



# **District Human Development Report - 2017**

**Pudukkottai  
District**

**State Planning Commission  
Tamil Nadu**



**PUDUKKOTTAI**

**DISTRICT HUMAN DEVELOPMENT REPORT 2017**

**District Administration, Pudukkottai, and  
State Planning Commission, Tamil Nadu  
in association with  
BHARATHIDASAN UNIVERSITY**



# Contents

<b>Title</b>	<b>Page No.</b>
<b>Message by Member Secretary, State Planning Commission</b>	i
<b>Preface by the District Collector</b>	iii
<b>Acknowledgement</b>	v
<b>List of Boxes</b>	vii
<b>List of Figures</b>	viii
<b>List of Tables</b>	ix
<b>Chapters</b>	
<b>1. District Profile</b>	1
<b>2. Status of Human Development</b>	12
<b>3. Employment, Income and Poverty</b>	30
<b>4. Demography, Health and Nutrition</b>	47
<b>5. Literacy and Education</b>	76
<b>6. Gender</b>	100
<b>7. Social Security</b>	107
<b>8. Infrastructure</b>	113
<b>9. Summary and Way Forward</b>	120
<b>Annexures</b>	
<b>Technical Notes</b>	A21
<b>Abbreviations</b>	A27
<b>References</b>	A29



**ANIL MESHRAM, I.A.S.,**  
Member Secretary



**State Planning Commission,**  
Ezhilagam, 5<sup>th</sup> Floor,  
Chepauk, Chennai – 600 005.

Tel : (044) 28545460, Fax: 28545485  
e-mail : msspc@tn.nic.in

### MESSAGE

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

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

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

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

ANIL MESHRAM  
MEMBER SECRETARY  
STATE PLANNING COMMISSION







---

---

## **PREFACE**

I acknowledge the effort by the State Planning Commission and Bharathidasan University, Tiruchirappalli with the assistance from UNDP and the Government of Tamil Nadu, for the preparation of the District Human Development Report and I am happy to be associated with this process.

Honourable Chief Minister of Tamil Nadu have introduced several special growth related schemes for the people of Tamil Nadu State to focus the attention to State Human Development and for Progressive growth. Tamil Nadu prepared its first Human Development Report in 2003. The real growth of a State lies not only in its higher growth of GDP, but also in the actual state of human development of the State. Human Development is improving the overall knowledge, skill and attitude of the people for maximization of the human satisfaction. The Human Development Report was prepared to bring people at the core of development and to make them feel that the development should be for the people and by the people. Human Development basically focuses on two major themes of equity issues and sustainability of development, to encompass the perspectives of the economy and society. Capabilities based and environment natural resource based sustainability is the necessity of the hour.

The Report discussed the status of education, employment and health, gender equity, access to basic needs and critically highlighted the status of development in Tamil Nadu, also tending to identify suitable steps required, especially for the promotion of gender and social equity. Now, the same kind of Report is being prepared at the district level. The main aim of the report is to identify the gaps in access to health, education, employment and finance. The report also aims to address the issues related to gender, social security and infrastructure. The report would help the policy makers to identify the issues easily and respond with necessary interventions. This apart this report would serve as a ready reckoner to access information on varied socio economica domain with adequate time series data.

The Report provides a holistic picture of Human Development bringing out the intra-district variations, enabling assessment of the status of Human Development in terms of four indices, namely, Human Development Index, Gender Inequality Index, Child Development Index, and Multi-dimensional Poverty Index. Computation of these indices is based on 2011 Census data as well as 2013-14 data collected from various Administrative Departments at the district level. Human Development indicators illustrate the present situation of disparities among blocks of the district and help the district authorities to formulate appropriate future policy.

The Present report consists of nine chapters, which comprise of profile of the district, status of human development; employment income and poverty; demography, health and nutrition; literacy and education; gender; social security; infrastructure; and summary and way forward. In the report substantial weightage has been given to education, health poverty and gender which would help the district authority to identify and address the different issues at different levels and in turn it would also help to frame a policy for balanced growth of all the blocks of the district and in turn, of the whole State.

In this context I wish to reiterate the words of HENDRY FORD that,

**“Coming together is a beginning!  
Keeping together is progress! and  
Working together is Success”**

It is my firm conviction that a sincere and serious study of the report will pave way for all development department officials to consolidate the strength, weed out the weakness, capitalize the opportunities and to thrash out the threats while planning for overall development of Pudukkottai District.



District Collector,  
Pudukkottai.

---

## ACKNOWLEDGEMENT

---

At the outset, we would like to thank the State Planning Commission for the initiative taken in the preparation of Human Development Report at the district level in Tamil Nadu with the support of UNDP.

We would like to express our sincere thanks to Tmt. Santha Sheela Nair, I.A.S. (Retd.), Former Vice Chairman, State Planning Commission, Government of Tamil Nadu for her consistent guidance in this process. Also, we would like to express our thanks to Thiru M. Balaji, I.A.S., and Dr. Sugato Dutt, I.F.S., Member Secretary i/c, the then Member Secretaries, State Planning Commission and Mr. Anil Meshram, I.A.S., Member Secretary, State Planning Commission for their constant support.

We are grateful to our Hon'ble Vice-Chancellor, Dr. V.M. Muthukumar, and the Registrar, Bharathidasan University for their constant support throughout the process.

We sincerely acknowledge the timely advices of former District collector Thiru. C. Manoharan I.A.S., and the present District Collector Thiru. S. Ganesh, I.A.S., in the preparation of the report.

We would like to place on record our thanks to Selvi. S. Namagiri, Senior DPO, SPC, Thiru. P. Selvarajan, Head of Division, Rural Development and DPO, and Dr. G.N. Kirupa Subramanian, Planning Officer, State Planning Commission for their critical inputs to enrich the report.

Also, we express our deep sense of gratitude to the former District Planning Officer, Mr. V. Sekar, Mrs. S. Baby Ebanazer, Present District Planning Officer, Pudukkottai, Mrs. V. Rasi, Statistical Inspector and others in the office for providing data and constant encouragement. We also acknowledge the support of the DRO and the Project Director, DRDA.

It is our pleasure and duty to acknowledge the team involved in the process, Dr. S. Iyyampillai, Senior Professor, Department of Economics, Dr. M. Ravichandran, Professor, Department of Environmental Management and Dr. N. Manimegalai, Professor and Head, Department of Women Studies, who provided their valuable services in the process of writing chapters for the report.

It is our pleasure to acknowledge the helps rendered by the various Block Development Officers, elected representatives of the district Panchayathi Raj Institutions, SHG members, and Municipal Commissioners, Joint Director, Animal Husbandry Department, Joint

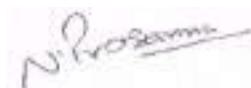
Director, Health Service, Joint Director Agriculture, Project Officer, Mahalir Thittam, Executive Engineer PWD, (WRD) South Vellar Basin Division, P.A. to Collector (Development), Superintendent of Police, Chief Educational Officer, Additional Chief Educational Officer, Executive Engineer, TWAD, Executive Engineer, TNEB, Deputy Director of Statistics, Deputy Collector, SSS, Deputy Director, Health Service, Pudukkottai and Aranthangi, Joint Director, Municipality, Thanjore, Assistant Director, Town Panchayat, Thiruchirapalli, Lead District Manager, Lead Bank Office, Pudukkottai, Managing Director, PCC Bank, Pudukkottai, District Environmental Engineer, Pudukkottai, District Supply Officer, Pudukkottai, District Adhi Dravidar Welfare Officer, Pudukkottai, District Backward Welfare Officer, Pudukkottai, Differently Aabled Welfare Officer, Pudukkottai, District Social Welfare Officer, Pudukkottai, Municipal Commissioner, Pudukkottai and Aranthangi, Project Officer, ICDS, Pudukkottai, Employment Officer, Pudukkottai, Labour Officer, Pudukkottai, General Manager, DIC, Pudukkottai, Inspector of Factories, Pudukkottai, All Block Development Officers, All Executives, Town Panchayat, Branch Manager, LIC, Pudukkottai, Manager, United Insurance Co. .Ltd. (Health), Pudukkottai, General Manager, BSNL Pudukkottai, NIC Officer, Pudukkottai, Assistant Director, Panchayat, Pudukkottai, and Divisional Engineer, National Highways, Pudukkottai.

We may fail in our duty, if we miss to acknowledge the work rendered by the Research Scholars of the Department of Economics, Bharathidasan University, who helped us to carry out the field work successfully. We thank Ms. S. Vijayalakshmi who took the responsibilities of removing syntax and semantic errors in the report. Also, we thank Mr. N. Chandrasekar and The Racy Web Solutions in computerizing the report. We acknowledge all the officers and staff of the State Planning Commission, District Administration, for their consistent support.

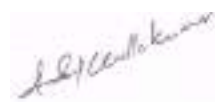
Last but not the least, we express our gratitude to the Finance Officer, Bharathidasan University, and the Administrative Staffs of Bharathidasan University for all the help and support provided by them.



Dr. P. Natarajamurthy  
Assistant Professor of CYDS  
Bharathidasan University  
Tiruchirappalli



Dr. N. Prasanna  
Assistant Professor of Economics  
Bharathidasan University  
Tiruchirappalli



Dr. J.A. Arul Chellakumar  
Professor of Economics  
Bharathidasan University  
Tiruchirappalli

## LIST OF BOXES

No.	Title	Page No.
3.1	Child Labour Decline in District	36
3.2	MGNREGA – Employment and Income	40
4.1	Nutrition Programmes of Government	65
4.2	Utilisation of Public Health Services and Health Programmes of State and Central Govt.	71
5.1	Initiatives for Improvement in Quality of Education	91
5.2	Reading Writing Skills among Primary and Upper Primary School Children	92
5.3	Technology Initiatives in School Education	95
6.1	Self Help Groups	103
7.1	Marriage and Maternity Assistance Programme	110

## LIST OF FIGURES

Fig No	Title	Page No
1.1	Child Birth Rate	10
1.2	Infant Mortality Rate (State and District)	10
4.1	Trends in CBR and CDR	51
4.2	Infant Mortality Rate - Blockwise	56
4.3	Percentage of Institutional Delivery	61
4.4	Trend in Nutritional Status (0-5 years)	64
4.5	Access to Drinking Water	68
5.1	Literacy Rate Male / Female	76
5.2	Arts and Science Colleges	96
5.3	Engineering Colleges and Polytechnic Colleges	97
6.1	Female Works Participation Rate 2011	104

## LIST OF TABLES

No.	Title	Page No.
1.1	District Basic Demographic Indicator	4
1.2	Sectoral Distribution of Gross District Domestic Product	6
1.3	Per Capita Income	9
2.1	Human Development Index	16
2.2	Gender Inequality Index	19
2.3	Child Development Index	22
2.4	Multidimensional Poverty Index	25
2.5	Indices and Ranks	28
3.1	Total Workers and Non-Workers	33
3.2	Work Participation Rate	35
3.3	Composition of Workers in Major Sectors	37
3.4	Registration and Placement	39
3.5	Per Capita Income at Constant (2004-2005) Prices	41
3.6	Trends in Poverty Level	42
3.7	Family Card Holders	43
4.1	Demographic Profiles	49
4.2	Sex Ratio	52
4.3	Chile Sex Ratio	54
4.4	Life Expectancy at Birth	55
4.5	Maternal Mortality Ratio	60
4.6	Still Birth Rate	62
4.7	Provision of IFA Tablets	67
4.8	Provision of Toilet	70
4.9	Prevalence of HIV AIDS	72
4.10	Prevalence of TB and Leprosy	74
5.1	Gender Wise Enrolment in Primary Education	78
5.2 a	Completion Rate	79
5.2 b	Dropout Rate	80
5.3	Gender Wise Enrollment in Upper Primary Education	82
5.4 a	Completion Rate	83
5.4 b	Dropout Rate	84
5.5 a	Transition Rate	85
5.5 b	Transition Rate	86
5.6	Availability of School	87
5.7	Pupil Teacher Ratio	88
5.8	Enrollment in Secondary Education	89
5.9	Dropouts in Secondary Education	90
5.10	Infrastructure	93
5.11	Hostels	94
6.1	Comparative Status of Women	101
6.2	Membership in Assembly, Local Bodies	105
7.1	Demographic Profile	108
7.2	Financial Assistance to Old Age People	109
7.3	Assistance to Differently Abled	109
7.4	Crime against Women	112
8.1	Distribution of Total Road Length	115
8.2	Status of Electrification	116
8.3	Telecommunication System	117
8.4	Commercial and Co-Operative Banks	118
8.5	Insurance Companies	118

