (2.8) blocks registered relatively low levels of IMR. Even though the government has introduced various measures in controlling IMR, due to lack of participation and cooperation, there is no uniform

picture in the blocks of the district. It is observed that there is a lacuna both in supply and demand sides.

Figure 4.3: Infant Mortality Rate



Source: Health Department, Thanjavur, 2014.

These gaps may be controlled by way of sensitizing all stakeholders, enabling them to participate in all government ventures. However, the on-going schemes may be implemented effectively to reach the target to zero level. It is realized that the people participation and cooperation is needed to reach the goal.

Maternal Mortality Ratio

Maternal death of a woman is pregnant or within 42 days of termination of pregnancy, irrespective of what but not from accidental or incidental causes. Maternal death is as a result of direct and indirect causes. The single most common causes accounting for a quarter of all maternal death is severe bleeding. The other direct causes are obstructed labour sepsis, Eclampsia, and complications of unsafe abortions. Measures the risk of dying from causes related to pregnancy, childbirth, and puerperium. It is an index of obstetrical care, needed and received by the women in a community. It is calculated by the total number of death from maternal causes registered for a given year divided by the total number of live births registered during the same year. Table 4.5 give the statistics of MMR of the various blocks of Thanjavur district. It is found that Ammapettai block has the highest MMR (176), and the lowest rate is recorded in Budhalur, Pattukkottai, Peravurani and

Thiruppanandal blocks (0). During 2014, there are 1,719 deliveries carried out in Ammapettai block. Of this, only three maternal deaths recorded in the same block. However, working out MMR at the block level per one lakh, the number seems to be very high. This has happened due to a number of social, cultural, economic, genetic, and environmental factors. The existing pre and post-natal care and IEC on nutritional intake activities may be implemented in an effective way for achieving the targets and reducing the MMR to the level of zero.

Table 4.5: Maternal Mortality Ratio

S. No	Block / District	MMR - 2014
1	Ammapettai	176
2	Budhalur	0
3	Kumbakonam	49
4	Madukkur	101
5	Orathanadu	42
6	Papanasam	43
7	Pattukkottai	0
8	Peravurani	0
9	Sethubavachatram	69
10	Thanjavur	39
11	Thiruppanandal	0
12	Thiruvaiyaru	118
13	Thiruvidaimarudur	38
14	Thiruvonam	159
	District	49

Source: Health Department, Thanjavur, 2014.

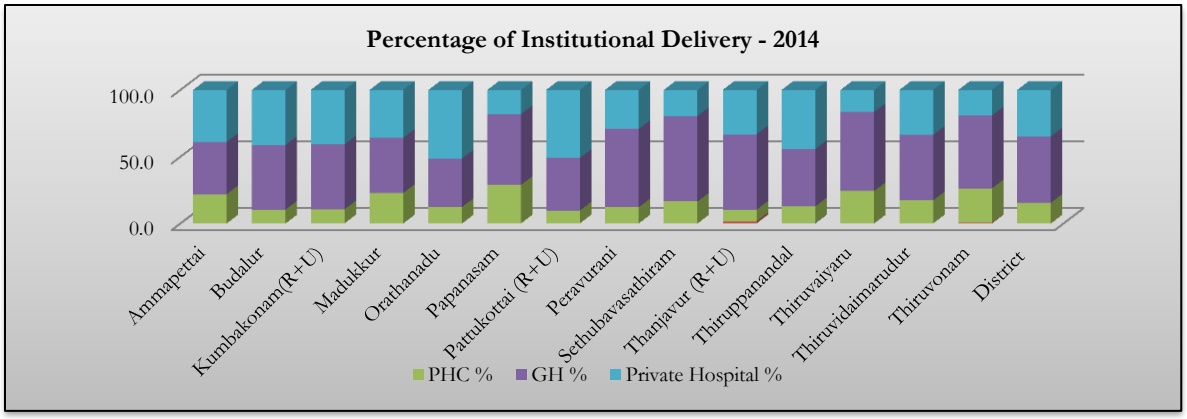
The existing hospital services and continuous tracking of pregnant mothers may be scaled up with the cooperation of the public in controlling MMR. Mixed trends in MMR are observed in all the blocks of the district. Besides, high order birth rate has been witnessed in all the blocks of the district. However the rates have come down significantly over the years. There is a transition from joint family to nuclear family in all areas of the district. Further, the size of the family too has come down in the district due to fusion and fission of families. The district high order birth rate is 8.8 during 2013-14 and there is a marginal variation among the blocks of the district. It is noticed that lower income households use to prefer more children, expecting that the additional children will

meet the income gap in future. Still there is a social stigma prevails in both predominant communities of most backward and scheduled caste population lives in the district, avoiding girl children. They realize that they are additional burden to the family.

Place of Delivery

Rate of maternal mortality is automatically checked, when women are encouraged to approach healthcare establishments to deliver the baby. Delivery complications postpartum haemorrhage, puerperal sepsis and severe anaemia are taken care of and effectively managed when a woman delivers a baby in a hospital set-up. Similarly, the health of the new-born is also closely monitored in a hospital. In the district, the rate of institutional deliveries of childbirth in hospital set-up has jumped up in recent years.

Figure 4.4: Percentage of Institutional Delivery



Source: Health Department, Thanjavur, 2014.

Figure 4.4 brings to focus the institutional deliveries recorded in the district during 2013-14 (Appendix : Table 9.12). The central and state governments have created adequate infrastructure and made provisions to avail access to the medical services within reasonable time. Further, the paramedical staff of the district continuously tracking the pregnant mothers and are providing all types of assistance to ensure safe delivery. In general, people avail the services from the government and private hospitals. Of the total number of cases reported in the district, 34.68 % of deliveries happen in the private hospitals. It is noticed that only 13 deliveries have been registered at home

against the total number of deliveries (33,533) in the district. Since the figure of home deliveries is very marginal, it has not been portrayed in the figure. However, there is a scope in reducing home deliveries to the level of zero and make all deliveries as institutional one.

Still Birth Rate

Still birth is typically defined as fetal death at or after 20 to 28 weeks of pregnanacy. It results in a baby born without signs of life. Still Birth rate refers to the number of still births per 1000 total births.

Table 4.6: Still Birth Rate during 2011-2014

S. No	Block / District	Still Birth Rate			
		2011	2012	2013	2014
1	Ammapettai	18.9	18.6	13.6	9.9
2	Budhalur	13.8	13.6	18.7	20.8
3	Kumbakonam	15.8	10.1	11.1	9.4
4	Madukkur	11.6	11.5	20.7	11.9
5	Orathanadu	8.7	8.6	13.7	14.6
6	Papanasam	10.9	10.8	12.9	13.9
7	Pattukkottai	13.1	7.7	7.0	8.8
8	Peravurani	13.5	13.3	20.1	12.1
9	Sethubavachatram	13.5	13.3	13.0	6.2
10	Thanjavur	12.8	10.6	17.4	5.8
11	Thiruppanandal	20.7	20.2	14.5	26.2
12	Thiruvaiyaru	18.1	17.8	11.0	12.8
13	Thiruvidaimarudur	12.0	11.9	10.1	10.1
14	Thiruvonam	11.6	11.4	14.2	16.4
	District	12.3	11.9	13.5	11.4

Source: Health Department, Thanjavur, 2014.

Table 4.6 portrays the block wise still birth rate of the district. Thanjavur block experienced the least number of still birth rate (5.8), when compared to other blocks during 2014. In Thiruppanandal block, SBR increased to 26.2 in 2014 from 20.7 in the year 2011. Budhalur and Orathanadu are other blocks, which experienced increase in still birth rate. Other blocks are either sustaining the level or have improved over the last four years. It is observed that various medical as well as non-medical factors contributing to still birth. Medical factors can be maternal illness like anaemia, hypertension, diabetes, cardiovascular diseases etc. Non-medical factors like maternal age, parity, antenatal care,

unattended deliveries, illiteracy, and low socio economic status are still leading causes of still birth in rural areas of Thanjavur district.

Immunization

Table 4.7 shows the immunization status of infants below one year in the blocks of Thanjavur district. In Madukkur block, 99.4 per cent of the children below one year were immunized. The lowest achievement is 93.7 per cents and it is witnessed in Sethubavachatram block. It is expected that it will reduce IMR and under 5 mortality rates in the district.

Table 4.7: Immunization Status (Below 1 year)

S.No	Block / District	Total No of Children Below 1 Year	Total No of Children Immunized	% of Children Immunized
1	Ammapettai	1,725	1,781	103.2
2	Budhalur	1,565	1,575	100.6
3	Kumbakonam	5,379	5,103	94.9
4	Madukkur	1,083	1,077	99.4
5	Orathanadu	2,380	2,340	98.3
6	Papanasam	2,484	2,425	97.6
7	Pattukottai	3,054	2,926	95.8
8	Peravurani	1,731	1,703	98.4
9	Sethubavachatram	1,806	1,692	93.7
10	Thanjavur	5,944	5,627	94.7
11	Thiruppanandal	1,701	1,688	99.2
12	Thiruvaiyaru	1,691	1,692	100.1
13	Thiruvidaimarudur	2,758	2,704	98.0
14	Thiruvonam	1,312	1,285	97.9
	District	34,613	33,618	97.1

Source: Health Department, Thanjavur, 2014.

The district's average coverage is 97.1 per cent. The percentage of immunization coverage varies from 103.2 per cent in Ammapettai block, 93.7 per cent in Sethubavachatram block. More than hundred per cent achievement can be seen in the blocks of Ammapettai, Budhalur and Thiruvaiyaru. It is observed that the parents availed the services, wherever it is convenient. Hence the performance marginally differs among the blocks. This highlights the involvement and dedication of both medical and paramedical staff.

Box 4.1: ICDS – Anganwadi at the help of poor mother

The objective of the case study is to give an account of ICDS anganwadi centres functioning in Thiruvidaimarudur block. Besides, a case of beneficiary has been highlighted, how her daughter avails nutritious food and enabling to concentrate on her work. Integrated Child Development Scheme is to improve the nutrition and health status of children in the age group of zero to five years; laying the foundation for proper psychological, physical and social development of the child; reducing the incidence of morbidity, mortality, malnutrition and school dropout and enhancing the capability of the mother to look after the health and nutritional needs of the child. The package of services offered by the scheme includes supplementary nutrition, immunization, health checkup, referral services, pre-school and non-formal education and nutrition and health education. The scheme is implemented through anganwadis In Thiruvidaimarudur block of Thanjavur district, under ICDS totally 132 Anganwadi centres are functioning. Out of which 109 are functioning in village panchayats and 31 in town panchayts. Adolescent girls, breast feeding mothers, pregnant women and children in the category of (0-60) months are the beneficiaries of this scheme. The main objective of this scheme is to cater to the nutritional needs of the new borns. Weights of new borns are taken every month upto 3 months and children in the age group of 3 to 5 years are weighed every three months to assess the growth of the children. The major is to analyse the nutritional needs of the children and accordingly implement the plans. The table below gives the details. The 132 anganwadi's are segregated into five divisions.

Division	Normal weight babies	MUW	SUW	No. of children (0-60 months) range	No. of mothers who work under 100 days employment scheme
Adudhurai	1390	110	1	1703	647
Nachiyarkoil	1605	496	--	2099	1657
Thirubhuvanam	88	13	--	101	1
Thirucherrai	1643	192	2	1837	1022
Thirunageswaram	864	282	2	1570	1131
Total	5590	1093	5	7310	4458

Vijayalakshmi a beneficiary of MGNREGS narrates the services of the angawadi's. I and my husband Murugan employed under MGNREGS and we go to work by 9.00 in the morning. Luckily we have a Anganwadi center functioning in Valayavattam. It opens by 8.30 am in the morning and so I am able to safely leave my daughter Augusshree in the Anganwadi. They provide multi grain nutrition balls in the morning. Preschool education is also being provided to her. Further free mid-day meal along with egg is given to her. I do not have to worry about my child during work.

Female Infanticide

Female infanticide is the deliberate killing of new-born female children or the termination of a female fetus through selective abortion. The period of infant death includes early neo-natal (0 – 7 days), late neo-natal (8 – 28 days) and post neo-natal (29 days – one year) periods. If the IMR gender differential (IMR of male – IMR of female) is negative, it is an indicator to understand the incidence of female infanticide.

From the data and field experience, female infants are normally killed before the completion of thirty days (inclusive of early and late neo-natal period), after which they normally escape from killing as the mother and generally the family develops an attachment to the female child. Still one can argue that the post neo-natal deaths of female infants can be equated to female infanticide as it is a sheer neglect on the part of the parents in terms of girl child's nutrition and health care, ultimately resulting in elimination. The child sex ratio (0-6 years) has been declining in Thanjavur district. The girl child sex ratio is 959 in 2001 and marginally declined to 957 in 2011. There was no female infanticide in the district. The cradle baby system may not be needed in Thanjavur. People become happy when they get a male child. But they try to abort or kill the female child. The district administration appeal to those who kill or try to kill the girl child to think of what will happen when there are no girls to get their sons married.

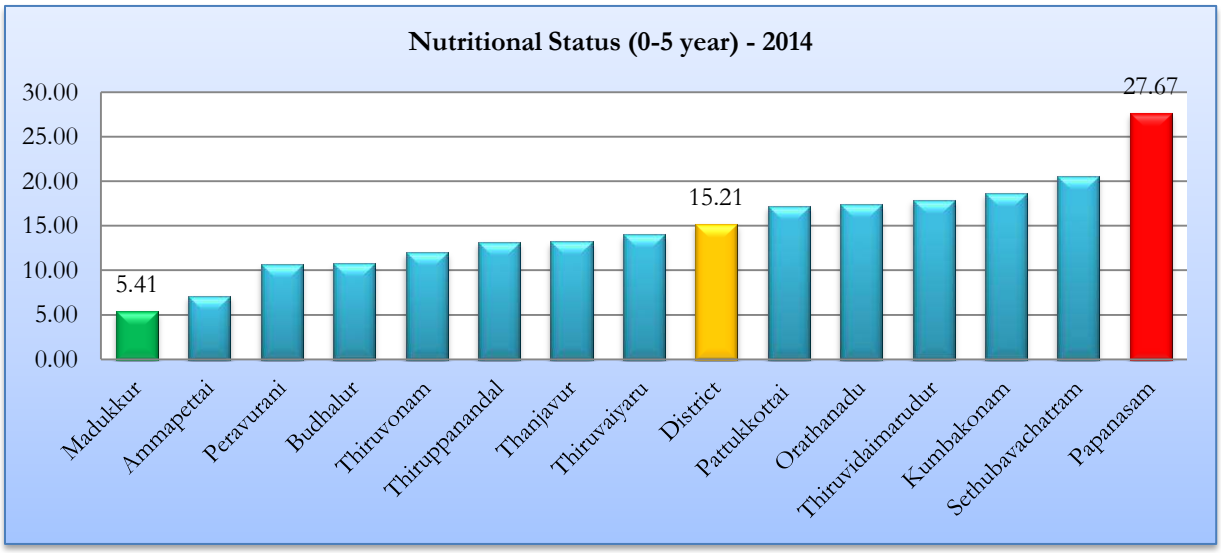
Nutritional Status

Nutrition Level and Trend

Adequate nutrition is essential in early childhood to ensure healthy growth, proper organ formation and function, a strong immune system, and neurological and cognitive development. Economic growth and human development require well-nourished populations, who can learn new skills, think critically and contribute to their communities. Child malnutrition impacts cognitive function and contributes to poverty through impeding individuals' ability to lead productive lives. Nutrition has increasingly been recognized as a basic pillar for social and economic development. The reduction of infant and young child malnutrition is essential to the achievement of the Millennium Development

Goals (MDGs) - particularly those related to the eradication of extreme poverty and hunger (MDG - 1) and child survival (MDG - 4). Given the effect of early childhood nutrition on health and cognitive development, improving nutrition also impacts MDGs related to universal primary education, promotion of gender equality and empowerment of women, improvements of maternal health and combating HIV/AIDS.

Figure 4.5: Trend in Nutritional Status (0-5 year)



Source: District Project Officer, ICDS, Thanjavur, 2014.

One of the major goals of the nutrition programme is to reduce the prevalence of underweight children deficiencies. The state aims to eradicate severe malnutrition and also reduce the incidence of micro nutrient efficiencies, which are often not visible, but can severely impede the development of the child. The proportion of malnourished children has been worked out accommodating both severely and moderately underweight children. The malnourished children of the district are 15.21 % during 2014 (Appendix : Table 9.13). Out of these, 15.07 % come under the category of MUW and only 0.14 % is severely underweight children. It could be seen from Figure 4.5, that these proportions vary significantly across the blocks of the district and range from 5.41 (Madukkur) to 27.67 (Papanasam). Even though the Central and State Government have introduced various schemes, the data reveals that there is a rich scope in strengthening the programmes and controlling the malnourishment in the district. Figure 4.3 portrays the status of malnourishment in the district.

Box 4.2: Nutrition Programmes of Government

The Integrated Child Development Services (ICDS) scheme is the largest program for promotion of maternal and child health and nutrition. The beneficiaries are children below 6 years, pregnant and lactating women and women in the age group of 15 to 44 yrs. The beneficiaries of ICDS are to a large extent identical with those under the Maternal and Child Health Program. The program provides an integrated approach for converging all the basic services for improved childcare, early stimulation and learning, health and nutrition, water and environmental sanitation aimed at the young children, expectant and lactating mothers, other women and adolescent girls in a community. ICDS program is the reflection of the Government of India to effectively improve the nutrition and health status of underprivileged section of the population through direct intervention mechanism. This is a unique programme under which a package of integrated services consisting of supplementary nutrition, immunization, health check-up, referral and education service are provided to the most vulnerable groups even within children and women, i.e. children up 6 years of age and expectant/nursing mother, through a common focal point called Anganwadi (the courtyard centres) in each of the village/urban slums.

Table : Classification of blocks on Beneficiaries of Children below 0-5 years and ANW (Ante Natal Women), PNM (Post Natal Mothers)

S.No	Block / District	No.of Anganwadi Centres	2014-Beneficiaries					
			ANW, PNM	Nutritious food beneficiaries	EGG beneficiaries 1-2	% of EGG beneficiaries 1-2	EGG beneficiaries 2-5	% of EGG beneficiaries 2-5
1	Ammapettai	102	1,417	3,582	705	19.68	2,125	59.32
2	Budhalur	107	1,398	3,847	1,106	28.75	2,320	60.31
3	Kumbakonam	186	3,568	9,470	2,037	21.51	4,220	44.56
4	Madukkur	75	992	2,671	990	37.06	1,780	66.64
5	Orathanadu	149	2,145	5,807	1,240	21.35	3,055	52.61
6	Papanasam	78	1,628	4,285	801	18.69	1,490	34.77
7	Pattukkottai	152	2,278	5,915	1,245	21.05	3,630	61.37
8	Peravurani	115	1,322	3,417	1,195	34.97	2,705	79.16
9	Sethubavachatram	124	1,363	3,666	1,233	33.63	2,920	79.65
10	Thanjavur	217	3,441	9,497	1,437	15.13	4,540	47.80
11	Thiruppanandal	95	1,628	4,239	1,405	33.14	2,210	52.13
12	Thiruvaiyaru	105	1,523	3,794	600	15.81	2,205	58.12
13	Thiruvidaimarudur	132	2,103	5,634	1,350	23.96	2,950	52.36
14	Thiruvonam	94	1,194	3,203	829	25.88	1,982	61.88
	District	1,731	26,000	69,027	16,173	23.43	38,132	55.24

Source: Integrated Child Development Services (ICDS), 2014.

Bal (children) wadi (home or centre) Nutrition Programme is a contemporary of SNP and is being implemented in the district. This segment of nutrition programme is thus implemented by non-governmental organisations. The beneficiaries of SNP are basically from the disadvantaged section of the society like tribal/scheduled caste people, urban slum dwellers and also migrant labourers. There are 1,731 anganwadi centres offering services in the district and the total beneficiaries on ANW (Ante Natal Women), PNM (Post Natal Mothers) is 26,000. Across the blocks, the beneficiaries are very high in Kumbakonam block (3,568) and low in Madukkur block (992). The number of nutritious food beneficiaries is 69,027 in the district. Among these beneficiaries 23 % are in the age group of 1 - 2 and 55 % of beneficiaries are 2 – 5.

Children having Mid-Day Meal in School

Food grains (Rice, dhal and pulses) are utilized at 100 gms rice, 15 gms dhal, vegetables at 50 gms, Oil 3 gms and also condiments per day per child in Mid-Day Meal for Primary Students (I to V std.) and 150 gms rice, 15 gms dhal, vegetables at 60 gms, Oil 3 gms and also condiments per day per child in Mid-Day Meal for the Upper Primary students. This hot cooked meal contains on an average 540.63 calories and 17.48 gms of protein for Primary children and 721.19 calories and 21 gms of protein for Upper Primary (VI to VIII std.,) students. The prescribed menu includes locally available and acceptable vegetables with required ingredients. Besides the above, a boiled egg is provided every day for 5 days in a week for students from I to VIII std., and for 3 days for children of 2-5 years of age. Bengal gram or Green gram and potato are also provided on specific days. Non egg eating children are supplied bananas free of cost during the mid-day meals. Adding of egg and Bengal Gram and Green Gram, each Primary School Child gets about 553.30 calories and Upper Primary School Student gets about 733.86 calories. In this district, 1,76,430 students availed Noon-Meal through 1,560 schools during 2011. Of the total enrolled students of various schools, 65 per cent of them have availed Noon-Meal. All the above mentioned programmes are executed in the district following the guide lines prescribed by the central and state governments.

Provision of IFA Tablets

Iron deficiency anaemia is most common during pregnancy and in infancy, when physiological iron requirements are the highest and the amount of iron absorbed from the diet is not sufficient to meet many individuals' requirements. Anaemia's effects include increased risk of premature delivery, increased risk of maternal and child mortality, negative impacts on the cognitive and physical development of children, and reduced physical stamina and productivity of people of all ages. Key anaemia control interventions include promoting a diversified diet, iron-folic acid (IFA) supplementation during pregnancy, iron fortification of staple foods, prevention and treatment of malaria, use of insecticide-treated bed nets, helminth prevention and control, delayed cord clamping, and increased birth spacing. The primary cause of anaemia is iron deficiency, a condition caused by inadequate intake or low absorption of iron, the increased demands of repeated pregnancies—particularly if not well spaced (e.g., fewer than 36 months between pregnancies)—and loss of iron through menstruation. Other causes of anaemia include vitamin deficiencies (such as a deficiency of folic acid or vitamin A), genetic disorders, malaria, parasitic infections, HIV, tuberculosis, common infections, and other inflammatory conditions. While iron deficiency anaemia (IDA) accounts for about one half of all anaemia cases, it often coexists with these other causes. The provision of iron

and folic acid (IFA) tablets to pregnant women to prevent nutritional anaemia forms an integral part of the safe motherhood services offered as part of the reproductive and child health programme in India.

The programme recommendation is that women consume 100 tablets of iron and folic acid during pregnancy. Anaemia, a manifestation of under-nutrition and poor dietary intake of iron is a serious public health problem, not only among pregnant women, infants and young children but also among adolescents. Over 55 per cent of both adolescent boys and girls in India are anaemic. Thus it is critical to address this problem which has health implications for approximately 15 per cent of Indian population and is directly linked to new born, child and maternal morbidity and mortality.

Table 4.8: Provision of IFA Tablets

S.No	Block / District	ANC Target 2013-14	No of Women took IFA tablets	% of Women took IFA tablets	IFA small Tablet Target	No of Children took IFA tablets	% of Children took IFA tablets	Adolescent target	No of Adolescent took IFA tablets	% of Adolescent took IFA tablet
1	Ammapettai	1,898	1,931	102	6,750	3,877	57.44	10,191	6,562	64.39
2	Budhalur	1,721	1,703	99	3,983	2,059	51.69	6,627	6,059	91.43
3	Kumbakonam	3,501	3,435	98	7,579	4,274	56.39	16,613	11,679	70.30
4	Madukkur	1,192	1,187	100	3,385	1,695	50.07	7,419	5,149	69.40
5	Orathanadu	2,618	2,630	100	6,738	4,838	71.80	14,768	9,863	66.79
6	Papanasam	2,732	2,790	102	6,426	3,284	51.10	12,658	11,010	86.98
7	Pattukottai	2,265	2,251	99	5,207	2,821	54.18	12,130	8,496	70.04
8	Peravurani	1,904	1,940	102	4,544	2,537	55.83	9,656	6,670	69.08
9	Sethubavachatram	1,987	1,852	93	3,200	2,390	74.69	10,012	6,392	63.84
10	Thanjavur	3,440	3,517	102	7,513	3,043	40.50	8,578	9,599	111.90
11	Thiruppanandal	1,872	1,866	100	4,333	2,505	57.81	9,496	8,602	90.59
12	Thiruvaiyaru	1,861	1,903	102	4,624	1,984	42.91	9,900	9,339	94.33
13	Thiruvidaimarudur	3,034	3,037	100	7,292	2,998	41.11	15,983	7,864	49.20
14	Thiruvonam	1,443	1,471	102	3,315	1,586	47.84	9,656	6,292	65.16
	District	31,468	31,513	100	74,889	39,891	53.27	1,53,687	1,13,576	73.90

Source: Health Department, Thanjavur 2014.