## ANNEXURE TABLES

No.	Title	Page No
2.1	Human Development Index	A1
2.2	Human Development Index contd.	A2
2.3	Human Development Index contd.	A3
2.4	Gender Inequality Index	A4
2.5	Gender Inequality Index contd.	A5
2.6	Gender Inequality Index contd.	A6
2.7	Child Development Index	A7
2.8	Child Development Index contd.	A8
2.9	Multidimensional Poverty Index	A9
2.10	Multidimensional Poverty Index contd.	A10
3.1	Percentage of HH Provided Employment Under MGNREGA	A11
3.2	Land Utilization Pattern	A12
3.3	Cropping Intensity	A13
3.4	Irrigation Intensity	A13
4.1	CBR and CDR	A14
4.2	Infant Mortality Rate	A14
4.3	Percentage of Institutional Delivery	A15
4.4	Immunization	A15
4.5	Nutritional Status of Children Below 5 Years	A16
4.6	Percentage of household provided with Drinking Water	A16
5.1	Literacy Rate	A17
5.2	Access to Secondary Education	A17
5.3	Arts and Science Colleges	A18
5.4	Engineering Colleges and Polytechnic Colleges	A18
6.1	Female Work Participation	A19
7.1	Marriage and Maternity Assistance Programme	A20



CHAPTER 1  
PUDUKKOTTAI DISTRICT - A PROFILE



---

**PUDUKKOTTAI: DISTRICT PROFILE**

---

**Topography**

Pudukkottai district of Tamil Nadu State in Southern India has the city of Pudukkottai as its headquarters and is also known colloquially as 'Pudhugai'. Pudukkottai District was carved out of Tiruchirappalli and Thanjavur Districts on 14<sup>th</sup> January, 1974. The district has an area of 4663 sq. km. with a coast line of 39 kms. The district lies between 78.25' and 79.15' of the Eastern Longitude and between 9.50' and 10.40' of the Northern Latitude. It is bound by Tiruchirappalli District in the North and West, Sivaganga District in the South, Bay of Bengal in the East and Thanjavur District in the North East.

The soils of the district can be classified into black, red, ferruginous, lateritic, alluvial and beach soils. Black soils are formed in the western part of the district. Red ferruginous lateritic soils are formed on the high ground, south of Annavasal, west of Illupur, north of Malaipatti around Kulakurichi near Gandarvakottai, East of Arantangi around Arimalam and Alangudi. Alluvial soils consist of blackish and brownish sandy and silty soils which can be found along the course of the Vellar, Agniyar and Ambuliyar rivers, whereas, the beach sands are found along the coast of the district.

The district is characterised by an undulating topography with residual hills in the northern, western and southern parts of the district, whereas the eastern part of the district is a flat terrain consisting of alluvial plains. The elevation of the terrain of the western part of the area is about 125 m above Mean Sea Level (MSL), whereas towards the coast, it is about 1 m above mean sea level. The district is endowed with minor minerals like granite, blue metal, rough stones and gravel. Vellar, Agniyar and Ambuliyar rivers flow through the district, but none of them are perennial so they give a deserted view. The district has a forest cover of 1208.6 ha. and its supply is around 7.99 Cubic meter of timber, 9996.53 tons of fuel wood and 22347.64 tons of pulp wood.

## History

The history of Pudukkottai is an epitome of the history of South India. In and around Pudukkottai, there are many vestiges of the oldest habitations of man and some of the lithic records known in the South. The Pandyas, Cholas, Pallavas, Haysalas, Vijaynagar and Madurai Nayaks ruled over this part of the country and fostered its communal organisations, trade and industries and embellished it with temples and monuments of outstanding merit. The available historical evidence under the first Pandya Empire is rather scanty. The best known is the inscription at Sittannaval in the reign of Srimara Srivallaba (851-862 AD) and at Kudumianmalai in the reign of Kochadayan Ranadheeran or Sadayan Maran (700-730 AD). In the reign of Maravarman Rajasimha-I (730-760 AD) a number of battles were fought against the Pallavas, one of the sites was Kodumbalur. The inscription of the reign of Nedunchadayan, (768-816 AD) the greatest king of the dynasty is found in Thirugokarnam and Nirpalani. The reign of the three successors of Srimara Srivallaba ended with Rajasimha-II (920 AD) who lost his kingdom to the resurgent Cholas. The Pallava references to places and incidents in the district are equally scanty. The earliest reference of the historical events in the district find place in the Pandya records of Velvikudi and Sinnamanur plates which say that Maravarman Rajasimha defeated Nadhivarman Pallava Malla at Kodumbalur. The inscriptions of his successors are found in Kunnandarkoil, Malayadipatti and Rasalipatti.

Jainism flourished well in Pudukkottai area upto 11<sup>th</sup> century. There are a number of Jaina vestiges in the district. The Buddhist vestiges in the district come from the former Thanjavur district. Buddha idols are found at Kottaipattinam and Karur.

Raghunatha Thondaiman (1825-1839 A.D) was conferred with the title "His Excellency" by the British Government. In 1830, he planned to bring the Cauvery water to Pudukkottai through a new canal but could not succeed due to paucity of funds. Raghunatha Thondaiman was succeeded by his son Ramachandra Thondaiman (1839-1886). His long tenure of office was marked by extravagance and gross mismanagement. An administrator Seshaiya Sastri arrived at the scene as Dewan in 1878 and carried out many reforms. Among them was the remodeling of Pudukkottai town, incorporating the principles of town planning which were little followed in the country at that time. The towering administrative office building in red brick colour in Pudukkottai was constructed under the supervision of Seshaiyah Sastri. The Pudukkulam, the big lake in the town was another creation of Seshaiyah Sastri. Ramachandra Thondaiman renovated

many temples in the State. He was succeeded by Marthanda Bhairava Thondaiman (1886-1929), who became the ruler of the State at the age of 11. The administration was looked after, by a council with the approval of the British Government.

Raja Rajagopala Thondaiman (1928 -1948) the last and ninth in the line of Thondaiman rulers, was selected by the British Government and was crowned when he was six years old. The administration was looked after by the English, among them Alexander Tottenham was noteworthy. After Indian independence in 1947, the Pudukkottai Princely State was annexed with the Indian Union on 04/03/1948 and became a division of Tiruchirappalli District. The long history of the Thondaimans rule came to an end.

## **Language**

The main language used in Pudukkottai is Tamil. It is also the official language of the government. The Tamil dialect spoken here has close affiliation to the Central Tamil dialect spoken in the Central Districts of Tamil Nadu like Tanjavur, Nagappattinam and Thirunelveli. Pudukkottai is also known for Kurumba Kannada dialect, which was spoken by the Kurumbas of Pudukkottai district.

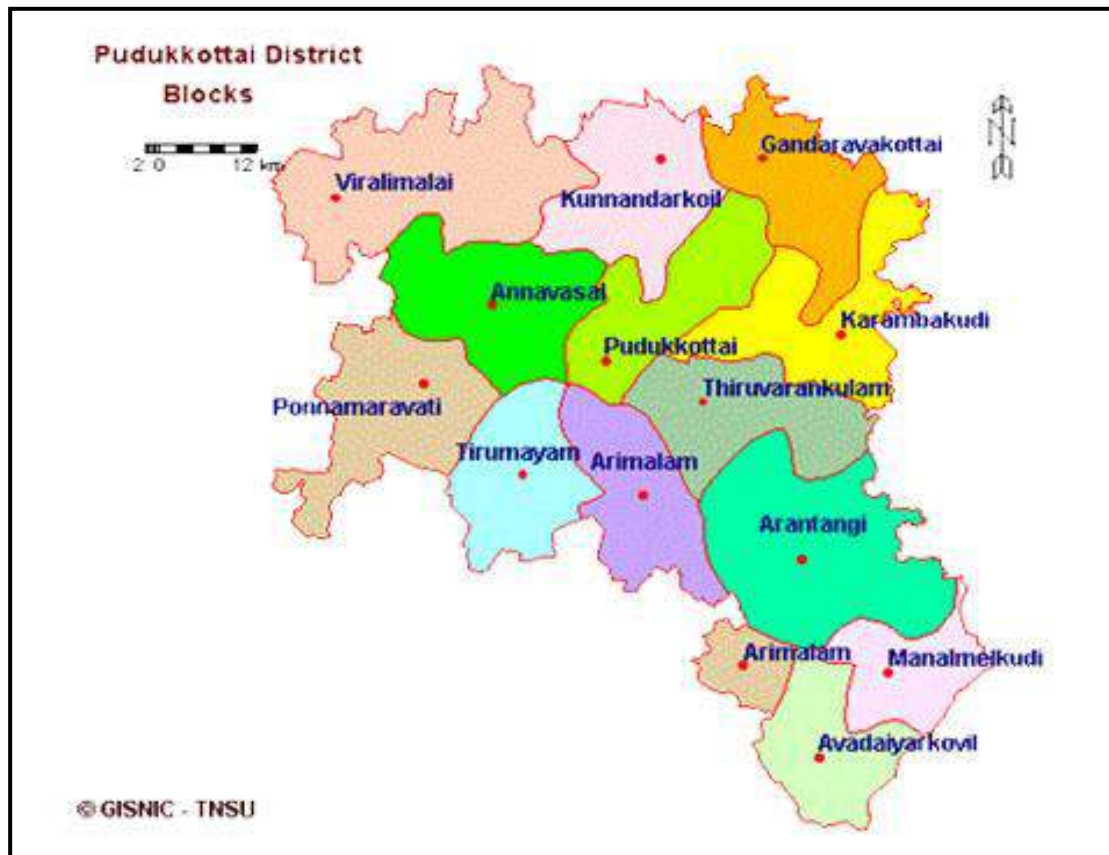
## **Art, Culture and Architecture**

Pudukkottai district of Tamil Nadu is one of the finest places housing ancient Tamil Culture. It is also an archaeological paradise. Sittannavasal is the best known archaeological site in Pudukkottai district. It is known for its 9<sup>th</sup> Century AD paintings, which can be compared to the glorious paintings of Ajanta Caves. The main composition of the paintings in Sittannavassal is known as Samava – Sarana. Sittannavasal along with Kodumbalur and Narttamalai form a golden triangle of archaeological heritage in Pudukkottai district. Other sites include Arivar Koil, which is home to an ancient Jain cave temple. The influence of Jainism dates back to prehistorical times. Ezhadipattam and Navachchurai are some other sites sporting ancient paintings and polished stones. There is also an ancient burial site around these Jain shrines, which dates back to the megalithic period. Thirupperunmthurai is another historical place which is known to be blessed by saint Manikkavasagar. The temple there is of historical relevance and is known as Aavudaiyar Koil, which sports explicit sculptures.

Many places in Pudukkottai have been mentioned in Sangam Literature. The river Vellar which runs across Pudukkottai was known to be the historical boundary of

Cholas and Pandiyas. So, both kind of architecture in the form of temples and palaces can be found in Pudukkottai, such as the Raja’s Palace in Pudukkottai and the Fort in Thirumayam. Pudukkottai is also home to stalwarts like Veeramamunivar, Dr. Muthulakshmi Reddy, Sathiyamoorthy, Akilan and Valliyappan. Pudukkottai region has also been the apoch centre for Performing Arts, for instance Laya Vithvan Mamundia Pillai created Kanjira and established the Pudukkottai School of Miruthangam. Other performing arts personalities include Dhakshanamoorthi Pillai, Subburama Iyer and Sambasiva Iyer (Veena brothers), Sivarama Nattuvanar and Rukumani Devi Arundale (Bharanatiyam dancer).

### District Map



**Table 1.1 - District Basic Demographic Indicator**

Sl. No	Indicators	2001	2011
1	Population (no.)	14,59,601	16,18,345
2	Decennial Growth (%)	9.98	10.86
3	Density of population per sq,km,	314	348
4	Urban population (%)	17.02	19.39
5	Sex ratio	1015	1015
6	Percentage of 0-14 year old)	28.40	24.28

Source: Census 2001 and 2011

Table 1.1 shows the basic demographic indicators of Pudukkottai district. The population of Pudukkottai district was 14.6 lakh in 2001, which has increased to 16.2 lakh in 2011. The decennial growth rate of population, which was 9.98 per cent in 2001 has slightly increased to 10.86 per cent in 2011. There is an increase of 0.88 per cent. The density of population per sq. km. in 2001 was 314, which has increased to 348 in 2011 and shows the increase in urbanization. This is also corroborated by the increase in the urban population from 17.02 per cent in 2001 to 19.39 per cent in 2011. The sex ratio remains the same during 2001 and 2011 as 1015 females per 1000 males. So, gender discrimination and sex selection do not seem to be the major issue in Pudukkottai district. The percentage of 0-14 year old children was 28.40 per cent in 2001, which has decreased to 24.28 per cent in 2011. It may be due to the increased awareness regarding family welfare measures and also the increasing urbanization.

## **Economy**

### **Agriculture**

In order to understand the agricultural situation, it is important to know the land use classification. The district has an area of 4,663 sq. km., which is 3.59 per cent of the total geographical area of Tamil Nadu. The total geographical area of the district is 4,66,329 ha., out of which 23,535 ha. of land is covered by forests (2013-14). The total cultivable area stands at 2,69,861 ha. in 2013-14, which has decreased from 2,71,167 ha. in 2007-08. The land put to non – agricultural purpose in 2007-08 was 1,29,799 ha., which has increased by 7,306 ha. in 2013-14 to 1,37,105 ha. A substantial amount of land in Pudukkottai district has been converted from land under miscellaneous tree crops and groves and agricultural purpose to non-agricultural purpose. The net sown area has decreased to 1,26,817 ha. in 2013-14 from 1,51,760 ha. in 2007-08.

The nature of the Pudukkottai district is purely agrarian with Paddy, Banana, Sugarcane, Groundnut and Cashew nut as major crops. According to DD Statistics (2013-14), the net area sown is 1,26, 817 hectares and the area sown more than once is 5,397 hectares, i.e., only 1.04 per cent is sown more than once. There are 5,843 Tanks and 136 Cauvery Mettur project Tanks in the district. 120 villages were benefitted by the Cauvery Mettur Project Tanks in the district. The net area irrigated in the district is 1,03,910 hectares. There are 9,661 government canals, 62,645 Tanks, 12,832 Tube wells and 6,777 other wells in the district.

**Table 1.2 - Sectoral Distribution of Gross District Domestic Product**

(In Rupees lakhs)

Year	Primary	Secondary	Tertiary	Total
2004-05	77,796	90,897	2,05,006	3,73,699
2005-06	90,588	1,07,964	2,32,055	4,30,607
2006-07	90,590	1,11,338	2,69,980	4,71,908
2007-08	75,141	1,29,093	2,92,695	4,96,929
2008-09	66,330	1,29,813	3,19,036	5,15,179
2009-10	82,477	1,47,574	3,38,362	5,68,412
2010-11	85,636	1,58,595	3,79,467	6,23,698
2011-12	1,10,717	1,61,601	4,09,255	6,81,573

Source: Department of Economics and Statistics, Tamil Nadu

The sectorwise Gross District Domestic Product (GDDP) for Pudukkottai district provides a glimpse of the contribution of each sector to the output. The primary sector declined in actual numbers during 2007-08 and 2008-09, then it started increasing continuously. The other two sectors secondary and tertiary increased gradually all the years. In the year 2008-09, the secondary sector increase was very marginal. The primary, secondary and tertiary GDDPs were Rs.1,10,717 lakhs, Rs.1,61,601 lakhs and Rs.4,09,255 lakhs in 2011-12 respectively. The share of primary sector (includes agriculture and allied activities& mining) to the GDDP was 16.24 per cent in 2011-12. The secondary sector, which includes manufacturing, mining, construction, etc., contributed 23.71 per cent to the GDDP in the year 2011-12. While the contribution of the tertiary sector or service sector was 60.05. Comparing the three sectors, the tertiary sector contributes more than 60 percent to the GDDP of the district, which shows the transformation from an



agricultural base to a service sector driven economy. The contribution of the agriculture sector to the GDDP is the lowest compared to the other two sectors. This phenomenon is not unique to Pudukkottai district, the State and National scenarios reflect the same picture.

## Industry

Pudukkottai district is considered to be industrially backward in general and so, the Government of Tamil Nadu has taken several steps to industrialize the district. In this respect, the district has three SIDCO industrial estates and one SIPCOT complex with a total area of 96.08 acres. The two SIDCO industrial estates are located in Machuvadi (Pudukkottai block) and Mathur (Viralimalai block), while the SIPCOT complex is located in Vellanur (Annasaval block). Totally, there are 65 sheds and 37 tiny sheds developed in all these estates and complexes. 140 plots, with a total area of 311.69 acres remain vacant and need to be developed in the Vellanur SIPCOT complex, which falls seven kms away from Pudukkottai on the Tiruchirappalli – Rameshwaram National Highway. Apart from these, there is one BHEL plant located in Olaikudipatti (Thirumayam block), which is the latest addition of industries in Pudukkottai district, built at a cost of Rs.250 crores and a capacity of 25,000 metric tonnes, directly and indirectly generating employment of about 4,000.

The total number of registered industries in Pudukkottai district is 20,715 out of which 9,730 are Small Scale Industries (SSIs), 5,925 are Cottage Industries (CIs), 5044 are Handicraft Industries (HIs) and 16 are Large and Medium Scale Industries (LMSIs). The total investment in all these industries is estimated to be about Rs.16,667.05 lakhs, out of which, Rs.15,867.24 lakhs, Rs.414.91 lakhs, Rs.254.77 lakhs and Rs.130.13 lakhs are the investment amounts of SSIs, CIs, HIs and LMSIs respectively. The total employment generated by these industries is 41,498, out of which, 23,290 is generated by SSIs followed by CIs with 8,883, HIs with 7,549 and LMSIs with 1,776 respectively.

The thrust sector activities identified for industrial growth in the next five years are heavy steel and structural fabrication, manufacturing of boilers, granite cutting and polishing, modern rice mill, coir products and briquettes, cashew nut processing, fisheries based industries like fish processing, manufacturing of fish meal, fabrication and servicing of mechanized boat - FRP boat, ice plants and cold storage. Other industries are manufacturing of articles from sea weed, mineral based industries like mechanised

bricks, Mangalore tiles, ceramic and mosaic tiles, Attangudi tiles, granite cutting and polishing, blue metal jelly, quicklime, white cement, forest based industries like saw mill, agro based industries, automobile ancillaries, cashew based units, modern freezing plants for processing of fish, prawns, crabs, etc., in the coastal areas of this District.

## Other Sector

In terms of other sector, i.e., services, it is important to get some information regarding the connectivity to services through infrastructure and other services. One of the major aspects of connectivity is roads - the means of transportation for millions of Indians. In this aspect, National Highways and State Highways pass through a length of 148.4 km and 278.4 km respectively through the district connecting the district to the various parts of the State and the Nation. The other district and rural roads account for 78.75 km and rural roads and agricultural marketing broad roads account for 2,998.40 km. Other than road connectivity, the district is connected by the Indian Railways with a total route length of 53 kms.

Electricity is another major service by itself other than being an enabler to many other services. So, it is critical that electricity is made available to all. In this regard it is pertinent to note that there is no power station within the district. In terms of rural electrification, according to the Statistical Hand Book of Tamil Nadu 2013 the district is 100 per cent electrified, i.e., 765 revenue villages and 4,096 hamlets with a population of 12,96,383 are electrified. In terms of urban electrification, eight town panchyats with a total population of 92,161 and 2 municipalities with 1,78,627 population are electrified. Totally 1,61,759 street lights have been provided throughout the district.

Moving on to the next essential service which is of paramount importance is banking. Pudukkottai district has 136 Co-operatives societies with 3,16,806 members and 151 commercial banks with a 1,36,868 account holders. The district has 71 nationalized commercial banks, 27 private commercial sector banks and 21 Central Co-operative banks. The district also has five Regional Rural Banks and nine Land Development Banks. Out of the total commercial bank branches, 72 are in rural areas and 26 in semi-urban areas.

In the world of Information Technology revolution, communication has become even more significant. Around 14 per cent of the households have Telephone connections in the district. On an average every block has nearly 10 Post Offices.

## Income

The per capita income of Pudukkottai district (Table 1.3) stood at Rs.24,973 in 2004-05, which was about 36 per cent less than the State average of Rs.33,998 during the same year. The per capita income of the district and the State increased by 8.44 per cent and 9.52 per cent on an average during the period 2004-05 to 2011-12 to Rs.43,890 and Rs.63,996 respectively. The percentage difference between the two is just above one per cent during the reference period, but in terms of absolute numbers, the district seems to be lagging behind the State with a difference of about Rs.20,000 (during 2011-12). The percentage of Below Poverty Line (BPL) households in the district was 1,47,620 in 2012-13. The percentage of BPL households in the two municipalities is 49.43, the average of the blocks is 40.74 per cent, and the average of the eight town panchayats is 31.22 per cent. The average district BPL is 41.21 percent. All these figures are on the higher side, which seems to be a major issue that needs urgent attention.

**Table 1.3 Per Capita Income at constant (2004-2005) prices**  
(In Rupees)

Year	District	State
2004-05	24,973	33,998
2005-06	28,597	38,435
2006-07	31,154	43,941
2007-08	32,623	46,293
2008-09	33,644	48,473
2009-10	36,937	53,359
2010-11	40,341	59,967
2011-12	43,890	63,996

Source: Department of Economics and Statistics, Tamil Nadu

## Social Sector

### Health

Health is one of the major determinants of human development, while Human Development Index tries to capture this taking into account the longevity of life and certain other indicators like Infant Mortality Rate (IMR) and Maternal Mortality Ratio (MMR). It is very important that other aspects of health such as the birth rate, death rate,

diseases and vaccination should also be taken into consideration. In this respect in Pudukkottai district, the Crude Birth Rate (CBR) was 15.9 in 2013-14, which was equal to that of Tamil Nadu in the same year, (Figure 1.1). The IMR in Pudukkottai district in 2013-14 was 12, which was much lower than the Tamil Nadu IMR of 21 (Figure 1.2). So, in terms of CBR, the district seems to perform on par with the State level and in terms of IMR, the district seems to perform better than the State level.

Figure 1.1 Crude Birth Rate

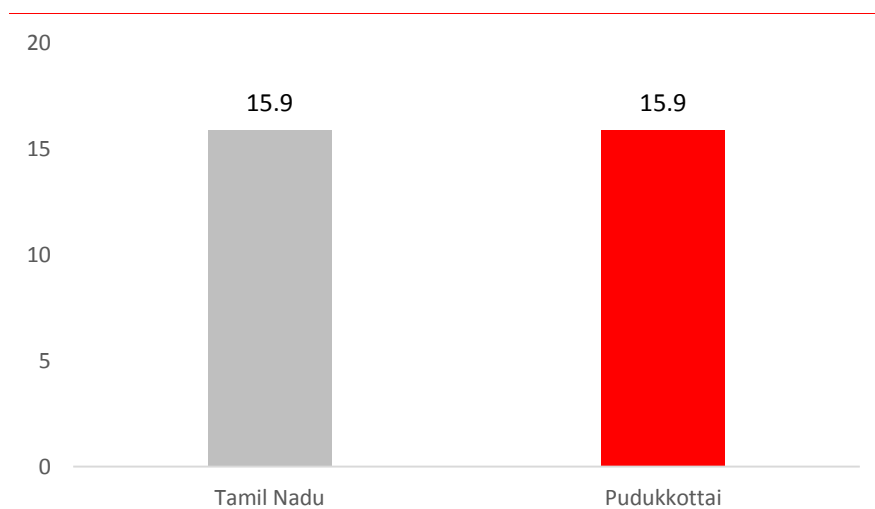
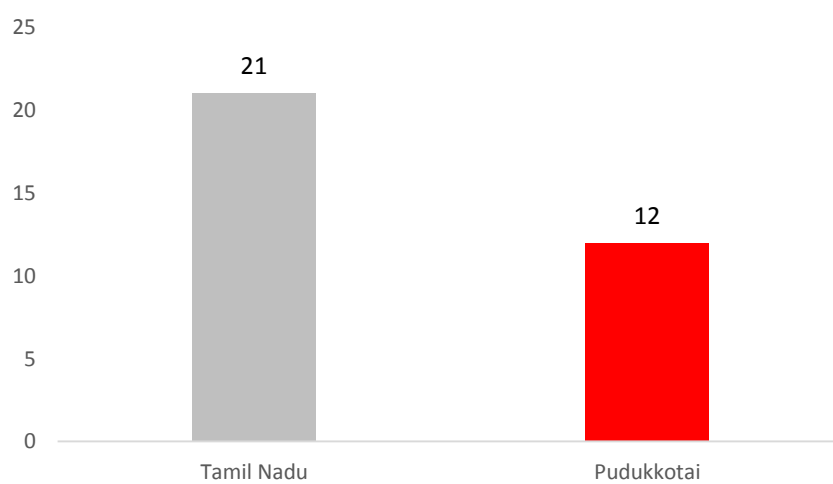


Figure 1.2 Infant Mortality Rate



Source: Health Department, Tamil Nadu and Pudukkottai (2013-14)

## Literacy and Education

Literacy and education are the building blocks of human development and very vital in shaping the outcomes of various other indicators. In this regard it is important to know the performance of the district. The district literacy rate is much lower than the State literacy rate. The literacy rate of the district increased from 71.12 per cent to 77.19 per cent during the period 2001 to 2011 i.e, the rate of increase was 6 per cent. In which, the male literacy rate increased by 3 per cent and the female literacy rate increased by 9 per cent in the same period. The growth of female literacy rate was much higher than the male literacy rate, but the literacy gap between male and female was 16.56 per cent. The literacy gap between male and female had reduced from 22.56 per cent to 16.56 per cent during the period 2001 to 2011. The district had 1336 Primary Schools, 189 Middle Schools and 191 Secondary and Senior Secondary Schools.