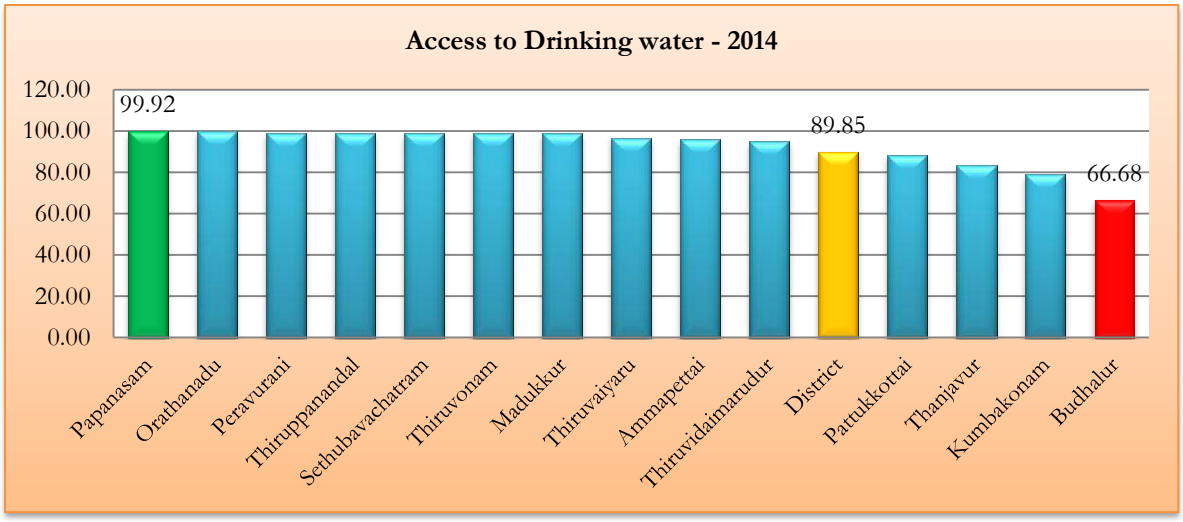
Table 4.8 gives the statistics on Women/Children/Adolescent who took IFA Tablet in Thanjavur district. By going through the reality behind the numbers, one can presume that this vital nutritional supplement programme is yet to take off in full swing. Adolescent and women are the two groups not showing inclination towards consuming IFA tablets. It is evident from the statistics that around 100 per cent of women consume in all the blocks. In the context of children took IFA tablets is 53 per cent in the district. The level of consumption varies from 40 per cent in Thanjavur block to 75 % in Sethubavachatram block. Adolescent took IFA tablets is 74 % in the district. Except Thanjavur block, the remaining block performance is less than hundred to the mark of 49 per cent. The perception of the people differs across the blocks, revealing that the consumption would harm the health and colour of the new-born baby may be in dark complexion. This stigma may be removed by way of providing necessary information through brand ambassadors along with the IFA tablets.

Non –nutritional Factors and their Impact on Nutrition

Water Supply

Water is the most important basic need after air. Even now, in many areas people (really speaking womenfolk) have to spend lot of time and energy in collecting potable water for the family's use. The water used for drinking should be free of all infections; otherwise intake of any amount of nutrition may turn out to be useless. For example, if a person is having worms or suffering from water borne diseases like diarrhea, what nutrition he consumes will just come out of the body without providing the body with any nutrients, the leaking pot phenomenon. Provision of safe and potable drinking water to all is, thus, also an important element of nutritional improvement. Provision of safe drinking water to all areas is a major challenge to the district administration. It is not only the question of physical provisioning of sources but educating people in villages to use these properly and maintain them. Figure 4.6 reveals the facts. In total, 89.85% of the households have safe drinking water facilities in the district (Appendix : Table 9.14). However, the performance differs among the blocks. It varies from 99 % in Papanasam block to 66% in Budhalur block. Budhalur may be prioritized in the provision of drinking water facilities.

Figure 4.6: Access to Drinking water



Source: MDWS and EO (TP) and Municipal commissioner, Thanjavur, 2014.

Sanitation

Sanitation is also of great importance in upgrading the nutritional status of people, especially those who are more busy with day to day existence. The concept of total environmental sanitation is being propagated in the current plan, making information, education and communication (IEC) an integral part of the programme. The integrated scheme of low cost sanitation and liberation of scavengers is already in operation. Table 4.9 depicts the percentage of population, who has access to toilet facilities, and it varies among the blocks from 19 to 68. Highest absolute number of 68,316 households with access to toilets is observed in Thanjavur block. The situation brings out the fact that reasonable initiatives need to be taken both at personal and public levels. In total, 49 per cent of the households have access to toilets, and it is inferred that the rest of the 51 per cent of the households still go for open defecation. The use of toilets is relatively high in Thanjavur (68.51), Pattukottai (62.90), and Kumbakonam (61.48) blocks and very poor in Budhalur (19.38). The data provided by the DRDA is very closer to the data provided by the Census of India, 2011. However, these variations would not disturb the end results, but gives the better picture at the sub-district levels. The rural mass still they have not prioritized and realized the importance of the use of toilets. Hence it is suggested to give a special focus in introducing toilets to all the households of the rural

and urban areas. Table 4.9 gives an idea of toilet facilities and prescribes where the government has to prioritize for the provision of toilets.

Table 4.9: Provision of Toilet Facilities during 2014

S. No	Block / District	Total Number of Households	Number of Households are with Toilet facilities	% of Households provided with Toilets
1	Ammapettai	31,974	10,964	34.29
2	Budhalur	43,728	8,474	19.38
3	Kumbakonam	83,749	51,487	61.48
4	Madukkur	22,320	12,531	56.14
5	Orathanadu	43,211	12,915	29.89
6	Papanasam	36,336	20,229	55.67
7	Pattukottai	54,425	34,234	62.90
8	Peravurani	28,530	9,830	34.45
9	Sethubavachatram	25,124	9,778	38.92
10	Thanjavur	99,724	68,316	68.51
11	Thiruppanandal	29,137	10,965	37.63
12	Thiruvaiyaru	31,429	14,062	44.74
13	Thiruvidaimarudur	54,599	30,801	56.41
14	Thiruvonam	21,077	5,211	24.72
	District	6,05,363	2,99,797	49.52

Source: MDWS site for blocks and EO (TP) and Municipal commissioner, Thanjavur, 2014.
Note: The above total no. of HHs figure is 2011 census. HHs with toilet figure is 2014.

Special Programmes

AIDS Control

Table 4.10 shows the age and sex-wise HIV positive population during 2013 - 2014 in Thanjavur district. The data clearly brings out the general tendency that in the places where people meet on diverse needs, HIV is noticed. Thanjavur (Male: 68, Female: 53), Peravurani (Male: 25, Female: 16), Orathanadu (Male: 23, Female: 18), Kumbakonam(R +U) (Male: 20, Female: 13), Thiruvaiyaru (Male:18, Female:19) are the blocks with more number of male and female HIV patients respectively. All these measures have helped in curbing the HIV problem to a great extent in the district and only 381 cases are reported in the district in 2013-14 out of which 221 are male and 160 are female.

Table: 4.10: Age and Sex-wise HIV positives during 2013 - 2014

S. No	Block / District	Sex	Positive Cases in 2013-2014							
			0-14	15-19	20-24	25-29	30-39	40-49	50 & above	Total
1	Ammapettai	Male	0	0	0	1	1	1	0	3
		Female	0	0	1	0	2	1	0	4
2	Budhalur	Male	1	0	1	3	3	3	3	14
		Female	1	0	0	2	2	1	2	8
3	Kumbakonam	Male	3	0	0	3	5	6	3	20
		Female	0	0	0	1	9	3	0	13
4	Madukkur	Male	0	0	0	0	3	2	1	6
		Female	0	0	0	0	2	0	0	2
5	Orathanadu	Male	2	0	0	3	10	5	3	23
		Female	0	0	2	0	7	6	3	18
6	Papanasam	Male	0	0	1	0	5	6	3	15
		Female	0	0	0	0	1	4	2	7
7	Pattukkottai	Male	0	0	0	5	5	6	2	18
		Female	1	0	2	2	7	4	1	17
8	Peravurani	Male	0	0	1	1	8	10	5	25
		Female	0	0	1	0	5	9	1	16
9	Sethubavachatram	Male	0	0	0	0	4	2	0	6
		Female	0	0	0	1	2	1	0	4
10	Thanjavur	Male	2	0	3	6	28	14	15	68
		Female	2	0	6	5	20	13	7	53
11	Thiruppanandal	Male	0	0	0	0	0	0	0	0
		Female	0	0	0	1	0	0	0	1
12	Thiruvaiyaru	Male	0	0	0	0	6	7	5	18
		Female	1	0	0	2	4	0	2	9
13	Thiruvidaimarudur	Male	0	0	0	2	2	0	0	4
		Female	0	0	1	0	2	0	2	5
14	Thiruvonam	Male	0	0	0	0	1	0	0	1
		Female	0	0	1	1	1	0	0	3
Grand Total		Male	8	0	6	24	81	62	40	221
		Female	5	0	14	15	64	42	20	160
		Total	13	0	20	39	145	104	60	381

Source: Health Department, Thanjavur, 2014.

Tuberculosis

Table 4.11 depicts that the total number of positive TB cases are registered in Thanjavur district. The district positive TB cases are 1892 during 2013-14. As per the general fact ever where number of positive TB cases is high, HIV positive cases will also be high. This is evident from the figures given in Table 4.12 and Table 4.13. The same blocks (Thanjavur - 899, Kumbakonam - 245, Pattukkottai - 195, and Orathanadu - 122), which reported more number of HIV positive cases registered more number of TB patients.

Table 4.11: Positive TB cases during 2013-14

S. No.	Block / District	Positive TB cases
		2013-14
1	Ammapettai	57
2	Budhalur	21
3	Kumbakonam	245
4	Madukkur	30
5	Orathanadu	122
6	Papanasam	49
7	Pattukkottai	195
8	Peravurani	65
9	Sethubavachatram	50
10	Thanjavur	899
11	Thiruppanandal	24
12	Thiruvaiyaru	44
13	Thiruvidaimarudur	56
14	Thiruvonam	35
District		1892

Source: Health Department, Thanjavur, 2014.

Leprosy

From Table 4.12 reveals the number of Leprosy cases is registered (106) during 2013-14 in Thanjavur district. At the block level, there is consistency in the fall of the number of patients in all blocks except Thanjavur block. The maximum number of patients reported in the block of Kumbakonam is 15 during 2013-14.

Table 4.12: Leprosy Cases 2013-14

S. No	Block / District	Leprosy Cases (2013-14)
1	Ammapettai	7
2	Budhalur	2
3	Kumbakonam	15
4	Madukkur	3
5	Orathanadu	13
6	Papanasam	7
7	Pattukkottai	11
8	Peravurani	3
9	Sethubavachatram	2
10	Thanjavur	12
11	Thiruppanandal	10
12	Thiruvaiyaru	10
13	Thiruvidaimarudur	11
14	Thiruvonam	0
	District	106

Source: Deputy Director of Medical and RHS (Leprosy), Thanjavur, 2014.

Box 4.3: Utilization of Public Health Services and Health Programmes

Major Programmes funded by Central and State Governments : The details are:
Communicable Diseases:
i. Human Immunodeficiency Virus Infection/Acquired Immunodeficiency Syndrome(HIV/AIDS) - Department of AIDS Control, ii. Revised National TB Control Programme (RNTCP), iii. National Vector Borne Disease Control Programme (NVBDCP), iv. Integrated Disease Surveillance Project (IDSP), v. National Leprosy Eradication Programme (NLEP), vi. Non-Communicable Diseases, Injury & Trauma, vii. National Mental Health Programme (NMHP), viii. National Programme for Prevention and Control of Deafness (NPPCD), ix. Universal Immunization Programme (UIP), x. National Programme for Control of Blindness(NPCB), and xi. Pulse Polio Programme

Poor Patients-Financial Support:
i. Rashtriya Arogya Nidhi (RAN), ii. RAN (Health Ministers Cancer Patient Fund), and iii. Health Ministers Discretionary Grant (HMDG).

Other National Health Programmes:
i. National Tobacco Control Programme (NTCP) and ii. National Programme for Health Care of the Elderly (NPHCE).

The Directorate of medical services serves as pivot for almost all initiatives in the health sector in view of its presence at the primary level. This Directorate is responsible for civil registration and implementing major health programmes such as Reproductive and Child Health Programme, National Rural Health Mission (NRHM) supported programmes, Dr. Muthulakshmi Reddy Maternity Benefit Scheme (MRMBS), National Immunization Programme, National Family Welfare Programme, National Diarrhoeal Diseases Control Programme (NDDCP), National Vector Borne Diseases Control Programme (NVBDCP), Integrated Disease Surveillance Programme (IDSP), Non-Communicable Diseases Control Programme (NCDCP), National Leprosy Elimination Programme, School Health Programme, National Iodine Deficiency Disorders Control Programme, National Anaemia Control Programme, National Vitamin-A Deficiency Disorders Control Programme and Tobacco Control Programme. Active support is provided by the PHCs for the implementation of Revised National Tuberculosis Control Programme, National AIDS Prevention / Control Programme, National Blindness Control Programme, Integrated Child Development Scheme, National Mental Health Programme, National Programme for Prevention and Control of Deafness, Rural Water Sanitation Schemes and other Community Development Programmes. The department of Public Health and Preventive Medicine is actively implementing the E-Governance policy of the government. All the PHCs are provided with computers and internet connectivity. All VHNs are provided with laptop and data card. Web portals are developed and used for data management at various levels. The list of Web Portals includes various flagship programmes. Regular E-Governance training is organized for various levels in the institutions under DME and DMS and DPH.

Table : Utilization of GOVT Health Care Services (2014)

S.No	Item	Number	No.of Doctors	No.of Nurses	No.of Para-Medical Staff	No.of patients treated common	
						In Patient	Out Patient
1	District Head Qtrs Hospital	1	22	58	34	97,436	4,38,282
2	Taluk Hospital	6	19	64	38	1,04,562	10,53,332
3	Non -Taluk Hospital	6	13	26	37	42,073	8,48,075
4	Raja Mirasdar Hospital	1	27	173	91	4,76,845	46,755
5	PHC	63	166	245	310	45,504	29,91,965
Source: JDHS, DDHS, Thanjavur - 2014.							

The table shows the existing government hospitals and their services. The in-patient as well as out-patient numbers are very high in all the categories of hospitals in the district. It reveals the health condition of the people.

Conclusion

With the backdrop, it could be concluded that the demographic profile of the district highlights population, sex ratio, density, SC population, ST population, and juvenile sex ratio between 2001 and 2011. The district's decennial population growth rate is 8.42 (2011), which is marginally varied compared to earlier decadal growth rate. This has been reflected in the density of population. There is a little change in sex ratio, SC population, and ST population. In general, the sex ratio of SC population is high compared to other classes. This segment of population does not make much gender discrimination and they treat every child as their income bearing assets. The child sex ratio of the district is low compared to overall sex ratio. This reveals that the population try to avoid girl children through illegal means. The life expectancy of the female in the district is low compared to State. The district's health administration have provided all types of health care services and tracking each and every case through VHNs/CHNs and controlled IMR, MMR, and SBR in the district. The district has achieved 100 per cent institutional deliveries, which is a remarkable achievement. The child development index highlights that the performance differs only on health rather than education in the district. The poor health performance is noticed in certain blocks and these blocks have to be provided adequate attention in enhancing overall child health in the district. The government has scaled up their activities in providing potable drinking water, good sanitation and controlling communicable and non-communicable diseases in the district. These factors are interrelated with one another and it is related to the levels of literacy of the population, which follows in the next chapter.

CHAPTER 5

LITERACY AND EDUCATION

Chapter
5
Literacy and Education

Introduction

In a mature democracy, an informed citizenry, active citizenship, and collective actions are crutial for the functioning of a civil society, made possible through a minimum level of formal education. Development economics now which is lays great importance on the concept of human capital. Development empowers people and promotes important changes in their lives. However, development cannot take place by itself. It requires educated, skilled, and competent people. Seen from this angle, education becomes the most important factor for development as well as for empowering people. Education, defined in terms of literacy rate and schooling levels is an important component of human capital. These represent the level of human capital in society and hence are important indicators for the human development index. Therefore, education is considered as a social instrument for developing human resources and for human capital formation.

Education

Education is also one of the important indicators stressed in the Millennium Development Goals (MDGs), especially universal elementary education for children in the age group of 5-14 years. But literacy levels in India are very low even today, despite decades of rhetoric. The Right of Children to Free and Compulsory Education (RTE) Act, 2009, in force from 1st April 2010, which provides free and compulsory education to all children in the age group of six to fourteen years in Tamil Nadu, is in line with the Central Act. Tamil Nadu has taken efforts to provide universal schooling access to all children by achieving universal enrollment and 100 % retention in primary education. Sarva Shiksha Abhiyan (SSA) is a mission for universalization of elementary education, and the State was able to achieve universal access in primary education in all Districts of Tamil Nadu. Rashtriya Madhyamik Shiksha Abhiyan (RMSA) is a centrally sponsored scheme to achieve the universalization of good quality of Secondary Education i.e., Standards IX and X. Its vision is to

make Secondary Education accessible and affordable to all. The vision of the State Government is to bring about all-round and holistic development - physical, social, emotional, and intellectual of children by achieving universal enrollment, retention, and completion with focus on quality education. The objectives of school education is to make "Nature, Future, and Culture" as part of the curriculum and to provide a curriculum/syllabus in consonance with National Curriculum Framework (NCF) 2005 with special emphasis, to enable students to grow into citizens respecting democratic and constitutional values, to make all schools conform to a commonly acceptable minimum standards in provision of infrastructure facilities, viz classrooms, laboratory, library, Computer Lab, play facilities, compound wall, toilet, water, teaching learning equipment etc., to have a stress-free, creative, meaningful evaluation system by implementing Continuous and Comprehensive Evaluation (CCE) System. In this context, this chapter deals with educational development in Thanjavur district focusing on the levels and trends in literacy and schooling, supply factors like schools, teachers, and physical infrastructure.

Literacy

Literacy is an important indicator of development and status. It provides access to information necessary for growth and decent living. It also provides an account of the socio-economic condition of an individual and the family. On the other hand, illiteracy stands for ignorance, defeatism, frustration, and lack of aspiration. Literacy and education generate hope, aspiration, and ability to move forward. The United Nations Educational, Scientific and Cultural Organisation (UNESCO) have drafted a definition of literacy as the start where does it end "ability to identify, understand, interpret, create, communicate, compute, and use printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society.

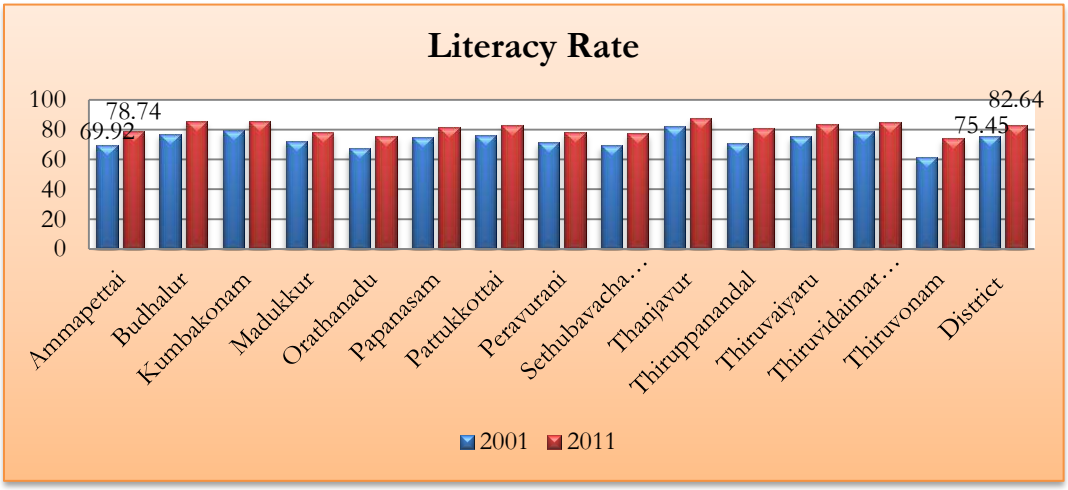
The National Literacy Mission defines literacy as acquiring the skills of reading, writing, and arithmetic and the ability to apply them to one's day-to-day life. The achievement of functional

literacy implies (i) self-reliance in 3 R's, (ii) awareness of the causes of deprivation, and the ability to move towards amelioration of their condition by participating in the process of development, (iii) acquiring skills to improve economic status and general well-being, and (iv) imbibing values such as national integration, conservation of environment, women's equality, observance of small family norms. Literacy rate is the total percentage of the population of an area at a particular time aged six years or above who can read and write with understanding.

Literacy performance of District

Figure 5.1 shows the percentage of literates in Thanjavur district. The district's Department of Education has not maintained the data base in the form of rural and urban. Hence the present analysis has been made on the same line. The percentage of literacy has increased from 75.45% in 2001 to 82.64% in 2011 (Appendix : Table 9.15). The male literacy percentage has increased from 84.47%in 2001 to 89.04%. But the female literacy percentage has shown a remarkable increase from 66.70% in 2001 to 76.50% in 2011(i.e.,) almost 10% increase.

Figure 5.1: Literacy Rate



Source: Census of India 2001 and 2011.

This is a great achievement by the district education department. It is interesting to note that the gender gap in terms of percentile has come down during the decade. Among the blocks the literacy rate has increased in all the blocks with marginal variations. Thanjavur, Kumbakonam, Budhalur,

Thiruvidaimarudur, Thiruvaiyaru, and Pattukkottai block performed above the district average, both during 2001 and 2011. Female literacy ratio is above 80% in the blocks of Budhalur, Thanjavur, and Kumbakonam.

Box 5.1: Activity Based Learning : Teaching and Learning is Fun

The objective of the case study is to demonstrate the ongoing education method introduced by the SSA. They are activity-based learning (ABL) for primary schools and active learning methodology (ALM) for upper primary schools. Sarva Shiksha Abhiyan in Tamil Nadu has been making great strides in grounding quality education in the state right from the inception of the scheme. The Activity Based Learning (ABL) programme is an innovative, interesting, and corroborated classroom transaction programme for standards one to four that has been introduced in the state schools of Tamil Nadu. Incubated initially in approximately 260 schools of the Corporation of Chennai from 2003 to 2006, it has been extended from June 2007 to government and government aided schools across the state under the direction of Sarva Shiksha Abhiyan, Department of Education, Government of Tamil Nadu. ABL is adapted from Rishi Valley's RIVER programme and select practices of Montessori pedagogy for multi-grade and multi-level classrooms.

The successful Tamil Nadu model of activity-based learning (ABL) for primary schools and active learning methodology (ALM) for upper primary schools evoked the interest of the then Union human resources development minister who visited some schools in Thanjavur to observe children learning Tamil and English with illustrated cards using attractive Montessori materials. In Peravurani, there are 73 PUPS Schools following Simplified Activity based Learning (SABL) Method. It is one of the innovative methods which engage children and enable them to achieve mastery over schools related competencies and skills. Ideally, every class room should have a teacher are the SABL appears to be a system where the teacher can facilitate learning without dominating the classroom.

The shelves are neatly stacked with colourful materials for learning, and the children's drawings and paintings, suspended on high strings across the room, flutter colourfully. When given math problems like addition, subtraction, and multiplication, the students in the age group of 5 to 6 years come out with answers within seconds using Montessori materials. Teaching and learning are no more a tiring exercise. It has become fun now.

Elementary Education

Poverty is one among the major reason for parents to stick their children in government elementary school. Education is no more affordable to the poor and most of the parents thinks that the private school imparting quality education and the one who has the capacity to afford that, sending their ward to Private Management schools. Only a small gap in terms of out-of-school children remains

to be filled to achieve the target of universal elementary education. It is important that access and equity go together in order to make UEE a reality. Almost all programmes and plans aim at bridging gender and social gaps in enrolment, retention and learning achievement at the primary stage. Special interventions and strategies have been adopted to include girls, SC/ST children, working children, children with special needs, urban deprived children, children from minority groups, children living below the poverty line, migratory children and children in the hardest-to-reach groups. These are indeed children who have historically remained excluded from education and are at a high risk of dropping out even after enrolment if special attention is not paid.

Enrollment Ratio in Primary Schools

The primary objective of the district administration is to achieve the long cherished goal of 100 per cent enrollment ratio (GER) in elementary education. Government's policies and programs initiated from time to time in helping to achieve universal elementary education (UEE) could be recognized. Particularly, the focused and time bound initiatives like district primary education program (DPEP) and Sarva Shiksh Abhiyan (SSA) are worth mentioning. Under SSA, the hunt for school dropouts and never enrolled children done successfully, and it is reached more than 100 per cent GER.

Table 5.1: Enrollment in Primary Education

S. No	Block /District	Primary					
		Boys		Girls		Total	
		2012-13	2013-14	2012-13	2013-14	2012-13	2013-14
1	Ammapettai	99.36	98.99	99.73	99.78	98.74	99.39
2	Budhalur	98.91	99.03	99.77	99.82	99.57	99.43
3	Kumbakonam	99.51	99.05	99.79	99.84	99.09	99.45
4	Madukkur	98.89	99.02	99.76	99.81	98.88	99.42
5	Orathanadu	98.59	98.82	99.56	99.61	99.90	99.22
6	Papanasam	99.26	99.03	99.77	99.82	99.98	99.43
7	Pattukkottai	98.75	98.88	99.62	99.96	99.90	99.42
8	Peravurani	98.88	98.97	99.71	99.56	99.45	99.27
9	Sethubavachatram	98.21	99.05	99.79	99.84	99.12	99.45
10	Thanjavur	98.90	99.17	99.91	99.94	99.89	99.56
11	Thiruppanandal	99.26	98.88	99.62	99.74	99.25	99.31
12	Thiruvaiyaru	98.90	99.07	99.81	99.86	98.85	99.47
13	Thiruvidaimarudur	99.27	99.05	99.79	99.84	98.90	99.45
14	Thiruvonam	99.57	98.97	99.71	99.76	99.44	99.37
District		99.01	99.01	99.75	99.80	99.38	99.40

Source: Education Department, Thanjavur, 2014.