The primary level completion rate for boys and girls were 99.27 per cent and 99.73 per cent respectively. The upper – primary completion rates for boys and girls were 91.84 per cent and 93.18 per cent. The completion rates of boys and girls at both levels did not show any gender difference, but the completion rates at the upper – primary level are lower than the primary level.

## District Human Development Report

The State Planning Commission, Government of Tamil Nadu published the first Human Development Report at the State level for Tamil Nadu in 2003 and followed it up with the pilot preparation of Human Development Reports at the district level. This is the second in the series of Human Development Reports at the State and district levels. The present Human Development Report of Pudukkottai district consists of the profile of the district, status of human development; employment income and poverty; demography, health and nutrition; literacy and education; gender; social security; infrastructure; and summary and way forward. The focus of this Report is on inter-block disparities in indicators of well-being such as income, health, education and gender which would help the district authority to identify and address the different issues at different levels and in turn it would also help to frame a policy for balanced growth of all the blocks of the district and in turn, of the whole State. The State's development in the past has shown a move towards convergence in terms of several human development outcomes of the socially excluded groups and this Report is also aimed in this direction.



**CHAPTER 2**  
**STATUS OF HUMAN DEVELOPMENT**





---

## STATUS OF HUMAN DEVELOPMENT

---

"Human development, as an approach, is concerned with what I take to be the basic development idea: namely, advancing the richness of human life, rather than the richness of the economy in which human beings live, which is only a part of it." - Amartya Sen, Professor of Economics, Harvard University Nobel Laureate in Economics, 1998

"The basic purpose of development is to enlarge people's choices. In principle, these choices can be infinite and can change over time. People often value achievements that do not show up at all, or not immediately, in income or growth figures: greater access to knowledge, better nutrition and health services, secure livelihoods, security against crime and physical violence, satisfying leisure hours, political and cultural freedoms and sense of participation in community activities. The objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives." - Mahbub ul Haq (1998), founder of the Human Development Report

### Introduction

According to the Human Development Report 2010, the concept of human development has been drawn from the idea of building and expanding capabilities and has been further simplified into expanding people's choices. Human Development was an expansion of people's freedom to live long, healthy and also creative lives; to advance other goals they have reason to value; and to engage in shaping development equitably and sustainably. The concept of human development rests on Amartya Sen's Capability approach. It was actually the application part of the capability approach.

Amartya Sen's Capability approach is a moral framework, it proposes that social arrangements should be primarily evaluated according to the extent of freedom people have to promote or achieve the functioning of their value. Thus, the Capability approach of Amartya Sen can be classified into two parts, one is freedom and the other is the

functioning (beings and doings). The division or classification is just for understanding. Both these attributes and parts should be analysed together. Functioning are intuitive in nature and have intrinsic value and may vary from person to person, that is to say different resources may require different capabilities and have different functioning and ultimately provide satisfaction. In Sen's framework, functionings can be identified through some indicators, like asset index, access to schooling, body mass index, income, self-reported health, times of egg consumption per week, etc. On the other hand, freedom is a real opportunity that 'one' has to accomplish one's value. Freedom is to be taken in the true sense and spirit. Freedom is not only about enhancing the choices, but also about exercising what a person really wants to do.

## Human Development Index - Inter-Block Variations

The Human Development Index (HDI) is a statistical tool that is used by economists and policy makers to measure a country's or a region's overall achievement in its social and economic aspects. The social and economic aspects of a country or region are based on the health of people, their level of education attainment and their standard of living. This is the base for the Human Development Report prepared by the United Nations Development Programme (UNDP) for the past couple of decades. The UNDP Human Development Report-2010 continues to adopt the same basic three indicators of education, health and standard of living/income for the calculation of HDI. In the present exercise, HDI has been calculated using the above mentioned parameters.

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

Each of the three parameters are comprised of their respective indices, viz., Standard of Living Index, Health Index and Education Index. For calculating Standard of Living Index, five indicators, viz., access to cooking fuel, access to toilet facilities, access to drinking water, access to electricity and access to pucca houses have been used. For calculating Health Index, three indicators, viz., Infant Mortality Rate (IMR), Maternal Mortality Rate (MMR) and Under Five Mortality Rate (U5MR) have been used. And for calculating Education Index, three indicators, viz., Literacy Rate, Gross Enrolment Rate (GER) for Primary and Secondary Schools have been used.

Viewing the HDI of 13 blocks in Pudukkottai district (see Appendix Tables 2.1 – 2.3), Pudukkottai block stands first with 0.730 HDI value followed by Aranthangi (0.655), Thirumayam (0.596), Annavasal (0.527) blocks and Manamelkudi (0.491). The last five blocks are Gandharvakottai (0.311), Karambakkudi (0.410), Arimalam (0.418), Thiruvarankulam (0.427) and Viralimalai (0.439). Here, it should be kept in mind that these are just inter-block variations and do not reflect the actual status or development levels of the blocks in Pudukkottai district. The actual level of development would be analysed in the forthcoming chapters of this report. In order to understand the inter-block variations, an analysis of the indicators of the HDI is necessary.

Analysing the HDI of blocks in Pudukkottai district, various indicators play significant role in determining the ranks of the blocks. Among the indicators, the maximum variations were found in GER secondary and MMR while the least variations were found in Access to Electricity and U5MR.

Under the Standard of Living parameter, three indicators, viz., Access to Cooking Fuel, Access to Toilet Facility and Access to Pucca Houses show many variations. In terms of Access to Cooking Fuel, Pudukkottai block has the maximum of 49.55 per cent access, followed by Thirumayam (44.33 per cent) and Arimalam (43.95 per cent). The least percentage of Access to Cooking Fuel among blocks was found in Karambakkudi with 7.88 per cent, which is followed by Viralimalai (9.43 per cent). Only three blocks have higher percentage than the district level of 23.78 per cent. In terms of Access to Toilet Facility, Pudukkottai tops with 85.28 per cent, closely followed by Tirumayam 84.44 per cent, while the least is found in Thiruvarankulam with 34.52 per cent, followed by Manamelkudi with 36.60 per cent. Out of the 13 blocks, five blocks namely Annavasal, Ponnamaravathi, Pudukkottai, Thirumayam and Karambakkudi stand above the district level of 56.48 per cent. Considering the Access to Pucca Houses, seven

blocks, viz., Annavasal, Arimalam, Pudukkottai, Thirumayam, Aranthangi, Avudayarkovil and Thiruvarankulam stand above the district level of 76.45 per cent. Annavasal and Thiruvarankulam have more than 90 per cent of Access to Pucca Houses, while Ponnamaravathi has the least Access to Pucca Houses with 39.67 per cent.

Probing the Health parameter, it can be found that MMR exhibits much variation, where Annavasal and Pudukkottai witnessed zero MMR, while four blocks witnessed MMR above 100. Seven blocks, Annavasal, Pudukkottai, Aranthangi, Avudayarkovil, Gandharvakkottai, Karambakkudi and Manamelkudi were below the district level of 50.

Analysing the Education parameter, it can be seen that GER Secondary shows many variations. In terms of GER Secondary, Pudukkottai tops the list followed by Aranthangi and Karambakkudi, while Arimalam has the least GER Secondary followed by Gandharvakkottai. Five blocks, Arimalam, Thirumayam, Avudayarkovil, Gandharvakkottai and Manamelkudi stand below the district level of 95.82 per cent. GER Primary also shows some variations, like Pudukkottai has the highest GER Primary followed by Arimalam, Ponnamaravathi and Thirumayam, while five blocks, Avudayarkovil, Karambakkudi, Annavasal and Viralimalai fall below the district level of 101.89 per cent.

Apart from the indicator-wise analysis, it is also essential to analyse the better ranking and poor ranking blocks. In this regard, Pudukkottai block secures the first position in terms of HDI as it performs best in seven indicators, viz., Access to Cooking Fuel (49.55 per cent), Access to Toilet (85.28 per cent), Access to Electricity (93.91 per cent) in the Standard of Living indicators; MMR (0) in Health indicators; and all the Education indicators, i.e., Literacy Rate (84.71 per cent), GER Primary (115.63 per cent) and GER Secondary (275.91 per cent). Aranthangi secures the second position in terms of HDI and is followed by Thirumayam, Avudayarkovil and Annavasal blocks in the top five blocks, but the index values of these blocks are much lower than that of Pudukkottai block. This shows that there is significant difference in the performance of these blocks compared to the district headquarters, i.e., Pudukkottai block. In fact Pudukkottai block is the only block in Pudukkottai district to secure a HDI value above 0.700. Aranthangi secures above 0.600 HDI value, Thirumayam and Annavasal secure HDI values above 0.500, while all other blocks secure index values below 0.500 HDI value. This shows the disparity in the performance of blocks in terms of the various indicators.

**Table 2.1 Human Development Index**

Index	Top Five Blocks	Bottom Five Blocks
HDI	Pudukkottai (0.730)	Gandharvakkottai (0.311)
	Aranthangi (0.655)	Karambakkudi (0.410)
	Thirumayam (0.596)	Arimalam (0.418)
	Annavasal (0.527)	Thiruvarankulam (0.427)
	Manamelkudi (0.491)	Viralimalai (0.439)

Aranthangi is able to secure the second position in terms of HDI as it performs much better than the district level in seven indicators, viz., Access to Drinking Water (96.71 per cent), Access to Electricity (90.30 per cent), Access to Pucca House (78.48 per cent) in the Standard of Living indicators; MMR (30), U5MR (12.70) in Health indicators; and Literacy Rate (81.39 per cent), GER Primary (104.59 per cent) and GER Secondary (165.06 per cent). Thirumayam secures the third position in terms of HDI as it performs best in U5MR (10.52), and better than the district level in all other indicators except MMR (90), Literacy Rate (76.11 per cent), GER Primary (109.57 per cent) and GER Secondary (57.62 per cent). Annavasal secures the fourth position in terms of HDI as it performs best in Access to Pucca House (92.65 per cent) and MMR (0); second best in Access to Electricity (92.39 per cent) and IMR (10.60); and averagely in Access to Drinking Water (91.97 per cent). Manmelkudi secures the fifth position in terms of HDI as it performs the best with 100 per cent coverage in terms of Access to Drinking Water, stands second in Literacy Rate (82.51 per cent) and performs better than the district level in all the three health indicators and GER Primary.

Gandharvakottai stands last in terms of HDI with an index value of 0.311 as it performs poorly, compared to the district level in nine indicators, viz., Access to Cooking Fuel (10.91 per cent), Access to Toilet (51.99 per cent), Access to Drinking Water (89.77 per cent, lowest), Access to Pucca House (69 per cent) in the Standard of Living indicators; IMR (23.90, highest) and U5MR (15.2) in the Health indicators; and Literacy Rate (70.57 per cent, lowest), GER Primary (96.09 per cent) and GER Secondary (48.87 per cent) in the Education indicators. Karambakkudi stands second last in terms of HDI

as it performs poorly, compared to the district level in eight indicators. It is the last in terms of Access to Cooking Fuel (7.38 per cent), second last in terms of IMR (18.40) and U5MR (15.80) and below the district level in terms of Access to Drinking Water (92.22 per cent), Access to Electricity (90.39 per cent), Access to Pucca House (62.96 per cent), Literacy Rate (73.75 per cent) and GER Primary (90.99 per cent). Arimalam stands third last in terms of HDI as it performs poorly, compared to the district level in eight indicators, viz., Access to Toilets (53.86 per cent), Access to Drinking Water (93.33 per cent), Access to Electricity (88.55 per cent), IMR (13.10), MMR (140), Literacy Rate (73.98 per cent) and GER Secondary (42.71, lowest). Thiruvarankulam stands fourth from the bottom in terms of HDI as it performs poorly, compared to the district level in six indicators, viz., Access to Cooking Fuel (13.87 per cent), Access to Toilet (34.52 per cent), Access to Electricity (90.14 per cent), IMR (18.40), MMR (130) and U5MR (15.70). Viralimalai stands fifth from the bottom in terms of HDI as it performs poorly compared to the district level in four indicators, viz., Access to Cooking Fuel (9.43 per cent), Access to Toilet (41.58 per cent), IMR (16.10) and Literacy Rate (71.40 per cent).

### **Gender Inequality Index — Inter-Block Variations**

Along with HDI, simultaneously efforts were also made to arrive at Gender Inequality Index (GII) by the UNDP. GII measures the loss in potential of human development due to inequality between female and male achievements. For measuring GII, three dimensions were considered by the report, viz., Reproductive Health, Empowerment and Labour market. In the present exercise also these measures have been incorporated. Reproductive Health is captured by three indicators, viz., MMR, Share of Institutional Deliveries and Share of Ante Natal Coverage. Empowerment is captured by three indicators for Female and Male separately, viz., Literacy Rates, Share of Juveniles (Children in the age group 0 - 6), Share of Elected Representatives. And the Labour Market has been captured by three indicators for Female and Male separately, viz., Work Participation Rates, Work Participation Rates in Non-agricultural Sector and Wage Rates. HDI presents information on the human development in three dimensions, while GII provides information on gender differentials in achievements.

Dimensions	Indicators
<b>Health</b>	MMR Share of institutional delivery Share of Antenatal coverage
<b>Empowerment</b>	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
<b>Labour Market</b>	Female work participation rate Male work participation rate Female work participation rate in non Agri. Sector Male work participation rate in non Agri. sector Female Agri. wage rate Male Agri. wage rate

The top five blocks with GII necessarily indicate the lowest gender inequality. Annavasal ranks first with an index value of 0.006 indicating lowest gender inequality among the blocks in Pudukkottai district (see Appendix Tables 2.4 – 2.6). The top five blocks in terms of GII or gender inequality are Annavasal, Pudukkottai (0.013), Gandharvakkottai (0.025), Manmelkudi (0.028) and Karambakkudi (0.032). These blocks record lower inequality in gender achievements or in other words, achievements of women have been higher in these blocks. Thiruvarankulam with 13<sup>th</sup> GII rank, stands last with the highest GII value of 0.105. The bottom five blocks in terms of GII are Thiruvarankulam, Arimalam (0.096), Viralimalai (0.087), Kunrandarkovil (0.070) and Ponnamaravathi (0.070). In these blocks, gender gap is very high, so these blocks need attention in terms of women empowerment. These blocks record higher values of GII and reflect higher gender inequality in the district.

**Table 2.2 Gender Inequality Index**

Index	Top Five Blocks	Bottom Five Blocks
<b>GII</b>	Annavasal (0.006)	Thiruvarankulam(0.105)
	Pudukkottai (0.013)	Arimalam(0.096)
	Gandharvakkottai (0.025)	Viralimalai (0.087)
	Manamelkudi (0.028)	Kunrandarkovil (0.070)
	Karambakkudi (0.032)	Ponnamaravathi (0.070)

As discussed earlier, the GII comprises of indicators in terms of Health, Empowerment and Labour. Analysing these indicators would reveal strengths and weaknesses of the blocks in terms of gender equality. The analysis of GII reveals that, the labour indicators have much significant role in determining block ranks. Here also MMR plays an important role as discussed earlier. Indicators such as, Share of Institutional Deliveries, Share of Female Children, Share of Male Children, Share of Female Elected Representatives in RLBs and ULBs, Share of Male Elected Representatives in RLBs and ULBs and Male WPR have low variations compared to other indicators among the blocks.

The variations among blocks in terms of Female Literacy Rate are higher than Male Literacy Rate. The Female Literacy Rate is higher in Annavasal block with 78.77 per cent, while Pudukkottai block has the lowest Female Literacy Rate among the blocks in Pudukkottai district. Five blocks Annavasal, Aranthangi, Gandharavakkottai, Karambakkudi and Thiruvarankulam have better Female Literacy Rate of 69 per cent.

Like Literacy Rate, the variations among blocks in terms of Female WPR are much higher than in Male WPR. Viralimalai block has the highest Female WPR among the blocks of Pudukkottai district, which is closely followed by Karambakkudi. The least Female WPR is found in Pudukkottai block with 25.85 per cent. Eight blocks, Annavasal, Kundrandarkovil, Ponnamaravathi, Viralimalai, Avudayarkovil, Gandharvakkottai, Karambakkudi and Thiruvarankulam have better Female WPR than the district rate of 35.65. The Female WPR in Non-Agricultural Sector for Pudukkottai block was far better than other blocks in Pudukkottai district with a rate of 20.55 per cent. Arimalam block equals the district level of 20.55. Four blocks Annavasal, Pudukkottai, Thirumayam and Manamelkudi perform better than the district rate. The least performing blocks are



Gandharvakkottai with 8.92 per cent and Avudayakovil with 9.74 per cent. The Male WPR in Non-Agricultural Sector ranges from 17.52 per cent in Gandharvakkottai block to 73.63 per cent in Pudukkottai block. Three blocks Annavasal, Pudukkottai and Manamelkudi have better Male WPR than the district rate of 39.16 per cent.

In terms of the Female Agricultural Wage Rate, which ranges from Rs.100 to Rs.180, Gandharvakkottai block tops the table among the blocks in Pudukkottai district, while Viralimalai, Aranthangi and Thiruvarankulam blocks have the least rate. In terms of Male Agricultural Wage Rate, three blocks Arimalam, Avudayarkovil and Gandharvakkottai have the highest rate of Rs.350, while all the remaining blocks have a rate of Rs.300.

Moving on to the analysis of block rankings, Annavasal block has a GII value of 0.006, which is the lowest among the other blocks in the district. The main reason is that it has zero MMR, highest Female Literacy Rate (78.77 per cent), above district level Female WPR (39.19 per cent), above district level Female WPR in Non-Agricultural Sector (21.31 per cent) and lowest gender gap in Agricultural Wages (Rs.150). Pudukkottai block secures the second position in terms of GII as it has zero MMR, high Share of Ante Natal Coverage (101.25 per cent), high Share of Female Elected Representatives in RLBs and ULBs (40 per cent) and highest Female WPR in Non-Agricultural Sector (51.39 per cent). Gandharvakkottai block secures third rank in terms of GII as it has low MMR (30), high Female Literacy Rate (74.15 per cent), higher Share of Female Children (0-6) years (49.45 per cent) and high Female WPR (41.66 per cent). Manamelkudi block secures fourth position in terms of GII as it records low MMR (40), highest Share of Ante Natal Coverage (106.50 per cent), above district level Female WPR in Non-Agricultural Sector (23.44 per cent) and lowest gender gap in Agricultural Wage Rate (Rs.150). Karambakkudi block secures fifth position in terms of GII as it records low MMR (40), above district level Female Literacy Rate (71.48 per cent) and second highest Female WPR (43.22 per cent).

Thiruvarankulam block is the most gender unequal block among the various blocks in Pudukkottai district. This is due to reason that it has very high MMR (130), low Female Literacy Rate (64.54 per cent) high gender gap in Literacy Rate (about 20 per cent), low Female WPR in Non-Agricultural Sector (15.29 per cent) and high gender gap in Agricultural Wage Rate (Rs.200). Arimalam block stands at the second last position in terms of GII as it has the second highest MMR (140), low Female Literacy Rate (62.74

per cent; 18 per cent gender gap in Literacy Rate), below district level Female WPR (33.95 per cent) and highest gender gap in Agricultural Wage Rate (Rs.230). Viralimalai block stands third from the bottom in terms of GII as it has above district level MMR (80), low Ante Natal Coverage (95.65 per cent), low Female Literacy Rate (64.47 per cent; about 20 per cent gender gap in Literacy Rate) and high gender gap in Agricultural Wage Rate (Rs.200). Kundrandarkoil block stands fourth from the bottom in terms of GII as it has the highest MMR (160), low Ante Natal Coverage (93.95 per cent), low Female Literacy Rate (64.27 per cent; almost 20 per cent gender gap in Literacy Rate), below district level Female WPR (15.89 per cent ) and high gender gap in Agricultural Wage Rate (Rs.180). Ponnamaravathi block stands fifth from the bottom in terms of GII as it has high MMR (120), low Female Literacy Rate (66.99 per cent; almost 20 per cent gender gap in Literacy Rate), low Female WPR in Non-Agricultural Sector (16.22 per cent), and high gender gap in Agricultural Wage Rate (Rs.180).

### **Child Development Index**

The development of the children in the society and economy is of great importance, as it determines the future of the society and the economy. Development at the childhood level is considered to be the most important phase of human life and so, the quality of health, well-being, learning and behaviour are more important in this phase of life than in any other phase. This phase comprises of great opportunity, but also of great vulnerability and risk. Proper development initiatives such as adequate health care and education stimulate development and prevent or minimize disabilities and secondary conditions such as diseases and socially unwarranted behaviour. When these are deficient or unsupportive, child development can be seriously and even irreversibly affected. Many research studies have found evidence of fruitful results upon appropriate interventions to address the risk and vulnerability factors. In this direction, the analysis of Child Development Index (CDI) is of crucial importance. The CDI takes into account the Health and Education of children into consideration for its computation. In the Health parameter, Under Five Mortality Rate (U5MR), Child Sex Ratio (0-6 years) and Percentage of Malnourished Children were taken as indicators. In the Education parameter, Primary and Secondary Gross Enrolment Ratios, Children Never Enrolled in Schools and Transition Rates of Primary to Upper-Primary and Upper-Primary to Secondary were taken as indicators.

Dimensions	Indicators
Health	U5MR
	Child Sex Ratio
	Percentage of MalnourishedChildren
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

The top five blocks in terms of CDI rankings were Pudukkottai, Thirumayam, Viralimalai, Aranthangi and Annavasal with index values of 0.766, 0.694, 0.675, 0.645 and 0.579 respectively, while the bottom five blocks are Avudaiyarkovil, Gandharvakottai, Karambakkudi, Ponnamaravathi and Arimalam with index values of 0.464, 0.477, 0.497, 0.523 and 0.552 respectively (see Appendix Tables 2.7 and 2.8). The indicator-wise and block-wise variations in the CDI need to be analysed in order to understand the reason for the performance of the blocks.

**Table 2.3 Child Development Index**

Index	Top Five Blocks	Bottom Five Blocks
CDI	Pudukkottai (0.766)	Avudaiyarkovil (0.464)
	Thirumayam(0.694)	Gandharvakottai (0.477)
	Viralimalai (0.675)	Karambakkudi (0.497)
	Aranthangi (0.645)	Ponnamaravathi (0.523)
	Annavasal (0.579)	Arimalam (0.552)

The analysis of Child Development Index of Pudukkottai district shows that, in the Health parameter Child Sex Ratio and in Education parameter, GER Primary and Secondary significantly impact the ranks of the blocks. The Child Sex Ratio of the blocks ranges from 927 female per 1000 male in Karambakkudi block to 997 female per 1000 male in Manamelkudi block of the district. Seven blocks, Arimalam, Thirumayam, Viralimalai, Avudayarkovil, Gandharvakkottai, Manamelkudi and Thiruvarankulam are the blocks with better Child Sex Ratio than the district Child Sex Ratio of 960. Thirumayam block (11.35) perform better in terms of Percentage of Malnourished

Children in Pudukkottai district, which is closely followed by Pudukkottai block with 12.87. Six blocks, Pudukkottai, Thirumayam, Aranthangi, Avudayarkovil, Karambakkudi and Thiruvarankulam perform better than the district level of 24.57 per cent. In terms of GER Primary and Secondary, there are variations as discussed earlier.