Table 5.1 shows the enrollment ratio of primary in Thanjavur district during the last two years, such as 2012-13 and 2013-14. In the primary section, the district was able to register 99 per cent GER during 2012-14. Interestingly, the gender wise split record shows, that there is no gender discrimination in primary enrollment ratio. The educational attainment in the primary level is equally successful to that of the primary level. It is very interesting to note that irrespective of gender; around 99 per cent enrollment has been recorded during the last two years in all the blocks of study. This could be treated as an achievement of the state government in tracking the potential students and enrolling them in the nearby schools.

Box 5.2: SSA –IED : Success Story of Sathyajeeva

The objective of the case study is to document the efforts taken by the district administration for the physically challenged people live in the district. The present case is a unique one and the officials and teachers of special schools have offered various skills to bring her to the mainstream. S. SathyaJeeva is a 6 year old female child with Cerebral Palsy and Mental Retardation. Her father is daily wage worker and her mother is a house wife. She is from a poor family background. Her native place is Karanthai, Thanjavur district. First, she was admitted in the school readiness programme, and after getting improvement, she was enrolled in the Jaina free middle school, Karanthai- Thanjavur.

Before getting physiotherapy through SSA, Sathyajeeva came to the Centre crawling. She used to move from one place to another in crawling pattern. She prefers to sit only in the W- sitting position and this made her bone alignment to alter. She was unable to wear her own inner garments. She did not have toilet control. She couldn't eat her food and drink water by holding the tumbler with her hands, since she did not had fine finger action. She could not sit in the squatting position, and she needed others help for toileting. On the whole, she was dependent on others for her day to day activities.

After physiotherapy treatment through SSA, Sathyajeeva is now able to walk independently. She is able to hold the tumbler with her hands and drink water or milk without spilling. She is eating her food with her hands. She is wearing her inner garments without assistance. Her toilet activity has improved, and she is going to the toilet with proper information to the teacher. On the whole, because of her physical improvement, she is enrolled in the Jaina free middle school in Karanthai in the I Std. Now she is very much interested to go to school, and her social behavior has improved after coming to school. She is ready to learn academically. At the same time, for her further improvement in balance while walking she is attending the physiotherapy care in school readiness programme twice a week regularly.

Completion Rate and Dropout Rate in Primary Education

In realizing the importance of dropouts at the levels of primary education, the government has come forward to workout completion rate and dropout rate at all levels. Having enrolled every child in a school, it is essential to see that he / she progresses regularly from year to year and does not leave the school till he/she completes the prescribed age or class. As it is well known, the extent of dropout rate in our system is very large. It is modest in the elementary education of this district. Fictitious enrollment is one of the factors responsible. In recent years, after the implementation of mid-day meals scheme, school enrollment has greatly increased as every child whose name is registered is eligible for the benefits from the scheme.

This intra-district analysis could help to make specific intervention in controlling the real drop-out at different levels in school education. The picture on the proportion of students completing primary education during 2012-14 in Thanjavur district is depicted in Table 5.2. The completion rate with respect to primary is recorded as 98.03 and there is no difference during last two years. The completion rate of boys at primary level is 97.71 and 97.81 and that of girls is 98.35 and 98.25 respectively. It is very interesting to note that girls' completion rate is higher than the boys' completion rate at the primary level during 2012-14 in Thanjavur district. However, this issue has to be seriously viewed, and efforts should be made to make learning fun and learner friendly.

Table 5.2 brings primary drop out ratio during 2012-13 and 2013-14 in Thanjavur district. At the primary level, the overall dropout ratio in Thanjavur district is recorded very minimum and the ratio is less than 1.06. The dropout ratio with respect to boys (0.87) and girls (1.25) in the district during 2013-14, there is no difference during last two years. The boys' dropout ratio at the primary level is relatively high in the blocks of Madukkur (1.15) and Thanjavur (1.12). A similar picture could not be seen in the case of girls' dropout ratio. The girls' higher dropout ratio is recorded in Madukkur (1.43), Thanjavur (1.38), and Papanasam (1.37). It is observed that the dropout of both boys and girls depend of their parents socio-economic and employment condition. Even though the

government has reduced the dropout to the level of less than two per cent, still there is a scope to bring down to the level of zero.

Table 5.2: Completion and Dropout Rate during 2012-14

S.No	Block / District	Completion Primary						Dropout Primary					
		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	Ammapettai	97.87	99.97	98.33	98.23	98.10	98.10	0.85	0.85	1.30	1.30	1.08	1.08
2	Budhalur	97.84	97.94	98.48	98.38	98.16	98.16	0.80	0.80	1.08	1.08	0.94	0.94
3	Kumbakonam	96.85	96.95	98.32	98.22	97.59	97.59	0.86	0.86	1.12	1.12	0.99	0.99
4	Madukkur	97.85	97.95	98.17	98.07	98.01	98.01	0.86	0.86	1.43	1.43	1.15	1.15
5	Orathanadu	97.79	97.89	98.44	98.34	98.12	98.12	0.85	0.85	1.18	1.18	1.02	1.02
6	Papanasam	97.74	97.84	98.18	98.08	97.96	97.96	0.88	0.88	1.37	1.37	1.13	1.13
7	Pattukkottai	97.73	97.83	98.32	98.22	98.03	98.03	0.86	0.86	1.29	1.29	1.08	1.08
8	Peravurani	98.55	97.65	98.43	98.33	97.99	97.99	0.93	0.93	1.20	1.20	1.07	1.07
9	Sethubavachatram	97.92	97.47	98.38	98.28	97.88	97.88	0.93	0.93	1.23	1.23	1.08	1.08
10	Thanjavur	97.85	97.95	98.23	98.13	98.05	98.05	0.87	0.87	1.38	1.38	1.12	1.12
11	Thiruppanandal	98.02	98.12	98.36	98.26	98.19	98.19	0.82	0.82	1.26	1.26	1.04	1.04
12	Thiruvaiyaru	97.69	97.79	98.41	98.31	98.05	98.05	0.93	0.93	1.21	1.21	1.07	1.07
13	Thiruvidaimarudur	97.86	97.96	98.54	98.44	98.20	98.20	0.85	0.85	1.08	1.08	0.97	0.97
14	Thiruvonam	97.69	97.79	98.41	98.31	98.05	98.05	0.93	0.93	1.21	1.21	1.07	1.07
	District	97.81	97.81	98.35	98.25	98.03	98.03	0.85	0.85	1.20	1.20	1.03	1.03

Source: Education Department, Thanjavur, 2014.

The overall dropout ratio is same as 1.06 in the district during 2012-13 and 2013-14 respectively. This rate of increase could be seen in all the blocks of the district. The reason for relatively high drop out in certain blocks may be due to seasonal migration of the marginal labourers to neighbouring districts and the state of Kerala. The reason for moving to other states is due to better wages.

Box 5.3: Reading and Writing Skills among Primary and Upper Primary School Children

Academic achievement of children alone does not wholly reflect quality improvement. 'Quality' in schools should also encompass improving living and other skills, self-confidence, pride and self-control of all children. The system should ensure that all children learn all skills. It would be pertinent to mention that the National Council of Educational Research and Training (NCERT) has come up with a Source Book to provide the teachers and administrators across the nation a new vision and approach for assessing children's progress in a system which is accustomed to classifying and labeling children on the basis of a test or examination. Assessment happens separately and children are assessed through tests/exams. Report card conveys the child's achievement. The children's performance is reported in terms of marks for subject areas. In contrast, in a child-centred classroom, the teacher provides learning opportunities and guides a range of meaningful learning.

A variety of materials, aids and equipment are available and used by children. Assessment is part of the teaching-learning process. Children are assessed while doing activities / tasks. A report conveys the learning and progress of the child. Children are engrossed in what they are doing. The children's progress is reported in qualitative terms and on all aspects of reading and writing skills. The district administration tries to follow the prescriptions of NCERT and enhance the reading and writing skills of students.

Table: Reading and Writing Skills among Primary and Upper Primary Students

S. No	Block / District	Percentage	
		Primary	Upper Primary
1	Ammapettai	52	55
2	Budhalur	50	53
3	Kumbakonam	59	62
4	Madukkur	55	58
5	Orathanadu	52	55
6	Papanasam	59	62
7	Pattukkottai	58	61
8	Peravurani	56	59
9	Sethubavachatram	55	58
10	Thanjavur	60	63
11	Thiruppanandal	49	52
12	Thiruvaiyaru	52	55
13	Thiruvidaimarudur	51	54
14	Thiruvonam	50	53
	District	57	60

Source: Education Department, Thanjavur, 2014.

Table shows the reading and writing skills of primary and upper primary students. The department of education under the auspices of Sarva Shiksha Abhiyan (SSA) carries out periodical assessment of reading and writing skills among primary and upper primary students. In all, 57 per cent of primary and 60 per cent upper primary students do have the capacity of reading and writing skills. It can be achieved only through the collective contribution of the teachers, parents, and students. Among the blocks of the district, the primary schools performance ranged from 49% in Thiruppanandal block to 60% in Thiruvaiyaru block. In the case of upper primary, the higher level of reading and writing skills is registered in Thanjavur 63%), Kumbakonam (62%), and Papanasam (62%) blocks.

Upper Primary/Middle School Education

Table 5.3 shows gender wise enrollment in upper primary education in the district during 2012-2014. The upper primary enrollment is very close to the enrollment level of primary education to the district. Overall the enrollment rate is 98.90 during 2012-13 and marginally increased to 99.03 during 2013-14. The same picture could be seen in all the blocks of the district as well as in respect of boys and girls. This could be treated as an achievement of the district for tracking all the eligible children and bring them to the mainstream of education.

Table 5.3: Enrollment in Upper Primary Education during 2012-14

S.No	Block / District	Upper Primary					
		Boys		Girls		Total	
		2012-13	2013-14	2012-13	2013-14	2012-13	2013-14
1	Ammapettai	98.49	98.69	98.98	98.89	98.74	98.79
2	Budhalur	98.51	98.52	98.63	98.54	98.57	98.53
3	Kumbakonam	98.69	99.04	99.48	99.39	99.09	99.22
4	Madukkur	98.67	98.83	99.08	98.99	98.88	98.90
5	Orathanadu	98.61	98.85	99.19	99.10	98.90	98.98
6	Papanasam	98.58	98.93	99.37	99.28	98.98	99.11
7	Pattukkottai	98.66	98.85	99.14	99.05	98.90	98.95
8	Peravurani	98.76	98.95	98.23	99.14	99.00	99.05
9	Sethubavachatram	98.61	99.07	99.13	99.54	98.27	99.31
10	Thanjavur	98.62	98.80	99.08	98.99	98.85	98.90
11	Thiruppanandal	98.67	99.20	99.82	99.73	99.25	99.47
12	Thiruvaiyaru	98.66	98.80	99.03	98.94	98.85	98.87
13	Thiruvidaimarudur	98.62	98.85	99.17	99.08	98.90	98.97
14	Thiruvonam	99.15	99.39	99.72	99.63	99.44	99.51
	District	98.66	98.90	99.14	99.15	98.90	99.03

Source: Education Department, Thanjavur, 2014.

Completion and Dropout Rate in Upper Primary/Middle School Education

The share of students completing upper primary education during 2012-14 in Thanjavur district is portrayed in Table 5.4. The completion rate with respect to upper primary is recorded as 94.47 during 2012-14. The completion rate of boys in upper primary level is 93.78 and 93.90 and that of

girls is 95.16 and 95.14 respectively. It is very interesting to note that girls' completion rate is higher than the boys' completion rate in upper primary education during 2012-14 in Thanjavur district. Among the blocks, the completion rate of boys is relatively low in the blocks of Madukkur (92.77) and Peravurani (92.41). The better performance can be seen only in the backward block of Thiruvonam (97.99). In the case of girls' completion rate is relatively better than boys' completion rate in all the blocks of the district.

Table 5.4: Completion and Dropout Rate in Upper Primary Education during 2012-14

S.No	Block / District	Completion Upper Primary						Dropout Upper Primary					
		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	Ammapettai	93.2	94.0	95.0	95.4	94.1	94.7	1.7	1.6	2.1	2.0	1.9	1.8
2	Budhalur	94.0	94.7	97.0	97.6	95.5	96.2	1.7	1.6	2.0	1.9	1.9	1.8
3	Kumbakonam	96.2	96.8	98.2	98.8	97.2	97.8	0.7	0.8	0.8	0.9	0.8	0.9
4	Madukkur	92.0	92.7	94.7	95.3	93.4	94.0	0.9	0.8	2.0	1.9	1.5	1.4
5	Orathanadu	93.0	93.7	96.8	97.4	94.9	95.5	0.8	0.7	1.4	1.3	1.1	1.0
6	Papanasam	93.8	93.6	95.7	95.2	95.7	94.4	0.9	1.7	2.3	2.2	1.0	1.9
7	Pattukkottai	93.3	94.0	95.1	95.7	94.2	94.8	1.6	1.5	1.7	1.6	1.7	1.6
8	Peravurani	92.2	92.4	93.2	93.4	94.0	92.9	1.7	1.6	1.7	1.6	1.7	1.6
9	Sethubavachatra	93.0	90.0	92.4	90.3	89.5	90.1	1.7	2.2	2.9	3.2	2.3	2.7
10	Thanjavur	93.1	93.4	94.1	94.1	94.1	93.7	1.3	1.4	2.2	2.4	2.0	1.9
11	Thiruppanandal	94.1	94.1	95.6	95.0	93.8	94.5	1.7	1.0	1.5	1.2	1.2	1.1
12	Thiruvaiyaru	93.8	93.3	93.2	93.0	94.5	93.1	0.9	1.3	2.5	2.9	2.2	2.1
13	Thiruvidaimarud	94.6	93.4	93.5	92.0	94.1	92.7	1.7	1.6	1.8	1.7	1.7	1.6
14	Thiruvonam	96.6	97.9	98.1	98.0	97.3	98.0	0.7	0.6	0.8	0.7	0.8	0.7
	District	93.7	93.9	95.1	95.1	94.4	94.4	1.3	1.3	1.9	1.9	1.6	1.6

Source: Education Department, Thanjavur, 2014.

The poor performance is recorded in the blocks of Sethubavachatram (90.35), Thiruvidaimarudur (92.07), and Thiruvaiyaru (93.05). It is observed that the girls' education may be encouraged by way of providing better access to the schools and creating all facilities in the schools. Overall, the completion rate is poor in Sethubavachatram block (89.54) to (90.19) during the period of 2012-13 and 2013-14. However, priority may be given to Sethubavachatram block to achieve hundred per cent completion rate along with other blocks of the district.

The dropout at the upper primary level is relatively high compared to primary level education in the district. The dropout rate of girls' is marginally high compared to boys' for last two years. During 2013-14, the dropout rate of boy is 1.61. Among the blocks, the dropout rate is very high in Sethubavachatram (2.76), Thiruvaiyaru (2.18), Papanasam (1.99), and Thanjavur (1.96). However, the Thanjavur block is the headquarters of the district and facilitates to absorb the children for some other activities. There is marginally decreased in dropout of girls' (1.90) to (1.86) during 2012-14. The girls' dropout is relative high in the blocks of Sethubavachatram (3.29), Thiruvaiyaru (2.98), Thanjavur (2.43), Papanasam (2.20), and Ammapettai (2.03). Even though the differences are very marginal, adequate attention may be given to reduce the drop rate to the level of zero in all the blocks of the district. Overall, the dropout has come down from 1.63 to 1.61 during 2012-13 and 2013-14 respectively. The dropout is very high in the blocks of Sethubavachatram (2.76), Thiruvaiyaru (2.18), Papanasam (1.99), and Thanjavur (1.96). It is noticed that the level of education as well as the rate of dropout is moving together for both boys and girls in the district. The interest on education is coming down to the category of dropout children while they are moving from primary to upper primary education. The existing education system may be fine-tuned in attracting the category of dropout children and proper counselling may be given to the stakeholders.

Transition Rate

Transition rate means the percentage of students advancing from one level of schooling to the next, for example, primary to upper primary, upper primary to secondary school and so on. When transition rate from primary to upper primary schools is considered, all the blocks of the district recorded almost 99 % irrespective of sex during 2012-14 (Table 5.5). These trends are depicted in Table 5.5. Combined transition rate from primary to upper primary is recorded as 98.83 during the period of 2012-14 respectively. It is clear from the above table that transition rate from primary to upper primary is more impressive in Thanjavur district. Further, there is no significant variation among the blocks regarding transition rate from primary to upper primary level. This shows the significant achievement of the district administration in tracking the students and achieving nearly

hundred per cent transition rate. The recent performance of the state has been more promising. Demand for education has been increasing in the recent past, and this is reflected in literacy and schooling levels (i.e. percentage of children in the 5-14 years of age attending schools) in the state. It is observed that there has been a growing demand for education.

Table 5.5: Transition Rate from Primary to Upper Primary and Upper Primary to Secondary

S.No	Block / District	Transition Rate					
		Primary to Upper Primary			Upper Primary to Secondary		
		2012-13	2013-14	Total	2012-13	2013-14	Total
1	Ammapettai	99.54	99.54	99.54	97.63	88.07	97.63
2	Budhalur	99.67	99.85	99.67	97.67	98.86	97.67
3	Kumbakonam	93.79	99.82	93.79	97.68	100.95	97.68
4	Madukkur	99.54	99.94	99.54	99.47	97.13	99.47
5	Orathanadu	99.64	99.85	99.64	98.68	93.85	98.68
6	Papanasam	99.04	99.84	99.04	99.39	98.54	99.39
7	Pattukkottai	99.35	99.82	99.35	98.69	102.88	98.69
8	Peravurani	99.50	99.92	99.50	93.65	89.95	93.65
9	Sethubavachatram	99.24	99.84	99.24	96.86	88.76	96.86
10	Thanjavur	99.69	99.87	99.69	99.74	99.65	99.74
11	Thiruppanandal	98.54	99.75	98.54	97.36	105.65	97.36
12	Thiruvaiyaru	98.27	99.78	98.27	99.62	123.73	99.62
13	Thiruvidaimarudur	98.69	99.84	98.69	99.12	45.88	99.12
14	Thiruvonam	99.75	99.88	99.75	99.68	110.62	99.68
	District	99.85	99.80	99.83	98.34	96.02	98.34

Source: Education Department, Thanjavur, 2014.

Table 5.5 exhibits information on the transition rate of the students from upper primary to secondary school during the year 2012-14 in Thanjavur district. The trend is similar to that of the transition rate from primary to upper primary and upper primary to secondary school. Overall, the transition rate of boys and girls has been computed as 98.34 respectively. As per the Government's policy, all the students have to be promoted compulsorily up to ninth standard. However, in certain blocks, the performance is less than hundred, which shows due to socio-economic reasons of the family. Further, the school administration at the district level follows up continuously and tracking them through their parents in achieving the targets. These strategies and efforts would have helped in promoting education in all the blocks of the district.

Availability of Schools

In the district, there are large numbers of private schools. Of the total number of primary and upper primary schools, the private sector accounts for nearly 20 per cent. The growing awareness about the value of education with rising expectations from parents about the quality of schooling, and the general feeling that Government schools are not providing good quality education have led to an increasing demand for private schools. Because parents are interested in better quality, they prefer private schools if they can afford it.

Table 5.6: Availability of School in Thanjavur District during 2014

S. No	Block /District	Number of Habitation	Number of Schools				
			Primary	Upper Primary	Secondary	Higher Secondary	Total
1	Ammapettai	198	77	34	10	7	128
2	Budhalur	160	78	33	15	8	134
3	Kumbakonam	271	126	83	16	32	257
4	Madukkur	85	52	31	8	7	98
5	Orathanadu	236	128	61	27	19	235
6	Papanasam	157	70	52	16	17	155
7	Pattukottai	178	108	66	19	19	212
8	Peravurani	140	80	40	16	11	147
9	Sethubavachatram	183	87	32	12	4	135
10	Thanjavur	327	191	125	28	47	391
11	Thiruppanandal	161	68	27	6	5	106
12	Thiruvaiyaru	126	86	32	11	6	135
13	Thiruvidaimarudur	241	104	46	10	11	171
14	Thiruvonam	262	66	37	15	7	125
	District	2725	1321	699	209	200	2429

Source: Education Department, Thanjavur, 2014.

Table 5.6 shows the four levels of schools functioning in the district namely Primary (1321), Upper primary (699), Secondary (209) and higher secondary (200). In total there are 2429 schools are functioning in the district. Of the total 1321 primary schools, 850 schools are coming under the category of government. State Government takes the primary responsibility in promoting primary education in the district as well as in the State. In total, more than hundred schools are functioning in rural cum urban blocks of Kumbakonam, Thanjavur, Orathanadu, Thiruvidaimarudur and Pattukottai.

Of the total 699 upper primary schools functioning in the district, 415 schools do come under the category of government. At the next level, Aided (121), and Private (143) are functioning in the district. Overall, urban areas do have more number of schools, and they deliver educational services to the nearby regions. The government has taken an initiative in providing school infrastructural facilities and establishing access in various forms. The central and state governments have introduced and strengthened various on-going educational programmes in making them accessible to educational institutions. This has been witnessed in Thanjavur district, which has established access of infrastructure both in rural and urban areas as shown in Table 5.6.

Pupil Teacher Ratio

Pupil teacher ratio is very much important in terms of better outcome. Individual attention for every student will lead a positive outcome in terms of child overall development. Thirty is an ideal number for the pupil teacher ratio and almost all the district stood very close to that number except very few. Most of the blocks gradually reducing the number in terms of pupil teacher ratio and trying to provide quality education to their child population. Table 5.7 gives the picture of the pupil-teacher ratio during 2013-14, and this ratio has been fixed by the State Government in order to enhance the efficiency in delivering educational services. The primary school pupil-teacher ratio of the district is 24:1, which is better then the level prescribed by the State. These ratios varied from 22:1 in Ammapettai block to 27:1 in Sethubavachatram and Thiruppanandal blocks.

Table 5.7: Pupil Teacher Ratio during 2013-14

S.No	Block /District	Primary School		Upper Primary School	
		Pupil Teacher Ratio	Pupil School Ratio	Pupil Teacher Ratio	Pupil School Ratio
1	Ammapettai	22:1	115:1	30:1	162:1
2	Budhalur	25:1	118:1	24:1	159:1
3	Kumbakonam	24:1	243:1	27:1	245:1
4	Madukkur	24:1	122:1	27:1	133:1
5	Orathanadu	22:1	98:1	24:1	124:1
6	Papanasam	22:1	194:1	28:1	172:1
7	Pattukkottai	25:1	156:1	33:1	198:1
8	Peravurani	26:1	125:1	40:1	172:1
9	Sethubavachatram	27:1	96:1	41:1	146:1
10	Thanjavur	25:1	203:1	20:1	196:1
11	Thiruppanandal	27:1	135:1	37:1	213:1
12	Thiruvaiyaru	23:1	119:1	26:1	203:1
13	Thiruvidaimarudur	24:1	138:1	29:1	200:1
14	Thiruvonam	25:1	108:1	30:1	105:1
District		24:1	148:1	30:1	180:1

Source: Education Department, Thanjavur, 2014.

The pupil-teacher ratio in the upper primary school of the district is 30:1. These ratios varied significantly among the blocks and it ranged from 20:1 to 40:1. It could be said that these ratios are influenced by various factors, such as, infrastructure, access, and quality of the services rendered by the schools.

Enrollment in Secondary Schools

Table 5.8 depicts the high and higher secondary enrollment of boys and girls in Thanjavur district during 2013-14. At the secondary school level girls' enrollment is not equal to the level of boys' enrolment. Among the blocks, there are some marginal variations between boys' and girls' enrollment. In Thanjavur district, overall girls' enrollment is 92.08 and boys' enrollment is recorded as 98.06. It reveals that the pupil use to opt the schools in terms of accessibility, security, better infrastructure, good teaching, etc.

Table 5.8: Enrollment in Secondary Education during 2013-14

S. No	Block / District	Secondary School Enrollment Ratio (2013-14)		
		Boys	Girls	Total
1	Ammapettai	83.42	85.22	84.32
2	Budhalur	112.91	107.47	110.18
3	Kumbakonam	102.47	94.75	98.57
4	Madukkur	94.79	87.62	91.02
5	Orathanadu	88.36	83.48	85.86
6	Papanasam	110.93	113.64	112.32
7	Pattukkottai	111.88	100.52	106.07
8	Peravurani	123.94	113.00	118.37
9	Sethubavachatram	74.28	67.08	70.60
10	Thanjavur	101.96	91.85	96.83
11	Thiruppanandal	71.33	73.84	72.59
12	Thiruvaiyaru	83.69	83.22	83.45
13	Thiruvidaimarudur	79.32	76.02	77.66
14	Thiruvonam	100.15	90.71	95.37
	District	98.06	92.02	95.06

Source: Education Department, Thanjavur, 2014.