Block-wise analysis reveals that Pudukkottai block secures the first position in terms of CDI with the score of 0.766 and it is the only block which gets a score above 0.700. The reason for this is that it has the second lowest Percentage of Malnourished Children (12.87), best GER Primary, best GER Secondary and best Transition Rate from Primary to Upper Primary (99.6 per cent). But, there are certain aspects that need to be addressed like, it has the highest U5MR (18.28) and below district level Child Sex Ratio (957). Thirumayam block secures the second position in terms of CDI as it has the lowest U5MR (10.52), lowest Percentage of Malnourished Children (11.32), high GER Primary (109.57 per cent) and best Transition Rate from Upper Primary to Secondary (99.29 per cent). But, it has very low GER Secondary. Viralimalai block secures the third position in terms of CDI as it has below district level U5MR (12.68), high GER Secondary, lowest Children Never Enrolled in Schools (0.11 per cent) and best Transition Rate from Primary to Upper Primary (99.6 per cent). But, it has above district level Percentage of Malnourished Children (26.92). Aranthangi block secures fourth position in terms of CDI as it has below district level U5MR (12.70) and Percentage of Malnourished Children (21.44), high GER Primary, high GER Secondary and low Children Never Enrolled in Schools (0.19 per cent). But, it has low Child Sex Ratio (953). Annavasal block secures the fifth position in terms of CDI as it has second lowest Children Never Enrolled in Schools (0.13 per cent) and has high Transition Rates. Even though Annavasal block secures the fifth rank in terms of CDI, it does not perform well in indicators like, Child Sex Ratio (951), Percentage of Malnourished Children (28.15) and GER Secondary (94.75 per cent).

Avudaiyarkovil block scores 0.464 in the CDI and stands last among the blocks in Pudukkottai in this aspect. This is due to the reason that it has lowest GER Primary (82.39 per cent) and Transition Rate from Primary to Upper Primary (98.80 per cent) It also performs poorly compared to the district level in terms of U5MR (15.30), GER Secondary and Transition Rate from Upper Primary to Secondary. Gandharvakkottai block stands second from the bottom as it has very high U5MR and Percentage of Malnourished Children. It also has very low GER Primary and Secondary. But, it has better Juvenile Sex Ratio (978) than the district level (960). Karambakkudi block stands

third from the bottom as it has very high U5MR (15.80) and lowest Juvenile Sex Ratio (927). It performs below the district level in terms of GER Primary and both Transition Rates. Ponnamaravathi block stands fourth from the last among the blocks in Pudukkottai in this aspect. This is due to the reason that it has below district level Child Sex Ratio (945), high Percentage of Malnourished Children (28.26) and lowest Transition Rate from Upper Primary to Secondary (97.52 per cent). Arimalam block stands fifth last among the blocks in Pudukkottai in terms of CDI as it has above district level Percentage of Malnourished Children (26.46), lowest GER Secondary, highest Children Never Enrolled in Schools (1.55 per cent) and below district level Transition Rate from Upper Primary to Secondary (98.57 per cent). It is interesting to note that it has the second lowest U5MR (10.70) and performs well in Transition Rate from Primary to Upper Primary (99.5 per cent).

### Multidimensional Poverty Index – An Analysis

Multidimensional Poverty Index (MPI) is calculated considering three criteria, Health, Education and Standard of Living. The indicators of Health are taken as IMR, Higher Order Birth Rate and Percentage of Malnourished Children. The indicators of Education are taken as Drop-outs in Primary and Secondary Levels, while the indicators of the Standard of Living are taken as in the case of HDI, i.e., Access to Cooking Fuel, Access to Toilet Facilities, Access to Drinking Water, Access to Electricity and Access to Pucca Houses.

Dimensions	Indicators
<b>Health</b>	IMR, Higher Order Birth Rate Malnourished Children
<b>Education</b>	Drop Out in Primary Drop Out in Secondary
<b>Standard of living</b>	Access to Cooking Fuel Access to Toilet Facilities Access to Drinking Water Access to Pucca Houses Access to Electricity

MPI is used to understand the deprivation of the basic necessities at the household level. Even though a family may have some amount of income, it may be

deprived of certain basic important services such as access to drinking water or toilet facility, which in turn would make the family prone to vulnerable diseases. So, it is necessary to understand the deprivation level of the various blocks in the district through MPI. In terms of MPI in Pudukkottai district, the top five blocks are Thirumayam, Pudukkottai, Arimalam, Kunrandarkoil and Aranthangi with index values of 0.239, 0.317, 0.415, 0.452, and 0.459 respectively, while the bottom five blocks are Gandharvakottai, Viralimalai, Ponnamaravathi, Manamelkudi and Kunrandarkoil with index values of 0.678, 0.645, 0.624, 0.600 and 0.597 respectively (see Appendix Tables 2.9 and 2.10).

**Table 2.4 Multidimensional Poverty Index**

Index	Top Five Blocks	Bottom Five Blocks
MPI	Thirumayam (0.239)	Gandharvakottai(0.678)
	Pudukkottai (0.317)	Viralimalai(0.645)
	Arimalam (0.415)	Ponnamaravathi(0.624)
	Kunrandarkoil (0.452)	Manamelkudi(0.600)
	Aranthangi (0.459)	Karambakkudi (0.597)

Analysing the variations in the indicators, among the three parameters of MPI Standard of Living has significant influence in determining the ranking of the blocks because indicators in the other two parameters do not exhibit many variations among the blocks. Access to drinking water and Access to Electricity indicators in the Living Standard parameter does not exhibit many variations. The remaining three indicators, Access to Cooking Fuel, Access to Toilet Facilities and Access to Pucca Houses exhibit many variations, which have been discussed earlier in the HDI section.

Coming to the block-wise analysis, Thirumayam block secures the first rank in terms of MPI with the score of 0.239 and it is the only block to score at this level. Thirumayam block performs well in all indicators except one, viz., dropout Secondary (4.27 per cent; high). It has below district level IMR (11.20), best Higher Order Birth

Rate (7.80), best Percentage of Malnourished Children (11.32), best Dropout Primary (0.34 per cent), second best Access to Cooking Fuel (44.33 per cent), second best Access to Toilet Facilities (84.44 per cent) and above district level Access to Pucca House (79.76 per cent). Pudukkottai block secures the second rank in terms of MPI as it performs best in four indicators, viz., Dropout Primary (0.34 per cent), Access to Cooking Fuel (49.55 per cent) and Access to Toilet Facility (85.28 per cent) and Access to Electricity (93.91 per cent). It also performs well in indicators such as Percentage of Malnourished Children (12.87; second lowest), Access to Pucca House (78.77 per cent; above district level). It needs to concentrate on IMR (15.70) and Higher Order Birth Rate (15.08), which are high. Arimalam block secures the third rank in terms of MPI as it has below district level Higher Order Birth Rate (9.79), second best Dropout Secondary (1.15 per cent), Third Access to Cook Fuel (43.95 per cent) and above district level Access to Pucca House (84.95 per cent). But, it performs below and above the district level in all the other positive and negative indicators respectively. Kundrandarkoil block secures the fourth rank in terms of MPI as it has the best Dropout Primary (0.34 per cent), district level Dropout Secondary (3.25 per cent), above district level Access to Toilet Facilities (52.68 per cent), above district level, Access to Drinking Water (96.76 per cent) and above district level, access to Electricity (94.64 per cent). But, it performs below and above the district level in all the other positive and negative indicators respectively. Aranthangi block secures the fifth rank in terms of MPI as it has the third best Higher Order Birth Rate (9.70), below district level Percentage of Malnourished Children (21.44), below district level Dropout Secondary (2.27 per cent), district level Access to Cooking Fuel (23.63 per cent), above district level Access to Drinking Water (96.71 per cent) and above district level Access to Pucca House (78.48 per cent). But, it performs below and above the district level in all the other positive and negative indicators respectively.

Among the bottom five blocks four blocks score 0.600 and above in terms of the MPI, viz., Gandarvakkottai, Viralimalai, Ponnamaravathi and Manamelkudi. These blocks perform poorly or worse than the district level in all the indicators except one or two indicators. Gandarvakkottai block with the score of 0.678 stands last among the various blocks of Pudukkottai district in terms of MPI. As observed earlier, it performs poorly or worse than the district level in all the indicators except Dropout Secondary (0.73 per cent; best) and access to Electricity (91.74 per cent; above district level). It has the highest IMR (23.90), highest Percentage of Malnourished Children (34.21), above

district level Dropout Primary (0.39 per cent), low Access to Cooking Fuel (10.91 per cent), below district level Access to Toilet Facilities (51.99 per cent), below district level Access to Drinking Water (89.77 per cent) and below district level Access to Pucca House (69 per cent). Viralimalai block stands second last in terms of MPI as it performs worse than the district level in all indicators. It has high IMR (16.10), Higher Order Birth Rate (15.43) and Percentage of Malnourished Children (26.92); it has above district level Dropout Primary (0.38 per cent) and Dropout Secondary (3.7 per cent); and it has second lowest percentage of households with Access to Cooking Fuel (9.43 per cent) and below district level Access to Toilet Facilities (41.58 per cent), Access to Drinking Water (92.83 per cent), Access to Pucca House (72 per cent) and Access to Electricity (90.59 per cent). Ponnamaravathi block stands third from the bottom in terms of MPI as it performs poorer than the district level in all indicators except access to Toilet Facilities (62.75 per cent; above district level) and access to Electricity (91.07 per cent; above district level). It has above district level IMR (12.10), above district level Higher Order Birth Rate (13.59), high Percentage of Malnourished Children (28.26), above district level Dropout Primary (0.40 per cent), high Dropout Secondary (4.66 per cent), below district level Access to Cook Fuel (19.51 per cent), below district level access to Drinking Water (94.53 per cent) and least access to Pucca House (39.67 per cent). Manamelkudi blocks stands fourth from the bottom in terms of MPI as it has the highest Percentage of Malnourished Children (37.18), highest Dropout Primary (0.42 per cent), highest Dropout Secondary (5.16 per cent), below district level Access to Cooking Fuel (20 per cent), low Access to Toilet Facilities (36.60 per cent), below district level Access to Pucca House (71.79 per cent) and below district level Access to Electricity (89.19 per cent). It is interesting to note that the Manamelkudi block has 100 per cent Access to Drinking Water, and below district level IMR (11.50) and Higher Order Birth Rate (9.40). Karambakkudi block stands fifth from the bottom as it has high IMR (18.40), high Higher Order Birth Rate (15.20), lowest Access to Cooking Fuel (7.38 per cent), below district level Access to Drinking Water (92.22 per cent), low Access to Pucca House (62.96 per cent) and just below district level Access to Electricity (90.39 per cent). It performs near district level in all other indicators.



**Table 2.5 Indices and Ranks**

Blocks	HDI		GII		CDI		MPI	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank
Annavaasal	0.548	5	0.006	1	0.610	5	0.498	7
Arimalam	0.389	12	0.096	12	0.484	12	0.415	3
Kunrandarkovil	0.455	6	0.070	10	0.550	8	0.452	4
Ponnamaravathi	0.451	7	0.070	9	0.472	13	0.624	11
Pudukkottai	0.730	1	0.013	2	0.766	1	0.317	2
Thirumayam	0.582	3	0.053	6	0.667	2	0.239	1
Viralimalai	0.417	11	0.087	11	0.639	4	0.645	12
Aranthangi	0.666	2	0.066	8	0.664	3	0.459	5
Avudayarkovil	0.572	4	0.056	7	0.566	7	0.483	6
Gandarvakkottai	0.330	13	0.025	3	0.538	10	0.678	13
Karambakkudi	0.438	8	0.032	5	0.547	9	0.597	9
Manamelkudi	0.426	10	0.028	4	0.484	11	0.600	10
Thiruvarankulam	0.429	9	0.105	13	0.578	6	0.525	8

## Conclusion

The HDI of various blocks of Pudukkottai district's shows that Pudukkottai block ranks first with 0.730 HDI value followed by Aranthangi with value of 0.655, and Thirumayam (0.596) and Annavaasal (0.527). The remaining blocks are behind in the development sphere, particularly Gandharvakkottai with a HDI value of 0.311. Along with Gandharvakkottai, all the other blocks with HDI values in the range 0.400 – 0.500, need immediate attention in terms of development initiatives. The particular areas (indicators) where attention is required, have been pointed out in the earlier discussion regarding HDI. The GII of the various blocks of Pudukkottai district reveals the variations in terms of gender-wise achievements. Annavaasal block leads the way with lowest GII value of 0.006 followed by Pudukkottai block (0.013). Eight blocks have GII value more than 0.050 indicating more gender inequality in these blocks compared to the other blocks in the district. Thiruvarankulam block has the highest GII value of 0.105 closely followed by Arimalam with 0.096. All these blocks with much gender inequality needs to be sensitized on gender equality. These blocks may not have uniform issues, the indicators where the gender gap is wide have been indicated in the earlier discussion and those particular areas may be targeted in order to achieve gender equality.