It could be observed from Table 5.8, that girls' enrollment at higher secondary level is impressive almost in all the blocks in Thanjavur district. More than 100 per cent enrollment is noticed in four blocks irrespective of gender. This is a positive sign and it shows the efforts taken by the government to improve enrollment by means of implementing various welfare schemes. It shows that school infrastructure and the quality of services attracts more number of students from nearby districts. Hence the performance is more than 100 in those blocks.

Dropout Ratio of Secondary Schools

Table 5.9 shows the dropout ratios of secondary schools in Thanjavur district. Overall, the district's secondary dropout ratio has decreased from 8.07 to 7.92 during 2012-13 and 2013-14. Across the blocks, there is a significant variation. The dropout ratios are very high in the blocks of Thiruppanandal (11.65), Budhalur (11.24), Thiruvidaimarudur (11.06), and Papanasam (10.41) during

2012-13. But the picture is somewhat different during 2013 -14, the highest dropouts are recorded in Ammapettai (9.08), Budhalur (8.89), Thanjavur (7.53), and Orathanadu (7.08).

Table 5.9: Dropout in Secondary Education during 2012-2014

S.No	Block / District	Dropout in Secondary Education					
		Boys		Girls		Total	
		2012-13	2013-14	2012-13	2013-14	2012-13	2013-14
1	Ammapettai	9.19	13.89	5.02	4.83	7.11	9.08
2	Budhalur	15.08	13.23	7.4	3.81	11.24	8.89
3	Kumbakonam	7.13	4.51	4.8	2.89	5.97	3.69
4	Madukkur	9.87	7.27	3.0	2.99	6.44	5.01
5	Orathanadu	9.48	9.99	5.4	3.86	7.44	7.08
6	Papanasam	11.8	8.84	9.02	3.88	10.41	6.18
7	Pattukkottai	8.63	1.67	6.2	2.44	7.42	2.03
8	Peravurani	9.87	3.1	6.24	1.39	8.06	2.17
9	Sethubavachatram	10.02	7.17	8.25	6.31	9.14	6.75
10	Thanjavur	6.7	8.87	4.26	5.89	5.48	7.53
11	Thiruppanandal	14.03	5.02	9.27	3.58	11.65	4.27
12	Thiruvaiyaru	9.72	4.29	5.47	3.73	7.60	3.99
13	Thiruvidaimarudur	14.02	7.68	8.09	4.79	11.06	6.19
14	Thiruvonam	6.41	2.59	3.2	2.65	4.81	2.62
District		9.98	5.96	6.16	3.39	8.07	7.92

Source: Education Department, Thanjavur, 2014.

Due to continuous efforts taken by the department of education, the dropouts are reduced significantly in those blocks. In the case of boys' dropout rate, it has come down from 8.07 to 4.68 during 2012-13 and 2013-14 respectively. The boys' dropout is very high in the blocks of Ammapettai (13.89), Budhalur (13.23), Orathanadu (9.99), and Thanjavur (8.87). Over the years, there is no consistency in reducing dropout rates. The girls' dropout ratio has come down from 6.16 to 3.39 in the district during 2012-13 and 2013-14. This could be an achievement of the teachers of the region for tracking the students and in reducing the drop-out ratio and child labour.

Basic School Infrastructure in Primary Schools

Table 5.10 brings to focus the number of classrooms in each school. This is an indicator reflecting the facility available to accommodate different levels of students.

Table 5.10: Block wise Primary School Infrastructure during 2013-14

S. No	Block /District	Total No. of Schools	With 3 Class Rooms	More than 3 Class Rooms	Without Compound Wall	Without Desk and Chair
1	Ammapettai	77	54	6	16	0
2	Budhalur	78	43	13	12	0
3	Kumbakonam	126	41	18	5	0
4	Madukkur	52	29	11	11	0
5	Orathanadu	128	53	58	23	0
6	Papanasam	70	34	11	3	0
7	Pattukottai	108	46	32	7	0
8	Peravurani	80	33	35	13	1
9	Sethubavachatram	87	65	20	14	0
10	Thanjavur	191	72	23	19	0
11	Thiruppanandal	68	21	22	7	0
12	Thiruvaiyaru	86	39	16	15	0
13	Thiruvidaimarudur	104	44	15	18	0
14	Thiruvonam	66	42	18	24	0
District		1321	616	300	187	1

Source: Education Department, Thanjavur, 2014.

The district has a total number of 1321 primary schools during 2013-2014. About 69 per cent of the schools have either three or more than three classrooms. At the block level, 74 per cent of elementary schools in the Sethubavachatram and Ammapettai have three classrooms. About 70 per cent of schools do not have compound walls. This has to be viewed very seriously and establish compound walls in all schools. All the schools are provided with desk and chairs expect one school in Peravurani block.

School Infrastructure in Middle, Secondary and Higher secondary School

Table 5.11 shows the school infrastructure in the upper primary, secondary and higher secondary schools functioning in Thanjavur district during 2013-14. Availability of good drinking water, toilet facility especially for girl children, and teachers, playground, electricity, and boundary wall are essential features of a school.

Table 5.11: Basic Infrastructures in Middle, Secondary and Higher Secondary School - 2013-14

S. No	Block / District	Total No. of Schools	No of Schools with Drinking water facility	No. of Girls Toilet (BUILDING)	No. of Schools with Access Ramp	No. of Schools with Boundary wall	No of Schools with Playground	No of Schools with Electricity connection	No of Schools with Kitchen shed for Mid-Day Meal
1	Ammapettai	51	51	70	33	27	40	42	36
2	Budhalur	56	56	81	40	31	34	47	42
3	Kumbakonam	132	132	181	60	68	57	83	64
4	Madukkur	46	46	75	24	24	32	41	38
5	Orathanadu	107	107	134	89	69	91	99	92
6	Papanasam	86	86	106	32	53	40	60	54
7	Pattukottai	104	104	162	53	57	61	81	53
8	Peravurani	68	68	87	36	29	38	56	45
9	Sethubavachatram	48	48	74	27	33	34	46	38
10	Thanjavur	202	202	246	93	101	102	128	110
11	Thiruppanandal	39	39	51	20	16	14	27	19
12	Thiruvaiyaru	49	49	71	26	22	22	36	27
13	Thiruvidaimarudur	67	67	82	26	27	27	45	40
14	Thiruvonam	59	59	84	36	22	39	53	40
District		1114	1114	1504	595	579	631	844	698

Source: Education Department, Thanjavur, 2014.

The district administration has achieved 100 per cent results in the provision of drinking water supply. In the context of girls toilet, there is a significant achievement in the district. Since the schools used to have more than one girls toilet, the achievement has crossed hundred. The

remaining infrastructure facilities such as ramp (53%), boundary wall (52%), playground (56), electricity provision (75%) and kitchen shed (62%) have not reached hundred per cent. It shows that there is a rich scope in enhancing the quality of infrastructural services to all levels of schools functioning in the district.

Student Enrollment in Adi Dravidar and Tribal Welfare Hostels

Table 5.12 gives an outline of the welfare hostels functioning in Thanjavur district. These hostels are located in four regions, such as Kumbakonam (6), Thiruvaiyaru (7), Thanjavur (14), and Pattukkottai (13). The occupancy rates of the hostels are more than eighty per cent. These facilities were enjoyed by the students, who live in far flung locations. The stakeholders have realized that the infrastructure and quality of services may be scaled up in attracting the students of marginalized population.

Table 5.12: Student Enrollment in Adi Dravidar and Tribal Welfare Hostels during 2013-14

S.No	Divisions	No.of Hostels	Hostel Intake	No of Students in Hostels
1	Kumbakonam	6	405	428
2	Thiruvaiyaru	7	490	317
3	Thanjavur	14	995	860
4	Pattukkottai	13	750	540
	District	40	2640	2145

Source: Special Tashildar Adi Dravidar and Tribal Welfare, Thanjavur, 2014.

Box 5.4: Initiatives for Improvement in Quality of Education

This Government realizes in enhancing the quality of education apart providing infrastructure. The most important among them being the introduction of the Continuous and Comprehensive Evaluation (CCE) System. To make learning burden less, joyful and practical, the Activity Based Learning **(ABL)** methodology has been further simplified for children studying in Standards I to IV. For the smooth transition from primary to upper primary Simplified Active Learning Methodology **(SALM)** is being followed for students of class V. This will be reinforced and bridged appropriately to help the child to step into the Active Learning Methodology followed in Classes VI to VIII. It is expected that all these ventures would give better results in the district with the full co-operation and participation of all stakeholders.

Review and Revision of Materials : Based on feedback from teachers and the visiting teams, the content and process of ABL have been revised. To provide for whole class activity which was not systematically provided, side ladders have been introduced. The over-crowding of groups has been reduced. The competencies which did not get transacted were identified and reinforced through additional activities. The system of revision of learning materials once in 5 years has given way for making it an on-going process.

"Simply English" training : This training programme has been designed specifically to create interest in English and to develop communicative skills among children in the language. A team of external resource persons from reputed college has been involved in preparation of CDs, Modules and workbooks. All these inputs have been developed in bi-lingual mode so that the children will find them easy and interesting to use and learn. CDs and workbooks have been supplied to all primary schools. One day training to all primary school teachers has been given using modules prepared for the same.

Language skills development training ('Pillai Tamil') : To improve reading, listening and spoken skills, "Pillai Tamil" has been developed using familiar day-to-day vocabulary of children. This book contains stories, songs, puzzles and dramatic scenes.

Training on English Grammar to Upper Primary teachers : Bringing grammar to upper primary classrooms was the training programme organized for teachers in coordination with British Council and Hornby. Firstly, a team of KRPs comprising 30 teachers from all districts have been trained by Hornby team of English experts. The same has been cascaded to BRTEs who in turn trained the teachers at upper primary level.

Theatre Skills : Training on theatre skills has been organized. The main objective of the training is to develop the inherent talents and creativity among children; this has helped the children to act realistically combined with dialogue delivery and appropriate expressions. Children have been enabled to overcome stage fear. One day CRC has been used for this purpose.

Classroom Language and Teacher Development : Based on the success of in-service programme in English for primary school teachers, a similar kind of programme for upper primary teachers, namely classroom language and teacher development programme have been evolved by the British Council.

Upper Primary Science improvement programme : To promote scientific attitude among children in upper primary classroom focus is laid on performing practical in science subjects. CDs on experiments in Physics and chemistry have been developed utilizing the services of teachers and experts and supplied to all schools. Special orientation training in this regard has been organized to all the teachers.

Computers and DVDs : All primary and middle schools have been provided with computer and DVD sets, which have been useful in transacting the inputs such as CDs for learning not only languages but also other subjects.

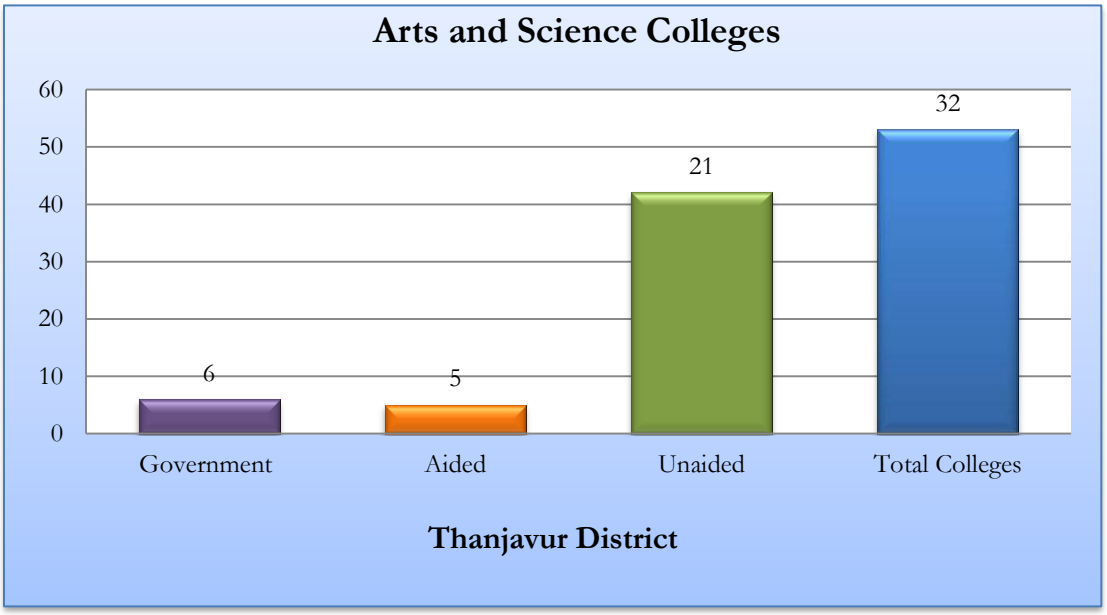
Higher Education

Higher Educational Institutions not only act as centres of innovation and excellence but also provides the basis for a high quality of life. The government had taken many steps to increase student enrollment and quality improvement in higher education. The vision of the Government of Tamil Nadu with regard to higher education is to make institutions of higher education emerge as centres of innovation, excellence, and development.

Arts and Science Colleges

Figure 5.2 bring focus the Arts and Science Colleges functioning in Thanjavur district in 2015. As on 2015, totally 32 Arts and Science Colleges are functioning in the district, out of which 6 are government colleges, five are aided college, 21 are unaided College.

Figure: 5.2: Arts and Science Colleges



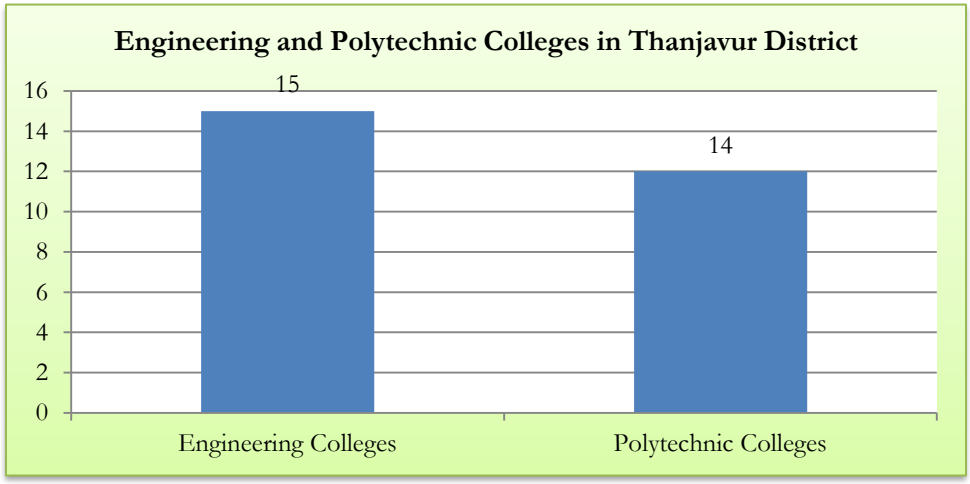
Source: www.colleges.in.tn.com/Dated:7.5.15.

The government is taking initiatives and developing policies to increase the enrollment rate, to provide equal access to groups with lower access to higher education, to improve the quality of education, etc. Of late, stakeholders have not prioritized arts and science programmes and they intend to join professional courses like engineering, agriculture and medicine.

Technical Education

In realizing the importance of growing technical education, the government, aided and private institutions have started 15 engineering colleges and 14 polytechnic colleges in the district (Figure 5.3). These institutions cater to the needs of local population, specifically the rural female folk enjoyed the benefits. The government freebies attract more number of students in taking up higher education.

Figure: 5.3: Engineering and polytechnic Colleges



Source: Directorate of Technical Education, Government of Tamil Nadu, 2014.

Conclusion

It could be concluded from the above analyses that the literacy rate increased significantly during the last decade in the district. Even though the government has given equal importance to all the blocks of the district, the performances are varied significantly. In the context of primary and upper primary education, the government has achieved the targets. However, the quality of education is still questionable one in the district. Still there is a rich scope in enhancing the quality of education at

all levels. The on-going initiatives may be scaled up further to enhance the quality of education. The dropout rate has marginally increased from primary to upper primary and upper primary to secondary education. However, the numbers are insignificant and the department of education is tracking each and every case and brings them to mainstream. The government has created infrastructure through the schemes of SSA and RMSA. However, there is a scope in enhancing the quality of school infrastructure at all levels. The freebies offered in the schools is encouraging students as well as parents to take part in all endeavours generated by both public and private. The views of the stakeholders differ and they expect to avail high quality education. In general, the gender discrimination still prevails in the district in providing education, which needs further analysis. The existing social stigma may be curtailed by way of empowering women in all their endeavours. This has been discussed in the following chapter.

CHAPTER 6

GENDER

Chapter 6 Gender

Introduction

This chapter gives an account of the various issues on Gender and Development in the district of Thanjavur. Gender equality is a key factor in contributing to the economic growth of a nation. Discrimination against women remains a common occurrence in today's society and serves as a hindrance in economic prosperity. The empowerment of women through such things as the promotion of women's rights and an increase in the access of women to resources and education proves to be a key to the advancement of economic development. Gender equality in the work force and in social relationships is the two primary factors that instill economic growth.

The role of gender equality on economic growth is directly illustrated in the participation of women in the labor force. When women are not involved in the workforce, only part of the able workforce is being utilized and thus economic resources are wasted. Gender equality allows an increase in women in the working population, thereby leading to an expansion of the labor force and an increase in economic productivity. The participation of women in the labor force allows changing amicable social relationships as well as economic prosperity.

Women can use decision-making to provide an environment that is most suitable for economic progress. A woman's decision to participate in the paid labor force, for example, enables mothers to alleviate their families from such harsh condition as poverty that proves detrimental to economic growth. By assuming a role in the decision-making process, women are also able to influence human development. For example, children whose mothers have an equal voice in family decisions have been found to be more likely to receive proper nourishment, education, and health care services. Women create a beneficial environment where they improve the well-being of their offspring so that the offspring can go on to survive and contribute to future economic growth. Thus, the ability to voice decisions allows gender equality to be crucial to economic progress and human development. The 2011 Census reveal that there are 919 girls for every 1000 boys in the 0-6 age group in India, highlighting the imbalance in child-sex ratios. Ideally, this ratio should be above 950. This imbalance

is a result of the practice of gender biased sex selection - a manifestation of deep seated patriarchal mindsets leading to the preference for sons over daughters, aided by technological misuse. Some of the consequences of an imbalanced child sex ratio are an increase in violence against women and girls, trafficking for marriage, and restrictions on mobility and choices of young girls.

Status of Women Population

Table 6.1 shows the status of women population of the district along with the State and the Nation. According to the 2011 Census, the percentage of women population in Thanjavur district is 50.85, which is marginally high compared to that of the State (49.9) and Nation (48). This could be seen in the form of sex ratios at three levels. The district sex ratio is very high (1035) compared to the State and the Nation. The district MMR is 49. The total live birth is 32,860 during 2014 and 16 mothers have died at the time of delivery. These data is lower than the state figure (68). However, the district health administration may view it seriously and bring down the MMR as zero.

Table 6.1: Comparative Status of Women during 2011

S. No	Status of women	District	State
1	Female Population (million)	1.22	3.60
2	Percentage in Total population	50.85	49.9
3	Sex-ratio	1035	995
4	Female literacy rate	76.5	73.86
5	MMR – 2013-14	49	68
6	% of women worker in agriculture sector	69.0	41.61
7	% of women worker in non-agri. Sector	31.0	45.15

Source: Census of India, 2011.

A similar trend could not be seen in the literacy rate, wherein the district has reached 76.5%. Over all, the status of women in the district is moderately better, when compared to the state and nation. However, there is a rich space in achieving development among women in various spheres. This is reflected in the literacy rate also. It is interesting to note that 69 per cent of women in the district are still participating in the agricultural activities. It reveals that the women have not switched over to other sectoral activities by way of developing their skills after getting formal education and training. The remaining 31 per cent of the women work force is participating in the non-agricultural activities.

It is understood that mere participation alone is not enough and they have to generate additional income and employment in the non-agricultural activities. In total, the women work participation rate is very poor and only to the level of 24 per cent. As per the tradition, the womenfolk use to take care of household activities. Over the years in the course of development, gradually they have come forward to take up other assignment to meet their family requirements. This aspect exhibits the unique attitude of this district population valuing women and their significance in improving the social aspect of human development.

Box 6.1: Social Emancipation of Rural Women: Through SHGs

The objective of the case study is to make an account of the research study on self-help group movement carried out by G. Uma and D. Fatima Baby of Fatima College, Madurai. They have analyzed the impact of the self-help groups on rural women in the study area of Thanjavur district and published a research paper during 2013. The impact is measured in terms of the changes brought about in the levels of income, employment, expenditure, savings, and borrowings after becoming members in the SHGs.

The total sample respondents taken for this study was 300. The 300 sample women respondents were selected randomly from different NGOs by adopting proportionate random sampling technique. The sample respondents cover all blocks, and their membership had varied from a minimum of 6 months to a maximum of 10 years of experience in the SHGs. Before joining SHG, out of 300 respondents, 51 members were engaged in petty business and this has increased to 156 after joining as a member in SHG. On the whole, the respondents doing some business increased from 137 to 300 after joining SHG. 'Z' test was applied to test whether the means differed significantly. The results were significant at 5 per cent level. The mean income had increased from 7,726 to 10,379. There has been a significant increase in the savings of the respondents after joining the self-help group. The 'Z' value 1,158 indicates that there is significant increase in the saving of the respondents after joining SHGs. The SHGs have a positive impact on the savings of the respondents.

The improvement in the earning capacity of the respondents has reduced their borrowings. The percentage of borrowings of above Rs.6,000 has increased considerably because of their repayment capacity. The results of the study indicate that there has been a significant improvement in the expenditure and savings of the respondents. It is also observed that the level of debt has decreased.

Access over Resource and Credit

Table 6.2 brings the access over resource and credit by SHGs members in Thanjavur district during the period of 2014. This movement is taking place at the grass root level in organizing the rural poor and form as a collective institution for availing the credit without any collateral security. In Thanjavur district, there are about 23,794 registered SHGs.

Table 6.2: Access over resource and credit by SHGs during 2014

S.No	Block / District	No. of Self-help group	No. of Member	Credit Availed 2013-14 (Lakhs)
1	Ammapettai	1,328	18,592	1,265
2	Budhalur	1,512	21,168	774
3	Kumbakonam	2,501	35,014	2,009
4	Madukkur	1,021	14,294	170
5	Orathanadu	2,442	34,188	1,058
6	Papanasam	1,299	18,186	1,287
7	Pattukottai	1,984	27,776	2,636
8	Peravurani	763	10,682	268
9	Sethubavachatram	885	12,390	373
10	Thanjavur	4,853	67,942	7,120
11	Thiruppanandal	1,327	18,578	551
12	Thiruvaiyaru	1,356	18,984	1,553
13	Thiruvidaimarudur	1,735	24,290	1,495
14	Thiruvonam	788	11,032	320
	District	23,794	3,33,116	20,879

Source: Project Director, TNSRLM-Mahalir Thittam, Thanjavur, 2014.

Except Peravurani, Thiruvonam and Sethubavachatram blocks, the other blocks have more than 1000 groups per block. The highest numbers of SHGs are in Orathanadu block (2442). With regard to members, highest numbers of members are in Thanjavur block (67,942). Kumbakonam and Orathanadu blocks are having more than 30,000 members. Self Help as a group is the mechanism that has proved to be very powerful in bringing family institutions out of poverty and make them march towards the progress. The important policy direction could be, giving self-help groups

suitable training after assessing the potential of each block. In this district, Mahalir Thittam and related on going projects plays a major role in empowering the rural and urban women and in making them self-sufficient.

Box 6.2: Potential Linked Credit Plan

The objective of the case study is to highlight the credit plan document prepared by the NABARD. This document gives detailed analyses on the potential of various economic activities of the district. Potential Linked Credit Plan (PLP) for 2013-14 for Thanjavur district prepared by the National Bank for Agriculture and Rural Development (NABARD) envisages a credit flow of Rs.3,489 crore.

The crop production sector had a major share of 52.6 per cent that was Rs.1,836 crore in the credit flow. Term loan under agriculture was assessed at Rs.887 crore accounting for about 25.4 per cent. Under Medium and Small Enterprises, Rs.266 crore had been assessed as potential farming 7.6 per cent, and the remaining Rs.500 crore had been estimated for other priority sector.

The PLP projection for 2013-14 is higher by Rs.1,098 crore when compared with that of the previous year, representing an increase of 45.9 per cent. The PLP points out that productivity enhancement (especially paddy, pulses, and sugarcane) needed to be prioritized. Adoption of advanced technologies for the restoration of soil health, mechanization and cultivation of suitable remunerative crops, and effective pest and disease management are essential to step up the agricultural production.