The CDI of Pudukkottai district's 13 blocks shows moderate variations among the blocks with regard to child development. As in the case of HDI, Pudukkottai block tops in terms of CDI with 0.766 index value. Thirumayam, Viralimalai and Aranthangi can be categorised in the range 0.600 – 0.700; Annavasal, Thiruvarankulam, Manmelkudi, Arimalam and Ponnamaravathi can be classified in the range 0.500 – 0.600; while, Karambakkudi, Gandharvakkottai and Avudaiyarkovil can be classified in the range 0.400 – 0.500. The blocks in the range 0.400 – 0.600 need immediate attention with regard to child development. The MPI of the various blocks of Pudukkottai district shows the different levels of deprivation in the blocks. Here, Thirumayam and Pudukkottai with lower MPI values of 0.239 & 0.317 respectively indicate lower deprivation in these blocks compared to the other blocks of Pudukkottai district. Five blocks fall in the range 0.400-0.500, while six blocks, viz., Gandharvakkottai (0.678), Viralimalai (0.645), Ponnamaravathi (0.624), Manamelkudi (0.600), Karambakkudi (0.597) and Thiruvarankulam (0.525) fall in the range 0.500 – 0.700. These blocks have higher MPI values indicating higher deprivation.

Overall, the status of human development in the various blocks of Pudukkottai district suggests that Pudukkottai block performs well in all indices followed by Thirumayam and Aranthangi and these two may be considered to perform well to some extent in this regard. Annavasal block seems to be performing near the district level, while the remaining blocks need attention in various areas. There are areas where the better performing blocks also need attention. So, interventions in the necessary areas as indicated in the discussions need to be focused upon in the respective blocks for achieving balanced development in the district.

**CHAPTER 3**  
**EMPLOYMENT, INCOME AND**  
**POVERTY**



---

**EMPLOYMENT, INCOME  
AND POVERTY**

---

**Introduction**

Employment, income and poverty still remain the biggest issues of the Indian economy in general and to the States in particular. These concepts and issues are intertwined, complex and very difficult to define. In many developing countries, poverty is associated with certain characteristics including poor economic policies, low education, unstable employment, low job status, low and unstable income, poor housing conditions, bad health large families, absence of savings, constant struggle for survival and absence of material possessions. However, economic growth is assumed to reduce the intensity of poverty and to provide relief to the poor, via creation of jobs, improvement of the revenue and creation of infrastructure to enable the poor to have easy access to information and opportunities. However, unless proper policies are designed, these would not happen immediately.

The purpose of this chapter is to know the present status of a district formed in the year 1974 by taking out some regions from Ramanathapuram, Thanjavur and Tirchirappalli districts, viz., Pudukkottai. It is a backward district in terms of education, industrial output, quality of employment and size of income per household. Hence, many entrepreneurship programmes were started; new entrepreneurs were trained by Industrial Technical Consultancy Organization of Tamil Nadu (ITCOT), District Industries Centre (DIC), Tamil Nadu Industrial Investment Corporation (TIIC), Small Industries Development Corporation (SIDCO) and funds were extended by many Industrial Promotional Agencies (IPAs) and industrial workshops and sheds were constructed and handed over to entrepreneurs at subsidized rates. Capital subsidy and interest subsidy, tax concession, and other required facilities were provided by the Central and State Governments. Some Jobs with low salaries were made available by the industrial units to the local unskilled labourers. The basic industrial structure of the District improved due to agro based industries and also due to heavy and light, capital intensive fabrication units and Chemical industries. Recently near Thirumayam, a unit of

Bharath Heavy Electricals Limited (BHEL) has been established. With all these efforts, the economic and social profile of the people of the district have slightly improved. However, there are also some regional imbalances and lapses.

First, if Pudukkottai district is closely looked into, three regions can be easily identified by a practicing researcher. Towards South of Pudukkottai district on the way to Karaikudi, slightly and traditionally prosperous houses and families were found. Most of them belong to higher caste, with business background and are economically rich. The other part was found around Aranthangi and Karmbakudi, which were near Thanjavur district with better irrigation facilities, thanks to Cauvery Mettur Project and high yielding crops. Here, a larger Muslim population with the members migrating to other countries and contributing higher income to the households was found. The remaining part was the most backward part of the district, which was dominated by petty traders and small farmers, dry cultivation and scheduled caste population with very low literacy levels and income levels. These three regions still continue to be different, and hence this condition has to be kept in mind while discussing the Pudukkottai economy and the people.

The details regarding employment, income and poverty of Pudukkottai is presented in this chapter. These details include net domestic product, work participation rate, land utilization pattern, operational landholding size of different social groups, agricultural landholdings, irrigation intensity, cropping intensity, livestock, employment patterns, poverty, public distribution system (PDS) and Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS).

## Employment

Employment here refers to the population engaged in productive activity. It determines the quantity and quality of output produced by a set of people in a certain area. Hence, it is a significant aspect and needs to be discussed in this report. But, employment is a very complicated concept. There are at least three aspects of employment; (i) production aspect, (ii) income aspect, and (iii) recognition aspect. Wage is determined by various factors. The worker producing more services may get lower wages, while the people with little contribution may get higher wages, depending upon their bargaining power and not necessarily by productivity.

So, one should be intelligent enough to first, accept the fact that just increase in workforce participation rate alone would not result in the reduction of incidence of

poverty. What is seen today is the expansion of growthless jobs, with low wage rate per hour. Jobs in private sector are known for their exploitative characters. It is always seen that returns to capitalists far outweigh those of the working class. Availability of a larger labour force depresses wage rates. Lower labour force availability could also lower wages as capital intensive technology is opted. When workers plan to supply more labourers, automatically the wage rates will be reduced. Under such circumstances, the government elected by the people needs to focus on creating an environment for providing remunerative job opportunities to the people.

### **Size of the Workforce and Work Participation Rate**

Table 3.1 shows the size of the workforce in Pudukkottai district in the years 2001 and 2011. In the decade 2001 to 2011, the population growth rate was maximum in Thirumayam block (23.53 per cent) and minimum in Ponnamaravathi block (4.78 per cent). The reasons for the block-wise difference in the growth rates may be different in different blocks. Similarly, in different categories of worker population also, there are wide inter-block differences. For instance, in terms of total workers, Aranthangi block recorded 17.71 per cent decline, while Viralimalai block has experienced the maximum of 26.56 per cent growth. There are differences between Aranthangi and Viralimalai blocks, which are different even historically. In the last 10 years (between 2001 and 2011), no new developmental programmes have been implemented in Viralimalai block. A very large growth was reported in marginal worker population in Viralimalai block (56 per cent), whereas a very large growth was seen in the non-working population in Aranthangi block (51.39) per cent.

Coming to the inter-block male-female variations in the district, the total female workers rate was more in Karambakkudi, followed by Viralimalai with a rate of 43.68 and 42.06 respectively. Pudukkottai and Manalmelkudi blocks registered low total female work participation rate. On the contrary, in the two blocks of Pudukkottai and Manamelkudi, the total male work participation rate was higher compared to other blocks in the district. Karambakkudi and Viralimalai blocks had high female work participation rate, but both the blocks registered low level of total male work participation rate. Likewise, Manamalekudi and Pudukkottai blocks had low level of female main workers and high level of main workers compared to other blocks in the district.

**Table 3.1 Total Workers and Non-Workers**

SIN oo	Block /District	Total Workers		Main Workers		Marginal Workers		Non-Workers		Total Population	
		2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
1	Annavasal	62,743	71,143	50,833	59,863	11,900	11,280	67,431	73,848	2,01,448	2,31,074
2	Arimalam	36,461	40,173	21,501	30,877	14,960	9,696	42,031	45,939	1,30,164	1,44,991
3	Kunrandarkovil	44,025	50,205	43,387	40,457	6,38	9,748	48,499	47,062	78,492	86,112
4	Ponnamaravathi	44,812	52,501	35,635	38,805	9,177	13,696	52,216	55,978	79,040	82,816
5	Pudukkottai	76,031	95,246	65,096	80,364	10,935	14,882	1,25,417	1,35,828	76,930	86,720
6	Thirumayam	35,764	37,830	24,799	30,838	10,965	6,992	43,276	44,986	1,13,516	1,40,227
7	Viralimalai	57,534	72,814	50,120	61,248	7,414	11,566	55,982	67,413	97,028	1,08,479
8	Aranthangi	80,766	83,381	84,166	70,568	17,160	12,813	68,704	1,04,009	1,56,918	1,70,419
9	Avudayarkovil	38,997	41,838	29,267	36,769	9,730	5,069	41,283	43,736	92,524	97,267
10	Gandarvakkottai	39,618	43,832	29,471	41,662	10,147	2,170	37,312	42,888	1,70,030	1,87,390
11	Karambakkudi	51,330	55,333	34,821	47,524	16,509	7,809	49,575	55,271	80,280	85,574
12	Manamelkudi	34,541	37,339	24,950	30,150	9,591	7,189	47,785	49,333	82,326	86,672
13	Thiruvarankulam	75,677	80,058	60,706	71,523	14,971	8,535	81,241	90,361	1,00,905	1,10,604
	District	6,78,289	7,61,693	5,54,752	6,40,648	1,44,097	1,21,445	7,60,752	8,56,652	14,59,601	16,18,345

Source: Census 2001 and 2011

Karambakkudi and Gandharvakkottai blocks had recorded high female main workers and low level of male main workers among the blocks. The same issue can be witnessed in the marginal workers also. Kunrandarkoil and Manamelkudi blocks had high female marginal workers and low level of male marginal workers compared to the other blocks in the district. Likewise, the two blocks Thirumayam and Arimalam had low level of female marginal workers and high level of male marginal workers. The total work participation rate was higher in Viralimalai block, followed by Gandharvakkottai. It was low in Pudukkottai and Aranthangi blocks. The female and male work participation rates were very low in Pudukkottai block compared to other blocks. These variations across the blocks may be explained by regional factors, occupational structure of the villages, cultural background of the people and so on. Thanks to transport and communication networks, nowadays, the workers find it easier to move from one place to the other (even to far off cities and countries, particularly from Ponnamaravathi and Annavasal). Hence, the wage rates for uniform work have been equalized and the people have better access



to employment opportunities. Under such circumstances, if the work force participation rates differ widely across the blocks or between male and female, it might be due to personal or cultural factors (not economic factors).

### **Case Study: Work Participation**

Work participation is multidimensional. It influences and gets influenced by many aspects. The size of workers participating in work has no definite relationship with the level of development or standard of living of the workers. Work participation is influenced by the employment opportunities, wage rates, gender balances and many social cultural variables. Work participation influences the productivity and income levels and growth and development patterns. So, it is important to study the ground reality of work participation.

According to the Census 2011, Viralimalai block stands first in terms of workers participating in work in Pudukkottai district. So, Kanakkonpatti village of Kalamavur panchayat, Viralimalai block was chosen for making this case study. Kanakkonpatti hamlet is a dry area and consists of 35 households. As in a rural setting, the predominant occupation is agriculture. Other than this, the people here worked in the nearby industry, construction and lately MGNREGA. The workers experience different kinds of problems in different occupations. For instance, in a dry area, the monsoon plays a vital role. Hence, the availability of jobs and work participation depend on the climatic factors. For the past few years, jobs in agriculture had declined due to monsoon failure. Since, rainfed agriculture has not been able to provide sufficient jobs to the villagers, the people had to search jobs elsewhere for their survival. The fabrication units, fortunately located in the nearby district, namely, Tiruchirappalli, extended some opportunities for the village workers. This is why, inspite of unfavourable conditions explained above, the work participation has been higher. Another reason for higher work participation is that nearly, 80 per cent of women here were engaged in various work that are available to them. The young women worked in the nearby bottle manufacturing company and in shopping malls. The women above 35 years were engaged in work like agriculture, construction and MGNREGA.