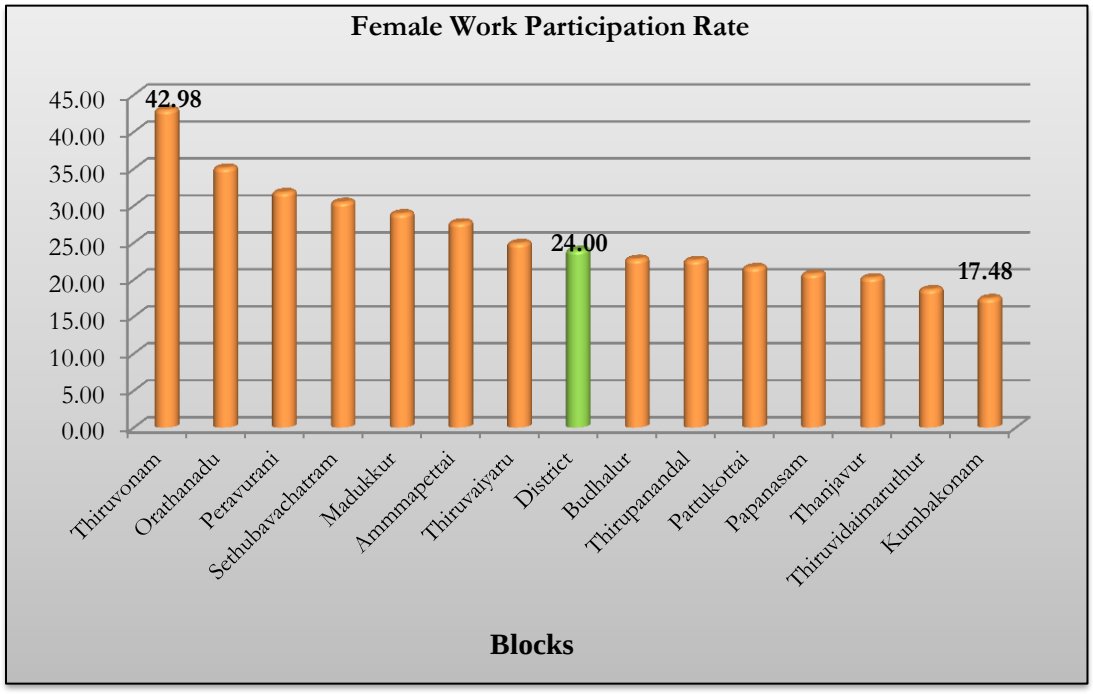
It is suggested that water management needs to be improved with a provision for more storage structures and regulation of water during times of water surplus for use in times of water shortages, and water conservation by minimizing water losses for increasing food production per unit of water. Renovation and rehabilitation of farm ponds and system tanks can help meet the water requirement even in years of monsoon failure and improve the economic state of farmers. Other suggestions include that horticulture crops could be encouraged as an alternative to the traditional cropping pattern in the district. Under the Rural Infrastructure Development Fund, NABARD had sanctioned so far 859 projects for Rs.350.50 crore comprising 430 rural roads, 65 bridges, 11 irrigation works, 49 check dams, 80 veterinary clinics, 68 drinking water projects, 135 schools, and nine tribal habitations.

Employment

Female Work Participation Rate

In terms of declining employment opportunities, occupational segregation appears to play an important role in holding female back: Female in the district tend to be grouped in certain industries and occupations, such as basic agriculture, sales and elementary services and handicraft manufacturing. Failure to allow female full access to the labour market is an under-utilization of human resources that holds back productivity and economic growth.

Figure 6.1: Female Work Participation Rate in blocks



Source: Census of India, 2011.

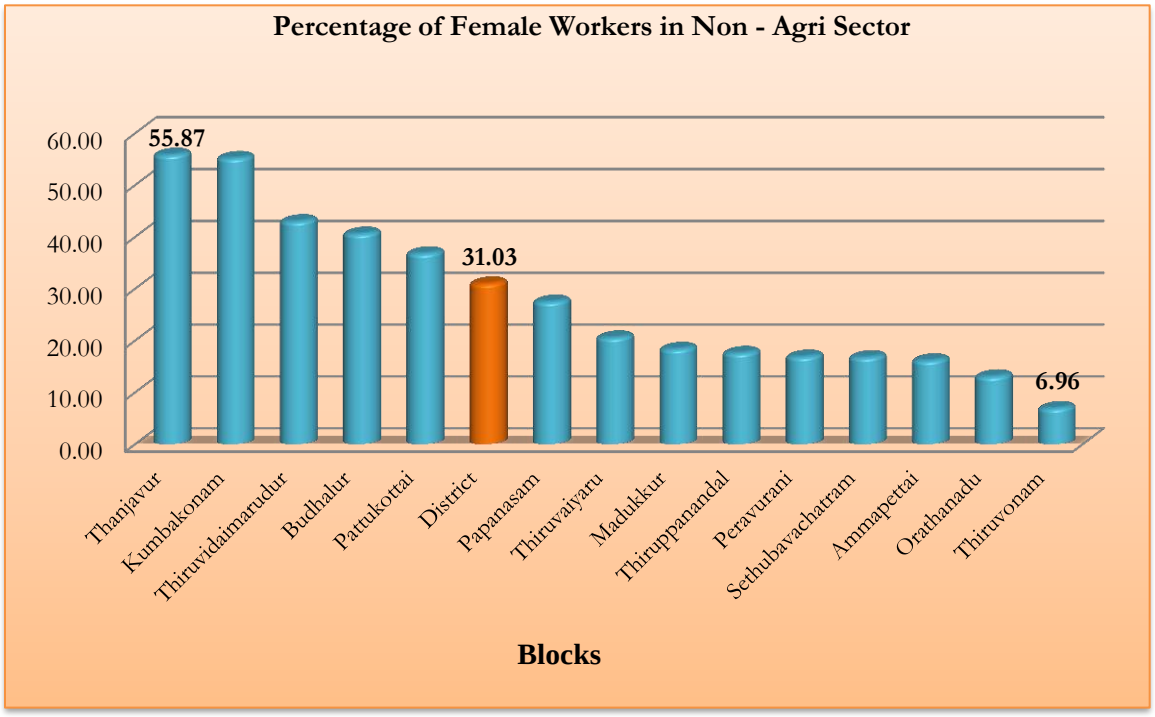
Female work participation of the district is 24%. Across the blocks, minimum level of participation is reported in the Kumbakonam block (17.48%) and maximum participation could be seen in Thiruvonam block (42.98%). While the share of female in work participation in the district has increased, the types of works undertaken by female bring out clearly the subservient position of female working in the district. Figure 6.1 shows female work participation during 2011 (Appendix I:

Table 6.1). Across the blocks, the minimum and maximum values vary by more than two times. It reveals that the participation rate has to be improved by means of block specific interventions. Specifically the performances of rural-cum–urban blocks are very poor. But, the opportunities are very high in the informal sector, particularly the municipal regions. These blocks female folk may be encouraged by way of ensuring social security.

Female Workers in Non-Agriculture Sector

Figure 6.2 reveals the female work participation in non-agricultural sector in Thanjavur district (Appendix I: Table 6.2). According to 2011 Census, the proportion of total number of workers in this sector is reported as 31. The participation of female in non-agricultural sector would give additional income to the household and enhance the status of the female both in the society and home. The performance differs significantly and it is around eight times. It requires two types of formal and informal skills in entertaining themselves in the non-agricultural activities.

Figure 6.2: Female workers in Non-Agricultural Sector in blocks



Source: Census of India, 2011.

Box 6.3: Tailoring as an Alternative Livelihood for Women

The objective of the case study is to bring focus tailoring as an alternative livelihood for women utilizing the opportunity available in making uniforms for the government schools. In this district, there are three co-operative societies functioning in the district as an alternative livelihood programmes for women development. In Thanjavur district, Government school uniforms are stitched by three Tailoring Industrial Co-operative Societies – Kundavai Nachiyar Women Tailoring Co-operative society, Thanjavur Women Tailoring Co-operative Society, Karanthai and Kumbakonam Women Tailoring Co-operative society, Kumbakonam.

Vijayakumari of Vilar road here become a member of the Kundavai Nachiyar Women Tailoring Co-operative Society recently. As she knows tailoring already, she stitches school uniforms in the society. "This has helped me to eke out my livelihood," she says. Vijayakumari, wife of a coolie, says that the scheme announced by the government to provide four sets of uniforms to children has given her and hundreds of women like her adequate tailoring work that fetched them money in the form of wages.

Amali Amutha is a senior member of the society and has been a part of it for the past 18 years. "Previously we were stitching only two sets of uniforms, and now we are stitching four sets. This has given us more work and wages," she said. Rejina, who has been a member of the society since 1984, also echoes the views of the other members. Many said that the wages they get helped in meeting the education expenses of their children.

Renuka Devi, a new member, said that she had been away her time at home after finishing household work. After seeing advertisements for stitching uniforms, she applied and got the work. Besides meeting expenses, "I am saving some money", she said. Thus, the State government's decision to provide four sets of uniforms to school children has not only provided adequate set of uniforms to children but has also helped hundreds of women to earn their livelihood.

Female in Assembly and Local Bodies 2011

Table 6.3 highlights female political participation in Thanjavur district. Overall, 36.84 per cent of female participate in the political activities. Of the total 5,462 members participate in the political process, 2,012 female members have participated. This is one of the welcome sign in achieving women development. However, the real participation of female members has to be ensured. In general, most of the female members work as a shadow of their partners. Initially, the male folk can develop their partners and later on they have to give full freedom for the development. This could be achieved only in the long run. The highest female participation is noted in Thiruvidaimarudur

block (40.58 %) and lowest performance is recorded in Thiruvonam block (33.57 %). It is interesting to note that all the blocks have crossed the limit of legal eligibility.

Table 6.3: Political Participation during 2011

S. No	Block / District	Member ship of women in State Assembly and local Body			
		Total No. of Elected Representatives	Number of Male	Number of Female	% of female participation
1	Ammapettai	398	247	151	37.94
2	Budhalur	368	225	143	38.86
3	Kumbakonam	486	308	178	36.63
4	Madukkur	278	180	98	35.25
5	Orathanadu	540	355	185	34.26
6	Papanasam	342	215	127	37.13
7	Pattukkottai	400	253	147	36.75
8	Peravurani	261	172	89	34.10
9	Sethubavachatram	337	223	114	33.83
10	Thanjavur	570	353	217	38.07
11	Thiruppanandal	390	241	149	38.21
12	Thiruvaiyaru	363	225	138	38.02
13	Thiruvidaimarudur	446	265	181	40.58
14	Thiruvonam	283	188	95	33.57
	District	5,462	3,450	2,012	36.84

Source: Local bodies/PAPD section in Collectorate, Thanjavur, 2011.

Conclusion

The above analysis gives an outline of gender development in the district. The district performs well in terms of proportion of female population and female literacy rate, sex ratio, etc. The district has unique feature of high concentration of rural population and high proportion of women work force work in agricultural sector. The gender inequality index reveals that there is no significant difference in terms of health, empowerment, and labour market. Further, the state and district administration have introduced various women centered development programmes for promoting women to participate in socio-economic and political life. Besides, both central and state governments have introduced various social security schemes aiming to avoid risks in their life. A detailed analysis of social security of the district is presented in the next chapter.

CHAPTER - 7

SOCIAL SECURITY

Chapter
7
Social Security

Introduction

This chapter gives an account of the status of the social security prevailing in Thanjavur district. Social security refers to any of the measures established by legislation to maintain individual or family income or to provide income when some or all sources of income are disrupted or terminated or when exceptionally heavy expenditures have to be incurred. India has always had a Joint Family system that took care of the social security. In keeping with its cultural traditions, family members and relatives have always discharged a sense of shared responsibility towards one another provided, it had access/ownership of material assets like land and gold. However today modernization and urbanization have resulted in radical socio-economic changes and given rise to new conflicts and tensions consequent upon the erosion of age old family and fraternal security. The transition from agricultural economy to an industrial economy brought in special accompanied problems that called for social security.

Social security may provide cash benefits to persons faced with sickness and disability, unemployment, crop failure, loss of the marital partner, maternity, responsibility for the care of young children, or retirement from work. Social security benefits may be provided in cash or kind for medical need, rehabilitation, and domestic help during illness at home, legal aid, or funeral expenses. It acts as a facilitator – it helps people to plan their own future through insurance and assistance. The least noticed of the destitute in India are the elderly. Millions of elderly in India are trapped in misery through a combination of low income and poor health. The traditional support structure of the family is increasingly unable to cope with the problem. In a world where the joint family is breaking down, and children are unable to take care of their parents, millions of elderly face destitution. The emerging demographic profile and socio-economic scenario of the country indicate that matters will worsen dramatically in the years to come. The steady elongation of life expectancy

and declining birth rates are inexorably taking us towards an India where there will be a large number of aged persons. Women tend to care for many people—spouses, children, and parents. And although they have made significant strides, women are more likely to earn less during their lifetimes than men.

They are less often covered by private retirement plans and more dependent on Social Security. With longer life expectancies than men, elderly women tend to live more years in retirement and have a greater chance of exhausting other sources of income. Further, the problems of women are exacerbated by a lifetime due to gender based discrimination. It is compounded by other forms of discrimination based on class, caste, disability, illiteracy, unemployment, and marital status. Women experience proportionately higher rates of chronic illness and disability in later life than men. So special care has be to exercised in designing social security measures for women. While the programmes of Social Security are to guarantee income maintenance or income support, the condition of the disabled persons is somewhat different. Some might have become disabled due to work injury or accident or due to some other contingency during their work life. The magnitude of the woes of the persons with disabilities is vast, and its impact on the individual, family and community is severe. The most vulnerable groups among the persons with disabilities include very young children, women, and the aged with disabilities.

Demographic Profile of the Aged

Elderly consists of ages nearing or surpassing the average life span of human beings. Old people have limited regenerative abilities and are more prone to disease, syndromes, and sickness as compared to other adults. The policy defines 'senior citizen' as a person who is 60 years old or above. It strives to ensure well-being of senior citizens and improve quality of their lives through providing specific facilities, concessions, relief, services etc. and helping them cope with problems associated with old age. It also proposes affirmative action on the part of Government Departments for ensuring that the existing public services for senior citizens are user friendly and sensitive to their needs. It provides a comprehensive picture of various facilities and covers many areas like financial security, health care, shelter education, welfare, protection of life and property etc. Table 7.1 gives

the outline of the aged population living in the district. Of the total population of 24.05 lakhs, 10.84 percent of the population is aged (2,60,838). The sex ratio for the aged is 1051 during 2011.

Table 7.1: Demographic Profile of Aged during 2011

Age-group	Population in Age - Groups			Proportion of Population in Age - Group		
	Person	Male	Female	Person	Male	Female
60-64	98,357	48,885	49,472	4.09	2.09	2.00
65-69	63,596	30,638	32,958	2.64	1.35	1.29
70-74	48,500	23,712	24,788	2.02	1.03	0.99
75-79	23,750	11,834	11,916	0.99	0.5	0.49
80+	25,092	11,307	13,785	1.04	0.53	0.51
Age not stated	1,543	808	735	0.06	0.03	0.03
Above 60	2,60,838	1,27,184	1,33,654	10.84	5.53	5.31
All ages	24,05,890	11,82,416	12,23,474	100	51.05	48.95

Source: Census of India 2011.

The number aged males are 1,27,184 and aged females are 1,33,654. Age group of five years after sixty and their proportion show a diminishing one, starting from 3.49 (60-64 age group) to 0.88 in the 80+ category.

Differently Abled Persons

Disabilities is an umbrella term, covering impairments, activity limitations, and participation restrictions. An impairment is a problem in body function or structure; an activity limitation is a

difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. An individual may also qualify as disabled if he/she has had an impairment in the past or is seen as disabled based on a personal or group standard or norm.

Table 7.2: Assistances provided to Differently Abled Persons

S. No	Type of disability	No.of cards issued 2005-2013	No.of cards issued - 2014	Total
1	Cerebral Palsy	2,006	40	2,046
2	Hearing Impaired	3,682	71	3,753
3	Learning Disabled	17,313	243	17,546
4	Mental Retardation	5,014	65	5,079
5	Multiple Intelligences	129	12	141
6	Visually Impaired	1,518	21	1,539
7	Multiple Disabilities	368	-	368
8	Other Disabilities	839	27	866
	Total	30,869	479	31,338
Welfare board card Issued		13,959	732	14,691

Source: Department of Statistics, Thanjavur, 2014.

Such impairments may include physical, sensory, and cognitive or developmental disabilities. Mental disorders (also known as psychiatric or psychosocial disability) and various types of chronic diseases may also qualify as disabilities. Table 7.2 gives the details regarding types of disabilities and assistances provided to disabled people in the district during last 9 years. During the period 2005-14, eight categories of disability is covered, and 31,338 cards have been issued. Besides the welfare board also has issued cards to 14,691 disabled population. Among the disabilities, the number is very large in learning disabled (17,546). Specific counseling and required assistances may be provided to the disabled people for bringing them to the mainstream.

Social Security Scheme of Old Age Pension and Other Pensioner Details

Social Security schemes are designed to guarantee at least long-term sustenance to families when the earning member retires, dies or suffers a disability. Thus the main strength of the Social Security system is that it acts as a facilitator - it helps people to plan their own future through insurance and assistance. The success of Social Security schemes however requires the active support and involvement of employees and employers.

Table 7.3: Social Security Scheme of Old Age Pension and Other Pensioner details

S.No.	Name of Scheme	2013-14	
		Total No. of Beneficiaries	Rs. in Lakhs
1	Old Age Pension	20,848	2,61,144
2	Destitute Widow Pension	6,690	80,222
3	Physically Handicapped Pension	2,814	32,092
4	Destitute and deserted Wives Pension	1,135	17,195
5	Unmarried Poor women pension	474	5,696
6	Indira Gandhi National Widow Pension	20,821	2,59,617
7	Indira Gandhi National Disabled Pension	2,913	36,685
Total		55,695	6,92,651

Source: Deputy Collector(SSS), Thanjavur, 2014.

Table 7.3 highlights the social security scheme and the detail of beneficiaries during 2013-2014. In total, there are eight schemes implemented in the district. Of these eight, no one is registered in the destitute of agricultural labourers pension scheme. In total, 55,695 beneficiaries received the monetary benefit of Rs.6,92,651 during 2013-2014. Among these, old age pension and Indira Gandhi national widow pension beneficiaries are very high in number. It reveals that the government has identified the target groups and provided pension to them to meet their basic needs. In general, the beneficiaries realized the important of the scheme and they appreciate the government endeavors.

Box-7.1: Disability is a Gift – A Story of a Disabled Girl

"I, S.Amudha do not have a disability, I have a gift! Others may see it as a disability, but I see it as a challenge. This challenge is a gift because I have to become stronger to get around it, and smarter to figure out how to use it; others should be so lucky."

Her parents, both farm workers let Amudha attend the local government school, physically carrying her to and from campus every day. But her education had to stop with Standard V, the highest class available at the school then. "When I got admission to a hostel in Thanjavur two years later, my parents were not inclined to send me there, so I just dropped out," she says. Alone at home for most of the day for the next 10 years, Amudha overcame depression and fear to begin her ongoing journey towards self-sufficiency. "I learned how to cook and do the household chores first. Later, my father used his savings to buy a wet grinder for me. I started selling idli batter for around 5 to 6 customers every day. Some nearby eateries started contacting me as well," she says. At the age of 20, Amudha was encouraged by a teacher who was giving tuitions to her sister, to change her attitude and interact more with the world outside. With the help of a loan from the Women Entrepreneur's Association of Tamil Nadu (WEAT), she decided to start a small shop on the university campus selling pickles, appalams and vadagams prepared by self-help groups which paid a commission of Rs. 10 for every Rs.100 worth of goods sold. "But it didn't do very well," admits Amudha, "because such products don't sell every day. From 2007-09, I used to simply come to the store and wait for customers."

The establishment of a canteen next door brought an electricity connection to the building, and as it were, some power into Amudha's business plan as well. "I started with a fridge for soft drinks, and then slowly built up a range of products," she says. Starting with goods worth Rs.5, 000, Amudha says she now has got material for at least Rs.2 lakhs in the store. "I just kept reinvesting all my earnings back into the store," she reveals. As the store took off, so did Amudha's personal life. She got married to her cousin Chelladurai, and the couple has a daughter, Ajeetha, aged 5. "Maintaining a household, looking after a baby and keeping a career going can be difficult when you have a physical problem like mine," she agrees, "but I prefer not to complain about it. If I do, I'll be asked to stay at home!" she smiles. Instead she focuses on her future plans – right now it is the brand-new photocopier that has begun to earn its keep after an initial dull spell. Amudha has applied for a bank loan to help pay off its Rs. 80,000 cost, while another project is to learn how to drive the specially adapted three-wheeler scooter that she purchased with the help of donations from friends and well-wishers. At present, she uses an auto-rickshaw to commute.

Crime Against Women

Women and their problems need special attention as their numbers are increasing every day, and given the multiple disadvantages they face in life, they are likely to be grossly unprepared to tackle these issues. The district administration is taking strenuous efforts to provide social security to the women of the district. The semantic meaning of crime against women is direct or indirect physical or mental cruelty to women. Although women may be victims of any of the general crimes such as murder, robbery, cheating etc., only the crimes, which are directed specifically against women are characterized as crimes against women.

Table 7.4: Crime Against Women

S.No	Category	2013			2014		
		Reg	PT(Pending Trial)	UI (Under Investigaton)	Reg	PT(Pending Trial)	UI (Under Investigaton)
1	Rape	27	5	9	8	6	1
2	Molestation	68	15	50	62	35	24
3	Kidnapping	39	2	37	24	11	13
4	Dowry	0	0	1	1	0	1
5	Cruelty by	46	11	16	31	15	16
6	DP Act	0	0	0	0	0	0
7	Women	86	33	50	85	49	31
8	Importation	0	0	0	0	0	0
9	Sexual	0	0	0	0	0	0
10	Eve	0	0	0	0	0	0
Total		266	66	163	211	116	86

Source: Superintendent of Police, Thanjavur District, 2014.

It includes any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or private life. Table 7.4 lists the various acts of crimes against women in the district. The total number of cases registered is 266 and 211 in Thanjavur district during the period of 2013 and 2014, women Pending Trial cases registered in the district is 2013 (66), 2014 (116) and the Under Investigation cases is 2013 (163) and 2014 (86). Of the listed ten categories of crimes, the number are recorded in all categories both pending and under investigation. It shows that the crimes are prevalent in the district. The women police stations functioning in the district is taking care of all crimes and try to reduce the same.

Box-7.2: Marriage Assistance Programme

The state government has introduced a number of marriage schemes facilitate to achieve equity and development in all respects. The details are:

- Marriage assistance is given to Differently Abled person who marries a **Differently Abled person**. Total Assistance is Rs.25,000/-. Rs.12,500/- in the form of National Savings Certificate and Rs.12,500/- cash towards marriage expenses, with a Certificate of appreciation and 4 gram 22 ct. Gold Coin for making Thirumangalyam.
- Marriage assistance is given to normal person who marries an **Orthopaedically Handicapped person**. Total Assistance is Rs.20,000/-. Rs.10,000/- in the form of National Savings Certificate and Rs.10,000/-in cash towards marriage expenses.
- Marriage assistance is given to normal person who marries a **Speech and Hearing Impaired person**. Total Assistance is Rs.20,000/-. Rs.10,000/- in the form of National Savings Certificate and Rs.10,000/-cash towards marriage expenses.
- Marriage assistance is given to normal person who marries a **Visually Handicapped person**. Total assistance is Rs.20,000/-. Rs.10,000/- is given in the form of National Savings Certificate and Rs.10,000/- in cash towards marriage expenses along with a Certificate of appreciation.
- Marriage assistance is given to normal person who marries a **Visually impaired person**. Total assistance given is Rs.25,000/-. Rs.12,500/- is given in the form of National Savings Certificate and Rs.12,500/- in cash towards marriage expenses along with a Certificate of appreciation and 4 gram 22ct. Gold Coin for making Thirumangalyam.

The district administration has followed the guidelines of the government and identified the eligible benificiaries and distributed the same. The list of beneficiaries is given in the following table during 2014. There are 4,420 beneficiaries under marriage assistance scheme. Of these beneficiaries, 94 per cent availed benefits from the Moovalur Ramamirtham Ammaiyar Ninaivu Marriage Assistance scheme. Only remaining six per cent availed benefits from the rest of four schemes. It is observed that these schemes have helped the socially, economically, and physically disadvantaged population of the district.

Beneficiaries of Marriage Assistance Schemes in Thanjavur District-2014

S.No	Name of the Scheme	Women Assisted	Beneficiaries	Amount Availd (Rs.in lakhs)
1	Moovalur Ramamirtham Ammaiyar Ninaivu Marriage Assistance Scheme	4162	4162	802.8
2	E.V.R.Maniammaiyar Ninaivu Marriage Assistance Scheme for Daughter of Poor Widows	158	158	72.25
3	Annai Theresa Ninaivu Marriage Assistance Scheme for Orphan Girls	47	47	9.25
4	Dr. Dharmambal Ammaiyar Ninaivu Widow Remarriage Assistance Scheme	7	7	2.25
5	Dr.Muthulakshmi Reddy Ninaivu Inter-caste Marriage Assistance Scheme	46	46	14.5
	Total	4420	4420	901.05

Source: District Social Welfare Officer, Thanjavur, 2014.

Conclusion

It could be concluded from the above discussions that a significant proportion of aged population live in the district. It is observed that the family system has been changed from joint family to nuclear family, tries to exclude the aged population. In realizing the importance, the governments have introduced various financial security schemes for the aged. These schemes help the aged people to live independently and meet their immediate needs. The role of destitute widows and destitute deserted widows' financial assistance scheme benefits is remarkable in the district and all the targeted groups have been benefitted. In the process of wiping out caste and communal discrimination, marriage schemes introduced and significant number of people benefitted on this scheme. Similarly, maternity assistance provided to all the targeted population. Crime against women is considerabely resudeced, however it can be further reduced by strengthening the women police force with adequate training. Overall infrastructural development is essential for enhancing the status of human development in the district. The district's infrastructure is examined in the next chapter.

CHAPTER - 8

INFRASTRUCTURE

Chapter
8
Infrastructure

Introduction

This chapter highlights the physical and social infrastructure created over the years in the district. The expectation of the infrastructure is to provide services to the people of the region. Infrastructure development is critical for sustaining economic growth and for rapid human development. These include public works and public utilities such as road, electricity, telecommunication, etc., besides other social utilities like bank, and insurance. Under human development perspective, the term infrastructure is further widened in terms of social overhead capital to include facilities pertaining to health, education, skill formation etc., These activities are of the nature of facilitating the working of an economy broadly, the nature of infrastructural installations is that these do not directly produce output; rather, they facilitate direct productive activities. The impact of investment on different kinds of infrastructure varies widely. It is important for the policy makers to make an optimal choice as the resources are limited.

Sanitation is often called the "orphan MDG," and India is among the worst countries in the world in terms of access to sanitation. While the 7th MDG goal is to halve by 2015, the proportion of population without access to sanitation, the efforts to achieve these international targets have been insufficient and ineffective in India. The absence of sound programmes and policies to improve sanitation are reflected in our dismal sanitation figures. The Ministry of Urban Development (MoUD) under the National Urban Sanitation Policy ranked and categorized 423 cities in 2008 to evaluate their sanitary health and hygiene standards. As per these ranks, none of the cities studied by the MoUD can be categorized as "healthy and clean." Further, cities of Tamil Nadu, which have traditionally been considered to be superior to their counterparts in terms of access to water and sanitation, also performed miserably. With the exception of Thanjavur that received a comparatively higher score of 48 on 100, all others have unpardonable scores. The latest National Family Health

Survey (NFHS 3) figures for Tamil Nadu also conform to the shocking findings of the MoUD. The report states that 57 per cent of the households in Tamil Nadu have no toilet facility.

Box 8.1: IAY: Success Story of Chitramani and Selvi

The objective of the case study is to assess the impact of on-going housing schemes for the marginalized population. This case is two Indira Awass Yojana (IAY) beneficiaries of Thanjavur district. Mrs. Chitramani, Thenombadugai Panchayat village, Kumbakonam block, narrates how she got benefited from the scheme. "I belong to the Adi dravidar community. My village is about 7 kms from Kumbakonam town and I live with my husband K. Jeeva, a son and daughter who are studying in government school. Before being selected as a beneficiary of the IAY scheme, we were living in 10 x 10 mud hut without toilet facilities. My husband is a Tappu player (traditional musical instrument), and the income was not regular. During rainy seasons as our hut would leak, we found it very difficult to cook, sleep, and the children could not study. At this juncture, during 2013-2014, I was selected as a beneficiary under IAY scheme and with the help of funding by the state and central government, MGNREGS, and CIM (Clean India Movement). I was provided assistance to build a house with toilet. Panchayat union supplied the raw materials for construction, namely cement and steel and the remaining amount was deposited in my bank account. With the government funding of 1.2 lakhs and with my small savings of Rs.60,000, I constructed my house at the cost of 1.8 lakhs. Today, I am living with my family in the home which is sufficient for us. Further, as the toilet is also present, during the night time and rainy season, we are relieved from defecating in open which is both unhygienic and unsafe.

Also, today, our children are able to study more comfortably. This has also improved our self-esteem among our relatives and the society as we live today in a safe and hygienic home." Here is a story of another IAY beneficiary, Mrs. Selvi W/O Mr. Azhagar, belonging to Sakrasamantham Panchayat, Thanjavur Panchayat union. My husband is a farm worker. I am having four children (two male and two female). Before being selected as a beneficiary of the IAY scheme, we were living in a house with no facilities. During rainy seasons the house would be drenched, and we found it very difficult to live in that house. Then we came to know about the government IAY scheme. I applied for this scheme to my panchayat's head. The people in the village requested for the needs like road facility, water facility in grama sabha meeting at that time I requested to construct a house for me through the IAY scheme. The panchayat head got work permit to construct a concrete house for me. The Panchayat union supplied the raw materials for construction from which a concrete house was constructed. Earlier, I and my family members were using open toilet which caused many difficulties. Since, I am having toilet inside, the new house now it is very clean in and around the house and we are leading a hygienic and happy life.

Roads

Road transport services are also being used by the people for going to work, to school, and to move essential commodities. Table 8.1 shows the distribution of different types of roads in Thanjavur district. In Thanjavur district, 9925.888 kms roads have been laid so far. They include 3396.82 km MUD road, 871.17 km WBM road, 5082.68 km BT road, and 575.21 km of CC roads. These road infrastructures created over the years through various schemes on the basis of demand. However, the quality and durability of roads differ significantly. Road infrastructure may be created through PPP model for having better quality and durability.

Table 8.1: Distribution of Roads Types and Road Length during 2013-14

S. No	Block / District	MUD	WBM	BT	CC Road	Total
1	Ammapettai	166.970	82.660	323.850	40.200	613.630
2	Budhalur	100.230	28.240	147.590	36.442	312.502
3	Kumbakonam	36.218	22.241	354.945	21.015	434.419
4	Madukkur	390.295	95.785	375.010	10.214	871.304
5	Orathanadu	611.620	96.490	627.680	52.370	1388.460
6	Papanasam	66.227	39.306	395.023	24.100	524.656
7	Pattukkottai	366.859	77.498	438.761	25.549	908.659
8	Peravurani	203.108	49.430	296.230	6.892	555.660
9	Sethubavachatram	201.285	69.880	234.539	24.711	530.415
10	Thanjavur	649.000	142.000	163.700	120.400	1542.100
11	Thiruppanandal	164.430	50.170	312.484	68.979	576.063
12	Thiruvaiyaru	47.790	16.740	105.130	89.690	259.350
13	Thiruvidaimarudur	122.430	23.630	528.390	60.330	734.780
14	Thiruvonam	270.420	76.800	312.350	14.320	673.890
	District	3396.82	871.17	5082.68	575.21	9925.888

Source: Executive Engineer (RD) (DRDA), Thanjavur, 2014.

Electricity

Every household is entitled to have electricity. In realizing the importance, the state government has provided electricity on the basis of demand and also provided free electricity to the people live in huts. Table 8.2 highlights the status of electrification in the district. It is interesting to note that the Tamil Nadu Electricity Board has achieved hundred per cent results in providing electricity supply to the households. In view of the increasing demand and increasing loads, the government has identified alternative source of energy and take appropriate steps to control power theft and

transmission loss. In total, the provision of electricity has been covered in 906 revenue villages with 2,635 hamlets and 25 towns. The entire district has been provided with 1,57,284 street lights during the period of 2013-14.

Table 8.2: Status of Electrification during 2013-14

District	Revenue Village	Hamlets	Towns	No. of Street Lights
Thanjavur	906	2,635	25	1,57,284

Source: Department of Statistics, Thanjavur, 2014.

Box 8.2 : Green House : Solar Home Lighting

The objective of the case study is to explore the conviction of the people, how beneficiaries availed benefits from the housing programme. Since the governments use to provide the houses as a free gift without any of their role either cash or caring, they believe that the houses are not ours. The outlook of both rural and urban area beneficiaries have been recorded and presented as a case for better implementation. Mr. M Boominathan of Melaveli Panchayat in Thanjavur district reveals his experience on the introduction of solar power and how he managed his studies and availed diploma through the polytechnic.

The Green house was provided with grid backed up solar home lighting system. M Boominathan, working in a jewellery shop, was one of the beneficiaries, who were allotted under the Chief Minister's Solar Powered Greenhouse scheme. His house was provided with a solar panel, a battery backup with five Compact Fluorescent Lamps (CFLs). Out of a total allocation of Rs.1.80 lakh per green house, Rs.30,000 has been earmarked for solar pack for home lighting. The supply, commission, and installation of the solar panels, battery, and lights were entrusted to the Tamil Nadu Energy Development Agency (TEDA), which in turn awarded tenders to private suppliers.

During 2011-12, 2,589 green houses were allocated in the district. Among these houses, most of the houses were energized with solar power packs. The Government has also provided for metered power connection from the grid as an option for the beneficiaries. Some of the beneficiaries have shifted old service connection from the thatched house to the green house built in the same location. The solar power pack would be maintained by the supplier for five years after installation.

Transport Facilities

A good, safe, and sustainable transport system is fundamental to the well-being of every citizen. It is essential for the economic growth, and in general, for enhancing human development. Road is the primary means of transport for the people of the district of Thanjavur. Road transport is vital to the economic development and social integration of the country. Easy accessibility, flexibility of operations, door-to-door service and reliability have earned road transport an increasingly higher share of both passenger and freight traffic vis-à-vis other transport modes. The Road Transport Sector has grown significantly during the past five decades. Road Transport has deep linkages with the rest of the economy and a strong multiplier effect. Transport is essentially a derived demand depending upon the size and structure of the economy and the demographic profile of the population. Greater the share of commodity-producing sectors like agriculture and manufacturing, higher is the demand for transport. Thanjavur district is no exception on possession of vehicles. The available vehicle data is presented in the Table 8.3.

Table 8.3: Different Modes of Vehicular Transport during 2013-14

S.No	RTOs	Bus	Car	Two Wheeler
1	Thanjavur	2,230	20,014	1,31,813
2	Kumbakonam	393	5,336	1,06,580
3	Pattukkottai	167	4,261	44,022
	District	2,790	29,611	2,82,415

Source: Regional Transport officer, Thanjavur, 2014.

There are three transport divisions in the district such as, Thanjavur, Kumbakonam and Pattukottai. Of these, Thanjavur division has number vehicles of Bus, Car and Two Wheelers. It is interesting to note that Thanjavur division has large amount of economic and business activities and thereby people have possessed vehicles to meet their day to day affairs. Of late banks and other formal financial institutions have come forward to lend money for the purchase of vehicles both for personal and commercial use. At the next level, the possession of vehicles has come down to the

divisions of Kumbakonam and Pattukottai. Overall, the district has 2790 buses, 29,611 cars and 2,82,415 two wheelers. Of the total 6,05,363 households in the district, around 47 per cent of the households have possessed two wheelers. It reveals that the district has grown faster in possession of vehicles, but the growth is not uniform in all the divisions. It reveals the overall infrastructure development of the district as well as the division.

Box 8.3: Heritage development and tourism potential at Kumbakonam

The objective of the case study is to make an account of tourism potential exists in and around of Kumbakonam town of Thanjavur district. This area not only have tourism potential and rich cultural heritage. These traditional structures have to be declared as heritage and have to be preserved. The potential for Kumbakonam have to be utilized for leveraging infrastructure and spur economic development through tourism initiatives. But this would require focused interventions in terms for restoring heritage sites and in providing necessary infrastructural facilities relating to connectivity, hospitality and sanitation. There are more than 180 temples in Kumbakonam, six of which particularly attract a large number of devotes every year. As a result Kumbakonam has a significantly high floating population. The city plan stresses the need to focus on protecting the heritage areas around the temple, especially in the context of the limited urban areas available within the town and observes that the Director of the county and Town planning (DTCP) has initiated the process of identifying heritage development and recommends the following measure in this regard.

Delineation of heritage zone for a Radius of 1 km

Factoring the heritage aspects in the Land – use master planning process

Formation of a heritage committee to review the process and development around the area.

Heritage areas

Heritage areas in Kumbakonam comprise:

Temples – The prominent temples in Kumbakonam include Adi Kumbeswarar temple, Sarangapani temple, Somessar temple, Nageswaran temple, Ramaswamy temple, Chakkarapani temple and Pana Pureeswarar temple.

Religious Institutions – Kumbakonam is home to the famous Maharaja Kala Sheree Govinda Theekshidar Veda Kavya Pada salai, which is engaged in training youth in vedic literature and other religious activities. Sankara madam, Govinda Kudi and Ahobila madam are other major institutions in Kumbakonam.

Environmentally sensitive areas – These include the numerous holy tanks and river front areas and include the renowned Mahamaham tank (famous for its Mahamaham festivals held every 12 years during which devotees throng to Kumbakonam to take holy dip in the tank), Porthamarai Theertham, Paga Theertham and Ghats of River Cauvery and Arasalar.

Minor heritage areas – These include the traditional settlements of various social groups. The traditional houses are linear and endowed with architectural features including the Columnar Thinai, Madam, Muttrum etc.

Absence of organized parking areas around the temples and creation of shops and commercial establishment in their vicinity is leading to devaluation of these heritage structures. Some heritage structures are in dilapidated condition and are in need of restoration. Water in the temple tanks tend to became polluted act as breeding ground for mosquitoes. There is also a need to limit the development of high rise building in the temple area to protect view of this heritage structures. The limited road width and approach geometry becomes a constraining factor during the Mahamaham festival. Encroachments and residential developments are affecting the river front and leading to environmental degradation.

Communication System

Table 8.4 gives the number of telecommunication services that exist in Thanjavur district. The total number of PCOs is 1,804 in Thanjavur district. The total number of landline connection in the district is 48,555.

Table 8.4: Telecommunication System during 2013-14

S. No	Block / District	No of Exchange	Total PCO	No of Land Line	No of Mobile Tower
1	Ammapettai	2	102	1264	3
2	Budhalur	4	57	795	5
3	Kumbakonam	14	95	14179	12
4	Madukkur	4	97	2658	5
5	Orathanadu	6	119	2092	7
6	Papanasam	3	73	2879	4
7	Pattukkottai	3	57	2209	5
8	Peravurani	4	111	1614	6
9	Sethubavachatram	4	45	1082	3
10	Thanjavur	7	562	10092	41
11	Thiruppanandal	3	117	1273	11
12	Thiruvaiyaru	3	120	2111	4
13	Thiruvidaimarudur	8	213	5925	17
14	Thiruvonam	2	36	382	2
	District	67	1804	48,555	125

Source: General Manager (CFA) BSNL, Thanjavur district, 2014.

The total number of mobile phone towers in the district is recorded as 125. There are 67 telephone exchanges in Thanjavur district. Since the data provided by the BSNL, it does not cover the private mobile services. Block wise analysis reveal that the number of telephone exchanges, number of PCOs, number of land line connections, and number of mobile phones differ significantly among the blocks of the district. These developments are recorded on the basis of demand. It is observed that around 50 % households used to have mobile phones to meet their demands and they revealed that they have better opportunities in generating income and employment. Besides, a number of private organizations are also offering mobile services in the district, which are not accounted in the list.

Financial Institutions

As member based, member controlled social and economic organizations, cooperatives can, and often do, provide various forms of social protection. Savings and Credit Cooperative Societies (SACCOS) provide affordable loans to their members who would otherwise have no access to credit from private financial institutions. Such loan is used to start small enterprises, improve house improvement, school fees, agricultural production, household goods and also to cover medical expenses. Cooperative banks provide loans to the cooperatives that own them. Such loans enable the borrowing cooperatives expand their enterprises which in turn benefit their members. Such banks also support special programmes for cooperative members and their communities.

Most farmers' cooperative societies provide farm inputs on credit (implements, seeds, fertilizers, pesticides, packing and building materials, hire of farm machinery etc.). The money is repaid when the farmer-member sells his crop through the cooperative. Insurance cooperatives provide protection to members and their property. They also provide cover for the members' assets in the cooperative. Many savings and credit cooperatives provide loan protection cover. Cooperative micro insurance is becoming increasingly common.

Table 8.5: Commercial and Cooperative Banks during 2013-14

Sl.No	Block/District	No of Cooperative Societies	No of Members	No of Account Holders
1	Ammapettai	17	30,444	26,849
2	Budhalur	20	28,533	11,532
3	Kumbakonam (R+U)	25	1,35,341	46,313
4	Madukkur	10	18,490	11,656
5	Orathanadu	37	68,413	42,423
6	Papanasam	15	59,483	49,993
7	Pattukottai	18	33,552	21,640
8	Peravurani	13	24,622	19,892
9	Sethubavachatram	15	27,735	17,283
10	Thanjavur	75	1,38,685	59,041
11	Thiruppanandal	14	27,576	8,373
12	Thiruvaiyaru	24	52,876	18,656
13	Thiruvidaimarudur	17	49,885	86,810
14	Thiruvonam	16	29,584	19,613
	District Total	316	7,25,219	4,40,074

Source: Joint Registrar of Cooperative Societies, Thanjavur District, 2014.

Data on co-operative banks and other financial institutions present in Thanjavur district is given in Table 8.5. There are 316 co-operative banks in Thanjavur district, and the total members of the societies are recorded as 7.25 lakhs. Among the blocks, Madukkur and Peravurani blocks have less number of co-operative societies in the district and the households of the blocks are less in number to cater to the needs of the population.

Box 8.4: Clean Thanjavur Movement: Valam Kundra Vallam

The objective of this case study is to demonstrate how government organization rope in non-governmental organization in managing solid and liquid waste in the rural areas. These issues have not been prioritized by the local people over the years. Due to continuous and over use of non-bio degradable materials, everyone has realized to manage the waste disposal. The management of solid and liquid waste involves integrating activities that include the segregation, collection, storage, transportation, processing, and disposal of solid waste. Improving solid waste management services in the Thanjavur district is an urgent challenge for all levels of the government. The District Rural Development Agency (DRDA) has roped in the Clean Thanjavur Movement, a voluntary organisation, for implementing solid and liquid waste management in six villages around Thanjavur. The Project Director, DRDA, said that the State government has announced a solid and liquid waste management programme for villages in entire Tamil Nadu. The villages are Vilar, Ramanathapuram, Nanjikottai, Neelagiri, Melaveli, and Pillaiyarpatti. The idea is to teach collection, segregation, and disposal of wastes to the people. A bio-methanisation plant is put up as common for all the villages. The wastes generated are used for the bio-methanisation plant to produce electricity.

N.Ramachandran, chairman, Clean Thanjavur Movement, and Vice Chancellor of Periyar Maniammai University, said that village-level committees with the respective panchayat presidents as chairpersons have been formed to implement the project. A member from Clean Thanjavur Movement is in the committee to co-ordinate the works. Under the Clean Thanjavur Movement, training has been imparted in solid waste management to thousands of students, teachers, members of women self-help groups, and hoteliers. Educational institutions such as Thanjavur Medical College, Auxillium Higher Secondary school, and Bon Secours College are implementing the solid waste management project. Vallam town Panchayat has become a model for solid waste management in the district. N.Ramachandran, also called upon the industrialists of Thanjavur to come forward to make wealth out of waste. "Waste can be made into wealth and it would also solve the problem of disposal," he said at a lecture on Green and Clean Thanjavur organized by the Chamber of Commerce and Industry. He said that adequate awareness has been created in Thanjavur district about solid waste management by the Clean Thanjavur Movement. It has to be sustained and expanded to new areas other than the models created, he said. He cited the example of Vallam town Panchayat where solid waste management has been taken up in a proper way by people and put to right use. The project "Valam Kundra Vallam" can be taken as a model by others. Similarly, Nanjikottai Panchayat and Nilagiri Panchayats have also become models for solid waste management. Periyar Maniammai University is also generating power using solid and liquid wastes.

Insurance

The insurance companies functioning in Thanjavur district are given in Tables 8.6 and 8.7. Five branches of life insurance Corporation are located in urban municipalities. A significant number of 88,327 and 58,856 (2012-13 and 2013-14) policies are issued to the clients by the Life Insurance Corporation of India.

Table 8.6: Insurance Companies

S. No	Name of the company	No. of Branches	Policies issued
1	The New India Assurance Co Ltd	2	42,507
2	The Oriental insurance Co Ltd	3	39,561

Source: Divisional Manager, Thanjavur, 2014.

Further, LIC is the single largest insurance in India and it also serves more people in the district. Apart from LIC, other private and public sector insurance companies are functioning in the district and provide services to the people.

Table 8.7: LIC of India – 2013-14

Nam of the Company	No. of Branches under Thanjavur District	Policies Issued	Policies Issued
		2012-13	2013-14
LIC Of India, Thanjavur Division	Thanjavur Main Branch	27,778	19,815
	Career Agents Branch Thanjavur	6,001	4,184
	Pattukkottai	25,452	15,943
	Kumbakonam Unit-I	14,743	9,478
	Kumbakonam Unit-II	14,353	9,436
	Total No. of Policies issued	88,327	58,856

Source: LIC of India, Thanjavur, 2014.

Irrigation Channel

The presence of the river Cauvery and numerous irrigation projects that have been carried out even from the days of the Chola Kings can be considered as the best irrigation system in Tamil Nadu. Thanjavur today has one of the best irrigation systems in the State and ranks foremost in the area irrigated. Over 70% of the gross cropped area is under irrigation systems from one source or the

other. The total area irrigated in the district stood at 1,93,670 hectares. The chief sources of irrigation in the district are rivers, a few rain fed tanks, tube wells, and wells. These tanks and wells are situated mostly in the upland regions. Cauvery and Coleroon are the most important rivers in the district. The Cauvery delta system in Thanjavur comprises mainly three important projects viz., the Grand Anaicut, Upper Anaicut, and the Cauvery Vennar Regulator project.

The oldest and the most significant among these three is Grand Anaicut which has been built at the junction of rivers Cauvery and Coleroon, about sixteen kilometers from Tiruchirapalli. When the supply exceeds the requirements of the delta channels, the gates of the grand anaicut are raised, and the surplus water is passed down into the Colernoon where it proceeds down to the lower anaicut, and it is again regulated and utilized for irrigation by means of other canals. Agriculture being the major economic activity, there are a number of research institutions functioning to support the development of agriculture and its allied sectors.

Dams, channels bring drinking water to the district

Thanjavur district covers with numerous rivers and canals cuddling across the levee complexes charge the water table aquifer. Areas other than levees are covered by clayey formation. Hence, de-silting of existing ponds and Ooranies are recommended for artificial recharge. The agricultural occupation of the district is well supported by the river Cauvery and its tributaries. Cauvery is considered to be the best of the rivers that drain the Southern Peninsula of India. The river flows from Karnataka State and passes through Dharmapuri, Salem, Erode, Namakkal, Tiruchirappalli, Thanjavur, Thiruvarur and Nagapattinam districts of the Tamil Nadu state covering a distance of about 770 kms and draining an area of about 72,800 Sq.kms in all. Springing from a spot lying on Brahmagiri Mountains on western-ghats at a height of 1,320 meters above mean sea level, Cauvery meanders its way across Karnataka and Tamil Nadu and showering not only economic prosperity to the millions of people but also carving a riche for itself in their lives in historical, cultural and religious realms.

The three minor tributaries, Palar, Chennar and Thoppar enter into the Cauvery on her course, above Mettur, where the famous dam has been constructed. The Mettur dam joins the Sita and Pala

mountains beyond that valley through which the Cauvery flow, up to the Grand Anaicuts. The dam in Mettur, impounds water not only for the improvement of irrigation but also to ensure the regular and sufficient water to the important Hydro-Electric generating station at Mettur. The river further runs through Erode district where river Bhavani merges with it. Two more tributaries viz. Noyyal and Amaravathi join it, while it passes through Erode and reaches Tiruchirappalli district. Here the river becomes wide, with a sandy bed and flows in an easterly direction till it split into two at upper anaicuts about 14 kilometers west of Tiruchirappalli. The northern branch of river is called the Coleroon, while the southern branch retains the same name Cauvery and then goes directly eastwards into Thanjavur district. These two rivers again come closer just before Kallanai and form the interim island namely Srirangam near Thiruchirappalli. The river Cauvery and its tributaries are the most remarkable features of Thanjavur district.

The Chola king, "Karikalan" has been immortalized as he has constructed the bank for the Cauvery all the way from Puhar (Kaveripoompattinam) to Srirangam. It was built as far back as 1,600 years ago or even more. On both sides of the river, the bund is found spreading to a distance of 1,080 feet. The dam Kallanai on the border between Tiruchirapalli and Thanjavur districts, constructed by him is a superb work of engineering marvel, which was constructed with earth and stone and has stood the vagaries of nature for hundreds of years. In 19th century, it was renovated on a larger scale. The name of the historical dam has since been changed as "Grand Anaicut" and stands as the head of the mammoth irrigation system with wide net-work of canals in the Thanjavur district. From upper anaicut, the Coleroon branches and runs in north-east direction. After Grand Anaicut, the Cauvery divides into numerous branches and cover the whole of the delta with a vast network of irrigation channels and gets lost in the wide expanse of paddy fields.

The mighty Cauvery River here is reduced to an insignificant channel and falls into the Bay of Bengal at the historical place called Poompuhar (Kaveripoompatinam) about 13 kms North of Tarangambadi. The river Cauvery flows the entire district in different names through its tributaries and branches viz., Grand Anicut canal, Vennar, Pannaiyar, Koraiyar, Vettar, Kodamuritiyar, Thirumalairajanar, Arasalar, Veerasozhanar, Mudikondan, Noolar, Vanjiar, Vikaraman, Nattar,

Kirtimanar, Nandalar, Majalar, Mahimalayar, Palavar, Cholasudamani, Puthar, Valappar, Vadavar, pamaniar, Mulliyar, Ayyanar, Adappar, Harichandranathi, Vellaiyar, Pandavaiyar, Odambogiyar, Kattar, Kaduvaiyar and all these branch off into a number of small streams. These are the main sources of irrigation in the district.

Major Project bring Electricity to District

The district receives major power from TANGEDCO apart from certain unique projects functioning in the district as well as in the neighboring districts. The details are:

Thirumakotai Gas Turbine Power Station (Kovilkalappal)

This Station is the foremost Gas Station under Combined Cycle in TNEB. This Power Station is located at Thirumakottai, a small village situated 18 km from the town of Mannargudi in Thiruvarur District. Natural gas required for this station is sourced from ONGC wells located at a distance of about 10 km from the plant. The power generated improves the voltage and grid stability in the neighbouring areas of Pattukottai, Mannargudi, Thiruvarur and Thanjavur. The plant uses natural gas which is a clean gas and so pollution of the environment is minimum unlike Thermal plant which produces byproducts like flyash in large quantities. The plant provides job to hundreds of people in the neighboring villages. The capacity of the plant is 107.88 MW and with the source of Natural Gas. The project was commissioned during 2001.

Kuthalam Gas Turbine Power Station is located in Maruthur Vilage near Kuttalam which is 15Km from Mayiladuthurai in Nagapattinam District. The power generated improves the voltage and grid stability in the neighbouring areas of Kumbakonam, Kadalangudi, Thiruvarur and Thanjavur. The capacity of the plant is 101 MW and with the source of Natural Gas. The project was commissioned during 2003.

Private Project bring Electricity to Thanjavur District

In this district, the following private entrepreneurs have come forward to utilize the potential.

i) M/S. Terra Energy, Thirumandakudy 28.42 MW
ii) M/S. Auto Energy, Thugili 16.00 MW and
iii) Sriram. Non-Conventional Energy Private Limited, Kuruchi 7.5 MW.

Conclusion

In view of the facts discussed above, it could be concluded that the district has been equipped parallel to the state infrastructural development in terms of road, railways, electricity, communication facilities, and financial institutions. However, the quality of infrastructure may be scaled up for achieving durability and easing out discomforts and controlling deterioration of vehicles. Since the infrastructure has certain uniqueness, which has to be analyzed in detail. Further for achieving faster human development, infrastructure would be the complementary input for development. Due to certain heterogeneity, certain things are submerged. This has been highlighted in the form of box issues, presented in the respective chapter.

CHAPTER - 9

SUMMARY AND WAY FORWARD

Chapter
9
Summary and Way Forward

Introduction

This chapter highlights the way forward for the district, after making a thorough analysis of the various sectors of human development recorded in the preceding chapters. This chapter recommends some measures that could be adopted by the district administration to overcome some of the identified challenges in the district.

Status of Human Development

- HDI and other indices of the district were worked out. Other related human development indices such as GII, CDI, and MDPI that focus on specific issues of gender development child development and poverty have also been comprehensively dealt with (Table 2.5). Each index reflects the development of specific sector and reveals the pros and cons of each block. This analysis would help the policy makers for evolving policies and achieving overall development of the block both at the household and regional levels. There is a rich scope for execution of the various ongoing developmental programmes in an effective way with the inclusion of all stakeholders.

Employment, Income and Poverty

- Most of the inhabitants of this district depend on agriculture for earning their livelihood. Also, Thanjavur has been a flourishing centre of cottage industries and handicrafts for centuries. This district is famous for a wide range of utility and decorative articles like Thanjavur bell, metal plates, bronze icons, inlay work, musical instruments, and silver metallurgy. However, in a depressed economy, these "luxuries" are no longer selling, directly affecting the lives of thousands of crafts people and artisans.
- Promoting clusters will help in sustaining cottage and handicraft industries in the district. The areas that require special attention are promoting marketing opportunities, enhancing productivity and competitiveness, linkages with support institutions, appropriate financing,

creation of critical infrastructure, and creation of local governance framework for groups of local stakeholders for continuous business promotion.

- Tourism has emerged as an instrument for employment generation, poverty alleviation, and sustainable human development. Tourism provides direct and indirect employment both in the skilled and unskilled categories through various services. The tourism industry covers a combination of various economic activities and industries like hospitality, transportation industry, travel arrangements, and the like. It provides opportunities of employment to traders, hoteliers, waiters, porters, and transport and tour operators. Tourism gives support to local handicrafts and cultural activities. In order to attract more domestic as well as foreign tourists' efforts should be taken to expose the architectural splendour and cultural heritage of Thanjavur district through mass media and television as part of tourism promotion activity.
- Even though the non-agrarian sector is significant and was successful in the past, the historical Thanjavur delta has always relied upon agriculture as its mainstay. Today, with the ongoing and bitter dispute over the waters of the river Cauvery with Karnataka, and a crippling drought that has dried the entire region, agriculture is no longer a viable or reliable source of income. The labourers no longer find work, and large scale migration is being witnessed. With increasing labour shortage and increased farm labor wages, there is immense scope for farm mechanization and utilization of conservation agriculture technologies resulting in cost reduction, timely operation, resource conservation, increase in production, productivity, and profitability.

- To cope with water scarcity, the district administration is digging farm ponds throughout Thanjavur district under the Mahatma Gandhi Rural Employment Guarantee Scheme (MGNREGS). Besides providing livelihood to a large number of people by way of employment, the ponds, when completed, will recharge groundwater, irrigate agricultural land, and help in taking up agriculture and allied activities such as fishing. This will control the depletion of ground water in the district, created by digging deep tube wells violating the basic norms. These practices may be scaled up further all over the district.

- Scarcity of water warrants alternative farming methods and one such method is Integrated Farming. The farmers may be encouraged to adopt SRI for rice cultivation. Self Help Groups (SHG) can be effectively developed and utilized in this direction. Also, steps could

be taken to popularize water-saving devices such as drip and sprinkler irrigation systems along with the cultivation of horticultural crops so that the water available is used optimally and profitably. Community irrigation bore wells could be encouraged by creating societies of water users and functional self-help groups.

- With the presence of a number of agricultural research institutions in the district, there are ample opportunities to promote better cropping patterns with crop diversification, new crop varieties, and new technologies. There is much scope for implementing Agro, Food Processing, Packaging based industries, distilleries, and breweries in the district.
- The farmers often need timely information relating to pests, disease management, pesticide, fertilizer application, seed variety, seed treatment, crop production practices, credit information etc., Private input dealers and the State department of agricultural extension staff are the main information sources, apart from print media and television. Access to and use of current information is critical, not only for the financial success of farmers, but to support sustainable agricultural systems. Training and capacity building of private input dealers on specific crop pests, diseases, and other crop management methods would reduce misinformation, and the exploitation of poor farmers who depend on both information and credit from the input dealers. Mobile phones can be a useful way to reach the farmers, provided the service is freely available.
- Fishing is the source of livelihood for a large section of economically backward population of the coastal block of Sethubavachatram. Development of adequate support infrastructure for modern fishing, and adequate processing and pack houses will help the fishing sector of the district. The role of non-governmental organizations in improving the livelihood of the fishing communities could be scaled up. Thanjavur district is also rich in inland fishing due to the presence of the Cauvery river system, and so the administration could encourage inland fish production as an alternative livelihood.
- Livestock management is an extension of other household responsibilities and work of the woman in a family. Women are playing a substantial role in eradicating poverty in society generally, both by being directly involved in livestock farming and also by engaging in livestock extension. Improved backyard poultry production not only improves income of women but also contributes to family nutrition. Women's societies at village level could be

established and strengthened by the government in order to ensure their participation in implementing development programmes.

- The marginalized SC population continues to be at the bottom in most indicators of well-being. First, much of this inequality seems to emerge from differential access to livelihoods. Salaried jobs pay far more than casual labour or farming, and these jobs exclude the disadvantaged groups for many reasons, including living in rural areas and poor education.
- In order to promote sustainable income generation and employment, NGOs can be incorporated to impart necessary training and skills to the poor women who have enrolled in the Self Help groups. It could be done by sharing human, financial resources, and information from the respective line agencies.
- Though the government has implemented various schemes for the benefit of the various sections of the population, they are not fully aware of all the Government schemes. To disseminate and sensitize, steps may be taken to bring all the people together in the form of association at block levels. All such associations in the district may be linked with the line departments and financial institutions/credit societies.
- Poverty reduction and improved quality of life of socially excluded and marginalized people could be achieved through enhanced level of awareness, education and skill improvement, increased household income, improved overall health condition, infrastructure development, and making passive to active institutionalization of men and women self-help groups (SHGs).

Health and Nutrition

- In Thanjavur district, thanks to the health department, infant mortality and maternal mortality has come down over a period of years. Huge investments are made by the government for improving rural health. The rural-urban divide is yet another worrying aspect in terms of health care services. Familial and agriculture related occupational obligations, especially during planting and harvest time make it impossible for rural people to seek treatment.
- Illiteracy and lack of awareness of potential health threats is another major problem. Illiterates are unaware about the symptoms, modes of transmission, prevention, and treatment of diseases or have poor information about the disease and its causative factors.

Gender disparities also play a major role in the development of diseases. Women are still socially, politically, culturally, and economically lagging. This preference also shows in the healthcare seeking behaviour. Boys are more likely to be taken early for medical care compared to girls.

- Though the government has implemented various health care schemes for the benefit of the people, they are not fully aware of all the Government schemes. To create awareness, disseminate and sensitize, steps should be taken with the help of VHNs. Collective Action Institution may be created involving BMO, SHG members, and PRI leaders for monitoring and conducting social audit of the primary health care services.
- For most patients, health care services are obtained at the PHC level. Unreliable or insufficient power supply and inadequate power quality are some of the factors that combine to inhibit the ability of the PHCs to conduct critical procedures and ensure quality health care delivery. Providing reliable and sustainable energy can help mitigate some of the challenges inherent in operating a health facility in the rural areas.
- The medical as well as the para-medical staff live in distant localities and reaching the PHC is not only very difficult for them but also it takes away much of their useful time for health related work. Staff Residences are virtually non-existent, and this deficiency has proven to be a significant impediment in the recruiting and retention of capable staff. Therefore, it is absolutely necessary that residential accommodation be provided to the medical and paramedical staff for the effective functioning of the PHCs. At least a dormitory may be created with bath room and toilet facilities in each PHC where the female staff can stay and work comfortably.
- The relation between health and living conditions is well known. Urban poor face greater health risks due to poor sanitation, lack of safe drinking water, poor drainage, high density of population etc. Thus the district administration must focus on strengthening preventive action for improved health and nutrition and prevention of diseases in urban slum areas.

Literacy and Education

- A plethora of government initiatives to provide access to primary education may be underway, but issues of equity, quality, and access remain areas of concern — particularly in rural schools. Children in rural areas continue to be deprived of quality education owing to

factors like lack of competent and committed teachers, digital divide, lack of language and communication skills etc.

- Teachers are pillars to school improvement efforts. Improving the efficiency and equity of schooling depends, in large measure, on adequate teachers and ensuring that all students have access to quality education. Steps may be taken to narrow this divide by way of providing basic infrastructure, filling teacher vacancies, capacity building etc., in rural schools. It is also absolutely mandatory to evaluate the success of the schools and students at each and every level. Timely assessment will throw light on present problems and achievements.
- The "digital divide" refers to the gap between the "haves" and the "have nots" in the information society. ICTs are playing an increasingly influential role in reshaping an individual's growth, employment opportunities etc. ICTs can also help improve access to health, education, information, communication, and more. To bridge the digital divide requires reducing the information technology gap between the rural and urban areas. Communication skills are essential for one's professional growth. The ability to express fluently in both written as well as oral form of language is absolutely essential for career growth. The knowledge of English is an important employability skill to be employed as well as to move higher in one's professional life. Steps should be initiated to bridge the gap of digital divide by way of providing unlimited online access to E-Resources and also to provide online training in English, which will enable students to take up their college education with confidence and dignity and also make them job ready.

Gender Equality

- Today, women's empowerment in terms of three dimensions viz., social empowerment, income empowerment, and political empowerment has assumed special significance in the context of attaining human development and this could be achieved only through education. Female literacy decadal growth rate of the district is below the State average, and the gender gap in literacy is more than the State average. The female literacy rates of the blocks, Thiruvonam, Orathanadu, Peravurani, and Sethubavachatram are comparatively low, and special interventions have to be put in place to bring them on par with other blocks of the district.

- To bring more girl children into the main stream of education, especially from marginalized BPL families, Government has been providing a package of concessions in the form of free supply of books, uniform, mid-day meals, scholarships, free bicycles, and so on. Attempts may be scaled up the out-of-school girls (9-14 years) and efforts may be put in place to provide them with educational opportunities and bring them on par with the other children of their age in schools. School girls can be imparted skills like plumbing, repairing, and so on to break gender stereotypes like tailoring etc., which help in empowering girls.
- The government has enacted so many laws for the empowerment of women, but women folk especially rural women, are not aware of them. Even though there are provisions for equality, social justice, and protection of women in our constitution, proper training and legal awareness to women may play a significant role in asserting their rights and in achieving the desired objectives of socio-economic legislations meant for their empowerment. To create awareness, periodical seminars/ workshops on different laws and acts and legal counselling should be organized in villages.
- Though the district administration is taking steps to improve the status of women in the district, still there is room for improvement. Collective Action Institutions may be created involving panchayat leaders, PLF secretaries, SHG members, VHNs, and NGOs for increasing awareness about prenatal care for expectant mothers, immunization, creation of awareness against female infanticide, increasing female literacy, educating parents about the benefits of sending girl children to school, disseminate the various schemes of the government aimed at empowering women and girl children, and to narrow the wage difference between male and female. Education and training women will surely open up avenues of self-employment and awareness of their rights.

Social Security

- Unfortunately, old age people, destitute women and disabled persons, irrespective of their economic status, are subjected to social exclusion in the society. Economic, psychological, and social confidence building is therefore an immediate necessity.
- Lack of information and dissemination make persons with disabilities often unaware of what benefits and schemes are available to them. The district administration must take appropriate measures to ensure that available benefits reach them.

Infrastructure/Environment Sustainability

- Critical infrastructure planning should be made by the district administration and the Rural Infrastructure Development Fund (RIDF) created by the National Bank for Agriculture and Rural Development (NABARD) must be efficiently utilized for taking up irrigation projects, laying of roads in villages, construction of bridges, and improvement of drinking water facilities.
- Comprehensive programmes could be taken up by the Government to ensure that all the parts of the district are interlinked through better roads so as to enable the people to travel to nearby areas to avail the basic services. Working efficiency of the water regulators constructed in the Cauvery network canal systems should be evaluated, and if needed, be replaced to restore the original ayacut.

Summary

The HDI, MDPI, CDI, and GII are tool that not only reveal the level of human development in the district but also serves as a measuring scale to compare the performance of the blocks and to identify intra-block disparities. The education, health, and income disparities across the blocks of the district are distinctly captured by the indices. Even though certain blocks fared well in terms of certain indices, they failed to fare well in other indices. For example, the blocks Thiruvidaimarudur, Thiruvaiyaru, and Thiruppanandal fared well in the Education index of HDI, but the same blocks performed very poorly with respect to Health index of HDI. This has pulled down the overall human development index of these blocks. Similarly, though Sethubavachatram recorded high health index, its HDI is poor. On juxtaposing the three sectoral index values viz., standard of living index, education index, and health index, it could be concluded that there is no one to one relationship among the indicators.

The micro level policies may be evolved after assessing the ground realities of each and every block. The priority and needs of the people significantly vary among the blocks and specific policy prescriptions are needed in achieving holistic balanced development in the district. Mere planning and allocation of funds would not be adequate. An effective delivery mechanism has to ensure people's participation at various stages of the formulation and implementation of the welfare programmes.

Transparency in the operation of the schemes and adequate monitoring of the use of resources at various levels are needed to check to achieve the intended targets. Overall, co-ordination among health, education, revenue, rural development departments, and local bodies is needed to realize the intended targets.

ANNEXURES

Human Development Index

Table 9.1: Block-wise HDI Indicators

S.No	Block/ District	Standard of Living					Health			Education		
		Cooking Fuel	Toilet Facilities	Drinking Water (Habitation)	Electricity	Pucca Houses	IMR	MMR	U5MR	Literacy Rate	GER Primary	GER Secondary
		Census	DRDA		Census	DRDA	Health Department			Census	Education Department	
		2011	2013-14		2011	2013-14	2013-14			2011	2013-14	2013-14
1	Ammapettai	45.56	34.29	95.86	96.73	85.17	11.75	176	12.93	78.74	99.39	84.32
2	Budhalur	53.10	19.38	66.68	100.00	50.54	12.62	10	13.29	85.40	99.43	110.18
3	Kumbakonam	44.24	61.48	78.88	86.06	93.32	10.21	48	11.66	85.83	99.45	98.57
4	Madukkur	34.03	56.14	99.01	91.88	71.96	11.06	100	13.07	78.53	99.42	91.02
5	Orathanadu	11.16	29.89	99.80	90.95	21.93	13.56	42	16.10	75.78	99.22	85.86
6	Papanasam	26.73	55.67	99.92	89.17	93.65	15.78	42	16.21	81.35	99.43	112.32
7	Pattukottai	18.34	62.90	88.28	92.14	76.63	3.96	10	4.42	82.95	99.42	106.07
8	Peravurani	23.94	34.45	99.25	91.52	71.76	7.59	10	8.76	77.97	99.27	118.37
9	Sethubavachatram	27.21	38.92	99.07	83.75	46.77	2.78	69	4.16	77.30	99.45	70.60
10	Thanjavur	49.76	68.51	83.58	96.61	95.15	6.40	38	6.40	87.44	99.56	96.83
11	Thiruppanandal	42.60	37.63	99.08	99.59	36.09	12.25	10	12.25	81.11	99.31	72.59
12	Thiruvaiyaru	31.90	44.74	96.75	95.57	72.95	11.19	117	11.19	83.71	99.47	83.45
13	Thiruvidaimarudur	48.53	56.41	94.84	80.06	60.49	21.55	37	22.31	84.86	99.45	77.66
14	Thiruvonam	18.39	24.72	99.07	91.57	24.56	12.73	159	12.73	73.99	99.37	95.37
	District	36.84	49.52	89.85	91.67	70.62	10.35	49	11.00	82.64	99.40	95.06

Source: (i) Census of India 2011, (ii) NBA, MDWS, New Delhi-2014, (iii) TNEB, (iv) Health and Education Department – 2013-14.

Table 9.2: Block-wise Human Development Index

S.No	Block/District	Standard of Living Indices					Health Indices			Education Indices			Sectoral Index			Overall Index	Rank
		Cooking Fuel	Toilet Facilities	Drinking Water	Electricity	Pucca Houses	IMR	MMR	U5MR	Literacy Rate	GER Primary	GER Secondary	Standard of Living	Health	Education		
1	Ammapettai	0.825	0.330	0.898	0.883	0.868	0.571	0.096	0.570	0.583	0.983	0.379	0.715	0.315	0.601	0.513	11
2	Budhalur	1.000	0.038	0.167	1.000	0.408	0.529	1.000	0.552	0.903	0.987	0.851	0.304	0.664	0.912	0.569	9
3	Kumbakonam	0.794	0.862	0.473	0.501	0.976	0.645	0.790	0.632	0.923	0.989	0.639	0.692	0.685	0.836	0.734	3
4	Madukkur	0.557	0.758	0.977	0.709	0.692	0.604	0.508	0.563	0.573	0.986	0.501	0.727	0.557	0.657	0.643	6
5	Orathanadu	0.026	0.244	0.997	0.676	0.029	0.485	0.824	0.414	0.441	0.967	0.407	0.165	0.549	0.558	0.370	14
6	Papanasam	0.387	0.749	1.000	0.612	0.980	0.378	0.822	0.409	0.708	0.987	0.890	0.705	0.503	0.854	0.671	5
7	Pattukottai	0.193	0.890	0.708	0.719	0.754	0.944	1.000	0.987	0.785	0.986	0.776	0.580	0.977	0.844	0.782	2
8	Peravurani	0.323	0.333	0.983	0.697	0.690	0.770	1.000	0.775	0.546	0.972	1.000	0.551	0.842	0.810	0.721	4
9	Sethubavachatram	0.399	0.421	0.979	0.419	0.358	1.000	0.677	1.000	0.514	0.989	0.129	0.477	0.878	0.403	0.553	10
10	Thanjavur	0.922	1.000	0.590	0.879	1.000	0.827	0.843	0.890	1.000	1.000	0.607	0.863	0.853	0.847	0.854	1
11	Thiruppanandal	0.756	0.395	0.979	0.985	0.217	0.547	1.000	0.603	0.696	0.976	0.165	0.574	0.691	0.482	0.576	8
12	Thiruvaiyaru	0.508	0.535	0.921	0.841	0.706	0.598	0.414	0.655	0.821	0.991	0.363	0.683	0.545	0.666	0.628	7
13	Thiruvidaimarudur	0.894	0.763	0.873	0.286	0.540	0.103	0.849	0.109	0.876	0.989	0.258	0.621	0.212	0.607	0.431	12
14	Thiruvonam	0.194	0.143	0.979	0.698	0.064	0.524	0.189	0.580	0.355	0.981	0.581	0.261	0.386	0.587	0.390	13

Source: Computed.

Gender Inequality Index

Table 9.3: Block-wise GII Indicators

S.No	Block/District	MMR	Institutional Deliveries	Ante Natal Coverage	Female Literacy	Male Literacy	Girls (0-6) years	Boys (0-6) years	Elected Representatives		Female WPR	,Male WPR	Female WPR Non-Agri	Male WPR Non-Agri	Female Agri. Wage rate	Male Agri. Wage rate
									Female	Male						
		2013-14	2013-14	2013-14	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2013-14	2013-14
		Health Department			Census of India				(Local bodies/PAPD)		Census of India				Statistic Department	
		Rate	%	%	%	%	%	%	%	%	%	%	%	%	Rs.	Rs.
1	Ammapettai	176	100	100	72.05	85.61	48.60	51.40	37.94	62.06	27.72	58.04	16.19	31.36	100	275
2	Budhalur	10	100	99	80.22	90.73	48.80	51.20	38.86	61.14	22.80	56.29	40.64	57.61	118	311
3	Kumbakonam	49	100	94	80.70	91.09	49.02	50.98	36.84	63.16	17.48	58.13	55.23	70.81	121	242
4	Madukkur	101	100	100	71.91	86.17	48.90	51.10	36.63	63.37	28.96	56.86	18.40	30.14	100	300
5	Orathanadu	42	100	100	67.27	84.94	48.95	51.05	35.25	64.75	35.13	59.69	13.10	22.06	125	257
6	Papanasam	43	100	100	75.42	87.75	48.82	51.18	34.26	65.74	20.80	57.21	27.52	41.79	100	273
7	Pattukottai	10	100	97	76.64	89.71	49.18	50.82	37.13	62.87	21.67	55.70	36.84	59.36	100	300
8	Peravurani	10	100	100	69.75	86.63	49.01	50.99	36.75	63.25	31.83	57.51	16.91	29.07	100	263
9	Sethubavachatram	69	100	93	69.82	85.25	49.63	50.37	34.10	65.90	30.50	59.18	16.79	37.27	108	257
10	Thanjavur	39	100	97	82.77	92.26	48.27	51.73	33.83	66.17	20.29	55.63	55.87	73.24	250	285
11	Thiruppanandal	10	100	100	74.53	87.75	48.92	51.08	38.07	61.93	22.64	58.57	17.62	27.75	100	300
12	Thiruvaiyaru	118	100	100	77.96	89.64	48.74	51.26	38.21	61.79	24.94	58.08	20.61	32.87	94	254
13	Thiruvidaimarudur	38	100	100	79.23	90.57	49.32	50.68	38.02	61.98	18.69	58.91	43.04	56.41	110	254
14	Thiruvonam	159	100	100	65.28	83.11	48.95	51.05	40.58	59.42	42.98	60.26	6.96	14.51	133	284
	District	49	100	98.4	76.50	89.04	48.89	51.11	36.92	63.08	24.00	57.55	31.03	49.62	119	275

Source: i. Health Department, ii. Census of India, iii, Local bodies/PAPD section – Collectorate and iv. Department of Statistics.

Cont.…

Table 9.4: Block-wise GII Index

S.No	Block/District	Health Indices			Empowerment Indices						Labour Indices					
		MMR	Institutional Deliveries	Ante Natal Coverage	Female Literacy	Male Literacy	female Children (0-6) years	male Children (0-6) years	Female Elected Representatives	Elected Representatives	Female WPR	Male WPR	Female WPR in Non-Agri Sector	Male WPR in Non-Agri Sector	Female Agri. Wage rate	Male Agri. Wage rate
1	Ammapettai	0.057	1.000	1.000	0.720	0.856	0.486	0.514	0.379	0.621	0.277	0.580	0.162	0.314	0.095	0.614
2	Budhalur	1.000	1.000	0.990	0.802	0.907	0.488	0.512	0.389	0.611	0.228	0.563	0.406	0.576	0.205	1.000
3	Kumbakonam	0.206	1.000	0.942	0.807	0.911	0.490	0.510	0.368	0.632	0.175	0.581	0.552	0.708	0.221	0.260
4	Madukkur	0.100	1.000	0.996	0.719	0.862	0.489	0.511	0.366	0.634	0.290	0.569	0.184	0.301	0.095	0.882
5	Orathanadu	0.236	1.000	1.005	0.673	0.849	0.489	0.511	0.353	0.647	0.351	0.597	0.131	0.221	0.245	0.421
6	Papanasam	0.234	1.000	1.000	0.754	0.878	0.488	0.512	0.343	0.657	0.208	0.572	0.275	0.418	0.095	0.592
7	Pattukottai	1.000	1.000	0.975	0.766	0.897	0.492	0.508	0.371	0.629	0.217	0.557	0.368	0.594	0.095	0.882
8	Peravurani	1.000	1.000	1.000	0.697	0.866	0.490	0.510	0.368	0.633	0.318	0.575	0.169	0.291	0.096	0.480
9	Sethubavachatram	0.144	1.000	0.932	0.698	0.852	0.496	0.504	0.341	0.659	0.305	0.592	0.168	0.373	0.145	0.421
10	Thanjavur	0.258	1.000	0.966	0.828	0.923	0.483	0.517	0.338	0.662	0.203	0.556	0.559	0.732	1.000	0.716
11	Thiruppanandal	1.000	1.000	0.997	0.745	0.878	0.489	0.511	0.381	0.619	0.226	0.586	0.176	0.278	0.095	0.882
12	Thiruvaiyaru	0.085	1.000	1.000	0.780	0.896	0.487	0.513	0.382	0.618	0.249	0.581	0.206	0.329	0.056	0.388
13	Thiruvidaimarudur	0.265	1.000	1.001	0.792	0.906	0.493	0.507	0.380	0.620	0.187	0.589	0.430	0.564	0.155	0.388
14	Thiruvonam	0.063	1.000	1.000	0.653	0.831	0.489	0.511	0.406	0.594	0.430	0.603	0.070	0.145	0.295	0.710

Source: Computed.

Cont.…

Table 9.5: Block-wise GII Index

S.No	Block/District	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
1	Ammapettai	0.384	1.000	0.510	0.649	0.162	0.482	0.317	0.679	0.432	0.692	0.580	0.322	0.505	0.146	14
2	Budhalur	0.997	1.000	0.558	0.657	0.267	0.687	0.529	0.767	0.627	0.998	0.608	0.477	0.661	0.053	4
3	Kumbakonam	0.579	1.000	0.545	0.664	0.277	0.475	0.444	0.681	0.537	0.789	0.605	0.376	0.564	0.047	3
4	Madukkur	0.463	1.000	0.513	0.653	0.171	0.533	0.344	0.703	0.462	0.731	0.583	0.352	0.532	0.131	13
5	Orathanadu	0.619	1.000	0.487	0.655	0.224	0.381	0.407	0.630	0.495	0.809	0.571	0.303	0.519	0.047	2
6	Papanasam	0.617	1.000	0.508	0.666	0.176	0.521	0.380	0.703	0.494	0.808	0.587	0.348	0.549	0.101	11
7	Pattukottai	0.991	1.000	0.533	0.659	0.196	0.663	0.470	0.759	0.580	0.996	0.596	0.430	0.634	0.085	8
8	Peravurani	1.000	1.000	0.506	0.654	0.173	0.431	0.444	0.656	0.529	1.000	0.580	0.302	0.560	0.054	5
9	Sethubavachatram	0.512	1.000	0.488	0.657	0.195	0.453	0.365	0.667	0.472	0.756	0.572	0.324	0.519	0.091	9
10	Thanjavur	0.629	1.000	0.529	0.681	0.484	0.663	0.544	0.767	0.637	0.815	0.605	0.574	0.656	0.030	1
11	Thiruppanandal	0.999	1.000	0.533	0.652	0.156	0.523	0.436	0.699	0.537	0.999	0.592	0.340	0.586	0.083	7
12	Thiruvaiyaru	0.440	1.000	0.546	0.657	0.143	0.420	0.325	0.651	0.433	0.720	0.602	0.281	0.496	0.126	12
13	Thiruvidaimarudur	0.642	1.000	0.549	0.658	0.232	0.505	0.434	0.693	0.534	0.821	0.603	0.369	0.567	0.059	6
14	Thiruvonam	0.398	1.000	0.515	0.632	0.207	0.396	0.348	0.630	0.449	0.699	0.573	0.301	0.494	0.092	10

Source: Computed.

Child Development Index

Table 9.6: Block-wise Child Development Indicators and Index in Thanjavur District

S. No	Block/District	Indicator of Child Development							
		Health			Education				
					Enrollment Rate		Children Never Enrolled in School	Transition Rate	
		U5MR	0-6 Sex ratio	% of Malnourished Children	Primary	Secondary		Primary to Upper Primary	Upper Primary to Secondary
		2014	2011	2014	2013-14				
1	Ammapettai	12.93	946	7.15	99.39	84.32	0.013	99.54	94.44
2	Budhalur	13.29	953	10.77	99.43	110.18	0.037	99.85	98.07
3	Kumbakonam	11.66	962	18.68	99.45	98.57	0.004	99.82	98.25
4	Madukkur	13.07	957	5.41	99.42	91.02	0.045	99.94	98.69
5	Orathanadu	16.10	959	17.43	99.22	85.86	0.022	99.85	97.07
6	Papanasam	16.21	954	27.67	99.43	112.32	0.013	99.84	99.11
7	Pattukottai	4.42	968	17.21	99.42	106.07	0.013	99.82	100.09
8	Peravurani	8.76	961	10.64	99.27	118.37	0.011	99.92	92.42
9	Sethubavachatram	4.16	985	20.59	99.45	70.60	0.015	99.84	94.16
10	Thanjavur	6.40	933	13.23	99.56	96.83	0.012	99.87	99.57
11	Thiruppanandal	12.25	958	13.22	99.31	72.59	0.024	99.75	91.96
12	Thiruvaiyaru	11.19	951	14.06	99.47	83.45	0.011	99.78	95.62
13	Thiruvidaimarudur	22.31	973	17.91	99.45	77.66	0.019	99.84	93.98
14	Thiruvonam	12.73	959	12.06	99.37	95.37	0.018	99.88	102.89
	District	11.00	957	15.21	99.40	95.06	0.015	99.83	98.87

Source: (i) Health Department, and (ii) Education Department – 2013.14.

Cont.…

Table 9.7: Block-wise Child Development Index in Thanjavur District

S. No	Block/District	Index Value								CDI Index	Rank
		Health Indices			Education Indices						
		U5MR	0-6 Sex ratio	% of Malnourished Children	Enrollment Rate		Children Never Enrolled in School	Transition Rate			
					Primary	Secondary		Primary to Upper Primary	Upper Primary to Secondary		
1	Ammapettai	0.517	0.240	0.922	0.500	0.287	0.773	0.000	0.227	0.433	12
2	Budhalur	0.497	0.383	0.759	0.618	0.829	0.199	0.775	0.559	0.577	7
3	Kumbakonam	0.587	0.544	0.404	0.676	0.585	1.000	0.700	0.575	0.634	4
4	Madukkur	0.509	0.454	1.000	0.588	0.427	0.000	1.000	0.616	0.574	8
5	Orathanadu	0.342	0.490	0.460	0.000	0.319	0.552	0.775	0.468	0.426	13
6	Papanasam	0.336	0.399	0.000	0.618	0.873	0.793	0.750	0.654	0.553	9
7	Pattukottai	0.986	0.667	0.470	0.588	0.742	0.789	0.700	0.744	0.711	1
8	Peravurani	0.747	0.537	0.765	0.147	1.000	0.827	0.950	0.042	0.627	5
9	Sethubavachatram	1.000	1.000	0.318	0.676	0.000	0.722	0.750	0.201	0.583	6
10	Thanjavur	0.877	0.000	0.649	1.000	0.549	0.815	0.825	0.696	0.676	2
11	Thiruppanandal	0.554	0.474	0.649	0.265	0.041	0.516	0.525	0.000	0.378	14
12	Thiruvaiyaru	0.613	0.336	0.612	0.735	0.269	0.831	0.600	0.335	0.541	10
13	Thiruvidaimarudu	0.000	0.765	0.438	0.676	0.148	0.638	0.750	0.185	0.450	11
14	Thiruvonam	0.528	0.490	0.702	0.441	0.519	0.655	0.850	1.000	0.648	3

Source: Computed.

Multi-Dimensional Poverty index

Table 9.8: Block-wise Multi-Dimensional Poverty indicators in Thanjavur District

S. No	Block/District	Health			Education		Living Standards				
		IMR	High Order Birth Rate	Malnourished Children	Drop out in Primary	Drop out in Secondary	Cooking fuel	Toilet facilities	Drinking water	Electricity	Pucca house
		2014	2013-14	2014	2013-14		2011	2013-14		2011	2013-14
1	Ammapettai	11.75	12.51	7.15	1.08	9.08	45.56	34.29	95.86	96.73	85.17
2	Budhalur	12.62	11.44	10.77	0.94	8.89	53.10	19.38	66.68	100	50.54
3	Kumbakonam	10.21	11.28	18.68	0.99	3.69	44.24	61.48	78.88	86.06	93.32
4	Madukkur	11.06	6.41	5.41	1.15	5.01	34.03	56.14	99.01	91.88	71.96
5	Orathanadu	13.56	7.88	17.43	1.02	7.08	11.16	29.89	99.80	90.95	21.93
6	Papanasam	15.78	11.05	27.67	1.13	6.18	26.73	55.67	99.92	89.17	93.65
7	Pattukottai	3.96	9.22	17.21	1.08	2.03	18.34	62.90	88.28	92.14	76.63
8	Peravurani	7.59	7.18	10.64	1.07	2.17	23.94	34.45	99.25	91.52	71.76
9	Sethubavachatram	2.78	12.38	20.59	1.08	6.75	27.21	38.92	99.07	83.75	46.77
10	Thanjavur	6.40	12.20	13.23	1.12	7.53	49.76	68.51	83.58	96.61	95.15
11	Thiruppanandal	12.25	11.20	13.22	1.04	4.27	42.60	37.63	99.08	99.59	36.09
12	Thiruvaiyaru	11.19	11.07	14.06	1.07	3.99	31.90	44.74	96.75	95.57	72.95
13	Thiruvidaimarudur	21.55	8.59	17.91	0.97	6.19	48.53	56.41	94.84	80.06	60.49
14	Thiruvonam	12.73	11.29	12.06	1.07	2.62	18.39	24.72	99.07	91.57	24.56
	District	10.35	10.26	15.21	0.85	7.92	36.84	49.52	89.85	91.67	70.62

Source: (i) Education Department, (ii) Census of India 2011, (iii) NBA, MDWS-2014, (iv) TNEB, and (v) Health Department - 2014.

Cont.…

Table 9.9: Block-wise Multi-Dimensional Poverty index in Thanjavur District

S. No	Block/District	Health Indices			Education Indices		Living Standards Indices					MDPI Index value	Rank
							Access to						
		IMR	High Order Birth Rate	Malnourished Children	Drop out in Primary	Drop out in Secondary	Cooking fuel	Toilet facilities	Drinking water	Electricity	Pucca house		
1	Ammapettai	0.522	0.000	0.922	0.233	0.000	0.820	0.304	0.878	0.836	0.864	0.462	8
2	Budhalur	0.475	0.177	0.759	0.700	0.027	1.000	0.000	0.000	1.000	0.391	0.547	11
3	Kumbakonam	0.604	0.201	0.404	0.533	0.765	0.789	0.857	0.367	0.301	0.975	0.420	5
4	Madukkur	0.559	1.000	1.000	0.000	0.577	0.545	0.748	0.973	0.593	0.683	0.332	1
5	Orathanadu	0.426	0.758	0.460	0.433	0.284	0.000	0.214	0.996	0.546	0.000	0.588	14
6	Papanasam	0.307	0.240	0.000	0.067	0.411	0.371	0.739	1.000	0.457	0.980	0.543	10
7	Pattukottai	0.937	0.539	0.470	0.233	1.000	0.171	0.886	0.650	0.606	0.747	0.376	3
8	Peravurani	0.744	0.873	0.765	0.267	0.980	0.305	0.307	0.980	0.575	0.681	0.352	2
9	Sethubavachatram	1.000	0.022	0.318	0.233	0.330	0.383	0.398	0.974	0.185	0.339	0.582	13
10	Thanjavur	0.807	0.052	0.649	0.100	0.220	0.920	1.000	0.508	0.830	1.000	0.391	4
11	Thiruppanandal	0.496	0.215	0.649	0.367	0.682	0.750	0.372	0.975	0.979	0.193	0.432	7
12	Thiruvaiyaru	0.552	0.236	0.612	0.267	0.722	0.495	0.516	0.905	0.778	0.697	0.422	6
13	Thiruvidaimarudu	0.000	0.643	0.438	0.600	0.410	0.891	0.754	0.847	0.000	0.527	0.489	9
14	Thiruvonam	0.470	0.201	0.702	0.267	0.916	0.173	0.109	0.974	0.577	0.036	0.558	12

Source: Computed.

Table 9.10: Crude Birth and Death Rate					
S.No	Name of the Block	CBR		CDR	
		2013	2014	2013	2014
1	Ammapettai	11.0	13.4	3.8	4.7
2	Budhalur	12.6	13.8	4.0	5.2
3	Kumbakonam	13.2	11.7	1.9	6.0
4	Madukkur	10.3	10.7	3.6	4.8
5	Orathanadu	10.6	12.8	3.7	5.7
6	Papanasam	14.1	14.8	4.4	5.6
7	Pattukottai	13.4	19.2	2.3	3.7
8	Peravurani	11.8	13.8	3.7	5.5
9	Sethubavachatram	13.3	12.6	4.0	4.6
10	Thanjavur	10.7	11.8	1.7	4.4
11	Thiruppanandal	11.6	13.8	3.5	5.3
12	Thiruvaiyaru	12.0	13.4	4.1	5.7
13	Thiruvidaimarudur	11.3	13.2	3.2	5.3
14	Thiruvonam	12.2	13.8	3.7	4.9
	District	12.0	13.4	3.0	5.1

Source: Health Department, Thanjavur – 2014.

Table 9.11: Infant Mortality Rate (2013-2014)			
S.No	Block/District	2013	2014
1	Ammapettai	11.6	11.8
2	Budhalur	11.7	12.6
3	Kumbakonam	5.8	10.2
4	Madukkur	14.8	11.1
5	Orathanadu	10.8	13.6
6	Papanasam	11.3	15.8
7	Pattukottai	4.0	4.0
8	Peravurani	8.9	7.6
9	Sethubavachatram	4.6	2.8
10	Thanjavur	6.6	6.4
11	Thiruppanandal	4.4	12.2
12	Thiruvaiyaru	17.7	11.2
13	Thiruvidaimarudur	12.8	21.6
14	Thiruvonam	19.9	12.7
District		9.1	10.3

Source: Health Department, Thanjavur – 2014.

Table 9.12: Percentage of Institutional Delivery - 2014							
S.No	Block / District	Home	Health Sub centre	Primary Health centre	GH	Private Hospitals	% of Institutional Deliveries
1	Ammapettai	0.0	0.0	21.95	39.13	38.92	100
2	Budhalur	0.0	0.1	10.31	48.36	41.25	100
3	Kumbakonam	0.0	0.0	10.51	48.57	40.89	100
4	Madukkur	0.0	0.0	22.81	41.24	35.94	100
5	Orathanadu	0.0	0.0	12.29	36.37	51.29	100
6	Papanasam	0.0	0.0	28.84	53.04	18.12	100
7	Pattukottai	0.0	0.0	9.67	39.32	51.00	100
8	Peravurani	0.1	0.0	12.03	58.59	29.32	100
9	Sethubavachatram	0.0	0.0	16.39	63.98	19.60	100
10	Thanjavur	0.1	1.3	8.78	56.45	33.36	100
11	Thiruppanandal	0.3	0.0	12.49	42.91	44.30	100
12	Thiruvaiyaru	0.1	0.0	24.23	59.19	16.46	100
13	Thiruvidaimarudur	0.0	0.0	17.18	49.04	33.74	100
14	Thiruvonam	0.0	0.5	25.84	54.42	19.27	100
	District	0.0	0.2	15.30	49.80	34.68	100

Source: Health Department, Thanjavur – 2014.

Table 9.13: Malnourished Children 0-5 during 2013-2014							
S.No	Block / District	Normal Children (0-5 Years)	2014				% of MUW+SUW
			*SUW Children		**MUW Children		
			0-5 years	% of SUW	0-5 years	% of MUW	
1	Ammapettai	5120	16	0.29	378	6.86	7.15
2	Budhalur	4508	8	0.16	536	10.61	10.77
3	Kumbakonam	9377	23	0.20	2131	18.48	18.68
4	Madukkur	3670	0	0.00	210	5.41	5.41
5	Orathanadu	6320	6	0.08	1328	17.35	17.43
6	Papanasam	3599	7	0.14	1370	27.53	27.67
7	Pattukottai	6316	16	0.21	1297	17.00	17.21
8	Peravurani	4661	0	0.00	555	10.64	10.64
9	Sethubavachatram	4500	0	0.00	1167	20.59	20.59
10	Thanjavur	10707	6	0.05	1627	13.18	13.23
11	Thiruppanandal	4836	6	0.11	731	13.12	13.22
12	Thiruvaiyaru	4420	6	0.12	717	13.94	14.06
13	Thiruvidaimarudur	5943	10	0.14	1287	17.78	17.91
14	Thiruvonam	3945	21	0.47	520	11.59	12.06
	District	77922	125	0.14	13854	15.07	15.21

Source: District Project Officer, ICDS, Thanjavur, 2014.

Table 9.14: Percentage of Drinking Water Facilities

S.No	Block / District	% of Drinking (Habitation)
1	Ammapettai	95.86
2	Budhalur	66.68
3	Kumbakonam	78.88
4	Madukkur	99.01
5	Orathanadu	99.80
6	Papanasam	99.92
7	Pattukottai	88.28
8	Peravurani	99.25
9	Sethubavachatram	99.07
10	Thanjavur	83.58
11	Thiruppanandal	99.08
12	Thiruvaiyaru	96.75
13	Thiruvidaimarudur	94.84
14	Thiruvonam	99.07
	District	89.85

Source: MDWS and EO (TP) and Municipal commissioner, Thanjavur, 2014.

Table 9.15: Literacy Rate during 2001 and 2011 in Thanjavur District

S.No	Block / District	Literacy 2001			Literacy 2011		
		Person	Male	Female	Person	Male	Female
1	Ammapettai	69.92	79.14	60.87	78.74	85.61	72.05
2	Budhalur	76.98	84.87	69.19	85.40	90.73	80.22
3	Kumbakonam	79.61	86.88	72.40	85.83	91.09	80.70
4	Madukkur	72.46	82.81	62.88	78.53	86.17	71.91
5	Orathanadu	67.65	79.54	56.36	75.78	84.94	67.27
6	Papanasam	74.79	83.61	66.44	81.35	87.75	75.42
7	Pattukottai	76.00	85.65	66.81	82.95	89.71	76.64
8	Peravurani	71.35	82.93	60.22	77.97	86.63	69.75
9	Sethubavachatram	69.54	80.89	58.74	77.30	85.25	69.82
10	Thanjavur	82.37	89.43	75.47	87.44	92.26	82.77
11	Thiruppanandal	71.17	80.73	61.67	81.11	87.75	74.53
12	Thiruvaiyaru	75.51	84.40	66.88	83.71	89.64	77.96
13	Thiruvidaimarudur	78.78	87.10	70.50	84.86	90.57	79.23
14	Thiruvonam	61.46	74.07	49.26	73.99	83.11	65.28
	District	75.45	84.47	66.70	82.64	89.04	76.50

Source: Census of India during 2001 and 2011.

Note: Municipality, CTs, and TPs are added in the respective rural blocks.

Table 9.16: Female Work Participation Rate

S.No	Block / District	Total Female Population	Total Female Worker	% of Female work participation
1	Ammapettai	65,041	18,031	27.72
2	Budhalur	87,155	19,870	22.80
3	Kumbakonam	1,67,317	29,246	17.48
4	Madukkur	43,968	12,731	28.96
5	Orathanadu	88,436	31,067	35.13
6	Papanasam	74,505	15,495	20.80
7	Pattukottai	1,11,922	24,258	21.67
8	Peravurani	56,574	18,007	31.83
9	Sethubavachatram	49,960	15,237	30.50
10	Thanjavur	2,03,542	41,291	20.29
11	Thiruppanandal	59,471	13,465	22.64
12	Thiruvaiyaru	62,333	15,547	24.94
13	Thiruvidaimarudur	1,09,192	20,413	18.69
14	Thiruvonam	44,058	18,938	42.98
	District	12,23,474	2,93,596	24.00

Source: Census of India during 2011.

Note: Municipality, CTs, and TPs are added in the respective rural blocks.

Table 9.17: Female Work Participation in Non-Agricultural Sector

S.No	Block / District	Total Female Population	Total Female Worker in Non-Agriculture	% of Female work participation in Non-Agriculture
1	Ammapettai	65,041	2,919	16.19
2	Budhalur	87,155	8,075	40.64
3	Kumbakonam	1,67,317	16,154	55.23
4	Madukkur	43,968	2,343	18.40
5	Orathanadu	88,436	4,071	13.10
6	Papanasam	74,505	4,264	27.52
7	Pattukottai	1,11,922	8,936	36.84
8	Peravurani	56,574	3,045	16.91
9	Sethubavachatram	49,960	2,559	16.79
10	Thanjavur	2,03,542	23,070	55.87
11	Thiruppanandal	59,471	2,372	17.62
12	Thiruvaiyaru	62,333	3,204	20.61
13	Thiruvidaimarudur	1,09,192	8,786	43.04
14	Thiruvonam	44,058	1,319	6.96
	District	12,23,474	91,117	31.03

Source: Census of India during 2011.

Note: Municipality, CTs, and TPs are added in the respective rural blocks.

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 per cent 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 per cent 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

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

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

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

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

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
Education	Enrollment in Primary and Secondary
	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 Schools
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

1 Billion	One Hundred Crore
1 Crore	One Hundred Lakh
1 Lakh	One Hundred Thousand
1 Million	Ten Lakh
AEEO	Assistant Elementary Educational Officer
AMUL	Anand Milk Federation Union Limited
ART	Anti-Retro Viral Treatment
ATM	Automatic Teller Machine
BMO	Block Medical Officer
BOOT	Build Own Operate and Transfer
BPL	Below Poverty Line
BRTE	Block Resource Teacher Education
BSNL	Bharat Sanchar Nigam Limited
CBR	Crude Birth Rate
CCE	Continuous and Comprehensive Evaluation
CDI	Child Development Index
CDR	Crude Death Rate
CEO	Chief Educational Officer
CHN	Community Health Nurse
CSR	Corporate Social Responsibility
DRDA	District Rural Development Agency
DWP	Destitute Widows Pension
EMIS	Educational Management and Information System
FY	Financial Year (April to March)
GDDP	Gross District Domestic Product
GDP	Gross Domestic Product
GII	Gender Inequality Index
GPS	Government Primary School
GSDP	Gross State Domestic Product
ha	Hectare
HDI	Human Development Index

HDR	Human Development Report
HHs	Households
HOB	High Order Birth Rate
HSC	Health Sub Centre
HUD	Health Unit District
ICDS	Integrated Child development Service Scheme
ICT	Information and Communication Technology
IDU	Injecting Drug User
IDSP	Integrated Disease Surveillance Programme
IEC	Information, Education and Communication
IEC	Information ,Education and Communication
IFA	Iron Folic Acid
IGIDR	Indira Gandhi Institute of Development Research
IHDS	India Human Development Survey
ILAL	Insure Lives and Livelihoods
IMR	Infant Mortality Rate
IRDP	Integrated Rural Development Programme
ITES	Information Technology Enabled Services
Km	Kilometer
LBW	Low Birth Weight
LEB	Life Expectancy at Birth
LIC	Life Insurance Corporation of India
LNG	Liquefied Natural Gas
MDG	Millennium Development Goals
MDPI	Multi-Dimensional Poverty Index
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MMR	Maternal Mortality Rate
MSME	Micro, Small and Medium Enterprises
MUW	Moderately Under Weight
NABARD	National Bank for Agriculture and Rural Development
NCAER	National Council of Applied Economic Research
NDDP	Net District Domestic Product
NGO	Non-Government Organization
NHDR	National Human Development Report

NIDDCP	National Iodine Deficiency Disorders Control Programme
NLC	Neyveli Lignite Corporation
NLEP	National Leprosy Eradication Programme
NMHP	National Mental Health Programme
NMP	Noon Meal Programme
NPCB	National Programme for Control of Blindness
NPPC	National Programme for Palliative Care
NPPCD	National Programme for Prevention and the Control of Deafness
NRLM	National Rural Livelihood Mission
OAP	Old Age Pension
PCI	Per Capita Income
PCO	Public Call Office
PDS	Public Distribution System
PHC	Primary Health Centre
PHP	Physically Handicapped Person
PPP	Public Private Partnership
PPP$	Purchasing Power Parity Dollars
RIDF	Rural Infrastructure Development Fund
RMMCH	Rajah Muthiah Medical College Hospital
RMSA	Rashtriya Madhyamik Shiksha Abhiyan
RNTCP	Revised National TB Control Programme
SBR	Still Birth Rate
SC & ST	Scheduled Caste & Scheduled Tribe
SECC	Socio Economic and Caste Census
SHDRs	State Level Human Development Reports
SHG	Self Help Group
SIDCO	Small Industries Development Corporation
SIPCOT	State Industries Promotion Corporation of Tamil Nadu
SMS	Short Message Service
SRI	System of Rice Intensification
SSA	Sarva Shiksha Abhiyan
SUW	Severely Under Weight
TB	Tuberculosis
THAI	Tamil Nadu Village Habitations Improvement scheme

TNAHCP	Tamil Nadu Area Health Care Project
TNCDW	Tamil Nadu Corporation for Development of Women
TNEB	Tamil Nadu Electricity Board
TRF	Total Fertility Rate
TSC	Total Sanitation Campaign
U5MR	Under 5 Mortality Rate
UN	United Nation
UNDP	United Nations Development Programme
US$	United States Dollar
VES	Vital Event Survey
VHN	Village Health Nurse
VHS	Voluntary Health Service
WPR	Work Participation Rate

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