Workers in a manufacturing company found the terms and conditions to be more exploitative. The workers found it difficult to get leave even for a day; ofcourse, they can take leave as loss of pay. So, basic security measures are absent in these jobs. Their working hours were 10-12 hours per day, whereas, the wages were Rs. 250-300 for men and Rs.100-150 for women. Only a couple of youths, with Diplomas were able to find employment at better wage rates and some security measures.

On the whole, MGNREGA, manufacturing units located in Tiruchirappalli district and some agricultural activities have all generated employment in this remote village. Agriculture here should be revived and the wage rates need to be revised, so that people get the benefit of development. Also, the exploitative terms and conditions against the workers in manufacturing units affect the living conditions of the people, which should also be looked into.

## Work Participation Rate

According to the Classical Theory of Employment, the economy is always fully employed with certain frictional aspects, which may cause a small percentage of the population to be unemployed. But, in a country like India, unemployment has been eternal and pervasive. In this section, employment has been discussed in terms of the Workforce Participation Rate (WPR). WPR is a measure of the active portion of an economy's labour force. It refers to the number of people who are either employed or actively looking for work. The portion of the population who are not looking for employment are not taken into account. The WPR is an important tool to analyse the employment and unemployment situation in an economy.

**Table 3.2 Work Participation Rate**

Rural/Urban	2001	2011
<b>Rural</b>		
Male	58.6	59.5
Female	40.1	40.4
Persons	49.3	49.9
<b>Urban</b>		
Male	52.7	55.1
Female	12.9	16.1
Persons	32.7	35.5
<b>Total</b>		
Male	57.6	58.7
Female	35.5	35.6
Persons	46.5	47.1
Source: Census 2001 and 2011		

Table 3.2 gives details of the percentage of work participation rates of Pudukkottai district for the year 2001 and 2011. The relationship between economic growth rate and work participation rate is not strictly linear or unidirectional. A marginal

increase is noticed in the work participation rates between 2001 and 2011. In both the years, the percentage of work participation rates of both male and female are higher in rural than urban areas. The male work participation rate is higher than female work participation rate in both the years. The work participation rate gap between male and female is much higher in urban than rural areas, but the rate of increase in work participation rate of female in urban areas is greater than rural areas. This increase may be due to rural-urban migration.

### Box 3.1—Child Labour Decline in District

The Government of Tamil Nadu has taken several initiatives to weed out child labour over the past decade, such as the Child Labour Monitoring Cell (1997), 15 Point Programme (2002), State Action Plan for Eradication of Child Labour (2003), State Child Labour Rehabilitation Cum Welfare Society (2003), Action Plan to Eradicate Child Labour in Domestic and Hospitality Sector (2007), District Level Task Force in all districts headed by the respective Collectors, regular inspections, various awareness programmes (like Anti Child Labour Day Messages), National Child Labour Projects (NCLP), Special Schools for out of school children, stipend, health checkup and free School Kit for rehabilitated children, Awards for best performing districts, enhancement of cash benefits to NCLP Children.

The NCLP implemented in the district has created several infrastructural facilities in the district like special schools, which are taken care by NGOs. Many children who worked in gem-cutting and quarry industries, and cattle tending have been admitted in such schools. The gem cutting industries, which used to employ child labour have been closed down in the district during the past decade due to strict enforcement of labour laws. All these initiatives have provided the desired results and as per the Labour Department of the district, there was no child labour in the district in any of the blocks, which surely is very heartening to observe. In this regard it is important to bring to notice, a survey by V.V.Giri National Labour Institute (2001) regarding the performance of NCLP, which graded the district as “Good”.

However, some issues of child labour are reported from time to time, which are taken care of through necessary measures by the district administration. To totally eradicate the symptoms of child labour, cent per cent enrolment in schools at all levels needs to be ensured and awareness in this regard needs to be spread among the parents and elders.

## Sectoral Composition of Workers and Output

**Table 3.3 Compositions of Workers in Major Sectors**

Sl. No	Blocks (Including Taluk Area)/District	Total workers		Cultivators		Agri. Labourers		H.H.Industries		Others	
		2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
<b>Block</b>											
1	Annavasal	62743	71143	19435	17709	12606	29937	11900	1873	18792	21624
2	Arimalam	36461	40173	8874	13103	5166	15886	498	817	14980	10367
3	Kunrandarkovil	44025	50205	18509	15253	9254	22618	164	1008	16098	8609
4	Ponnamaravathi	44812	52501	16299	15424	8307	22366	805	1185	19301	13526
5	Pudukkottai	76031	95246	14781	12336	7121	19432	516	2321	53613	61157
6	Thirumayam	35764	37830	9943	11046	4913	14222	721	599	20187	11963
7	Viralimalai	57534	72814	24246	16985	16982	33628	7414	1146	15935	21055
8	Aranthangi	80766	83381	21868	22808	18000	35894	792	1508	40106	23171
9	Avudayarkovil	38997	41838	17991	23454	5098	9560	262	372	15646	8452
10	Gandarvakkottai	39618	43832	13600	10994	10381	26708	490	506	15147	5624
11	Karambakkudi	51330	55333	16937	15578	10850	29244	870	982	22673	9529
12	Manamelkudi	34541	37339	7081	10778	5501	10029	451	439	21508	16093
13	Thiruvarankulam	75677	80058	30187	23802	16292	35625	1048	1128	28150	19503
	District	678289	761693	219751	209270	130471	305149	25931	13884	302136	230673

Source: Department of Economics and Statistics, Pudukkottai

The total worker population has increased in the district as well as in all the blocks. The total workers have been classified into cultivators, agricultural labourer, household workers and others. In the cultivators' category, five blocks show an increase over the period 2001 to 2011, while 8 blocks record a decline. The maximum increase can be traced to Maanamelkudi block with 52.22 per cent followed by Arimalam with 47.66 per cent. Conversely, Viralimalai shows a maximum decline of 29.95 per cent followed by Thiruvarankulam with 21.15 per cent. This is in line with the physical features of the district, i.e., agrarian blocks have recorded an increase in the percentage of cultivators, whereas relatively industrial oriented or dry blocks have recorded with a decline in the percentage of cultivators.

In the case of agricultural labourers, all the 13 blocks record an increase in 2011 over 2001. Arimalam block tops the chart with an increase of 207.51 per cent followed by Thiruvarankulam with 189.48 per cent. The lowest increase can be found in Manamelkudi with 82.31 per cent followed by Avudaiyarkovil with 87.52 per cent. In the

household industries category eight blocks show an increase in 2011 over 2001, and five blocks show a decline during the same period. Kundrandarkovil recorded the highest increase with 514.63 per cent followed by Pudukkottai 349.81 per cent. Viralimalai and Annavasal recorded the highest decline with 84.54 per cent and 84.26 per cent respectively.

In the other categories, except Annavasal, Pudukkottai and Viralimalai all other blocks show a decrease in 2011 compared to 2001. The highest is Pudukkottai with 140.71 per cent followed by Aranthangi with 32.13 per cent, which may be due to higher and faster urbanization compared to the other blocks. In the overall comparison of the blocks, Viralimalai and Annavasal record a decline in 2 categories of workers, viz., cultivators and household industries. The same can be observed for the district as a whole, i.e., there is a decline in the percentage of cultivators and household industrial workers.

The sector-wise Gross District Domestic Product (GDDP) for Pudukkottai district provides a glimpse of the contribution by each sector to the output. The primary sector declined in actual numbers during 2007-08 and 2008-09, then it increased continuously. The other two sectors, viz., secondary and tertiary increased gradually all the years. In the year 2008-09, the secondary sector increase was very marginal. The GDDP of primary sector was Rs.1,10,717 lakhs. The share of primary sector (includes agriculture and allied activities and mining) to the GDDP was 16.24 per cent in 2011-12. The secondary sector, which includes manufacturing, mining, construction, etc., with a GDDP of Rs.1,61,601 lakhs contributed 23.71 per cent to the GDDP in the year 2011-12. The contribution of the tertiary sector or service sector was 60.05. Comparing the three sectors, the tertiary sector contributes more than 60 per cent to the GDDP of the district, which shows the transformation from an agricultural base to a service sector driven economy. The contribution of the agriculture sector to the GDDP is the lowest compared to the other two sectors. This phenomenon is not unique to Pudukkottai district, the State and National scenarios reflect the same picture.

In the Primary sector, agriculture forms the predominant part, which to a larger extent is influenced by natural factors, and goes uncontrolled, by manmade factors. Science or technology could in no way control or regulate the performance of the agricultural sector and hence the lower growth rate in terms of supply of agricultural output. In contrast, the demand for agricultural output continues to go up steadily with

the increase in population and income levels (Negative effect of income on demand for agricultural output would start operating only after reaching a substantially higher per capita income, which does not seem to have happened in Pudukkottai district). In this situation of uncertain and highly fluctuating supply of agricultural output on one hand and steadily increasing demand on the other hand, the Government intervention in the foodgrain market through Public Distribution System (PDS) is timely. Thus, the existing situation in Pudukkottai district undoubtedly warrants Government intervention.

## Registration and Placement

The Employment Exchanges in various districts of the State are operated by the Department of Employment and Training. The major objectives of the Employment Exchanges are, registration of the job-seekers, nomination against notified vacancies, providing vocational guidance to students and unemployed, periodical collection, compilation and preparation of statements on employment, unemployment, etc. In this respect the number of job-seekers registered over the years and their placement have been provided in Table 3.4.

**Table 3.4 Registration and Placement**

Sl. No	Year	Registration	Placement
1	2007	10,427	257
2	2008	12,225	354
3	2009	12,427	346
4	2010	14,245	506
5	2011	13,656	302
6	2012	30,647	637
7	2013	26,049	518

Source: Employment Office, Pudukkottai

Table 3.4 shows the number of people registered with the District Employment Office and the number of people placed during the period 2007 to 2013. It can be seen

that the number of people getting placed is low when compared to the number of people registering every year. The backlog would keep on increasing year by year. This scenario is not only in Pudukkottai district, but throughout India. The employment growth rate in the organized sector itself is on the decline and most of the Government Jobs are provided on the basis of competitive exams. So, not much can be done by the employment exchanges.

### Box 3.2 MGNREGA - Employment and Income

A majority of the poor in rural areas mainly depend on the wages earned through unskilled, casual and manual labour. Inadequate labour demand or unpredictable crisis adversely have an impact their employment opportunities. Moreover, the unorganized sector that provides employment to the unskilled rural poor, is not able to provide sufficient employment or remuneration to all. In this regard the Mahatma Gandhi National Rural Employment Guarantee Act is an attempt to provide job for the rural illiterate and aged persons with some wage income. The programme is reported to have made some impact specifically on the earning levels of the poor old women. In terms of households provided with employment under MGNREGA in the year 2013-14 (see Appendix Table 3.1), Kunrandarkovil block tops the chart with provision of jobs to 89 per cent households under MGNREGA. Eight blocks perform better than the district level of 58 per cent. Three blocks, viz., Thirumayam, Manmelkudi and Thiruvarankulam perform below the 50 per cent level. None of the blocks provides job at 90 per cent level. The most important impact of the MGNREGA has been on rural wages, which has seen the daylight in the past six to seven years. Indeed, the rural wages have increased tremendously in the past six to seven years since the advent of MGNREGA. The increase has not only been in nominal terms, but also in real terms, which is a heartening fact in terms benefits trickling down to the poor rural masses. The wage increase for female labourers is quite remarkable and the women are able to bargain for higher wages, thanks to MGNREGA. There is a complaint about this programme from the farmer's side that they do not get sufficient workers for agricultural operations. The MGNREGA needs to be strengthened in the district firstly targeting poor performing blocks with regard to provision of jobs.

## Income

### Per Capita Income

**Table 3.5 Per Capita Income at Constant (2004-2005) Prices**

(In Rupees)

Year	District	State
2004-05	24,973	33,998
2005-06	28,597	38,435
2006-07	31,154	43,941
2007-08	32,623	46,293
2008-09	33,644	48,473
2009-10	36,937	53,359
2010-11	40,341	59,967
2011-12	43,890	63,996
Average Annual Growth Rate (%)*	8.44	9.52
Source: Department of Economics and Statistics, Tamil Nadu * Computed		

The data available in Table 3.5 show the progress of Pudukkottai economy with reasonably higher (higher than inflation rates) per capita income growth rates between 2004-05 and 2011-12. The per capita income of Pudukkottai district was Rs.24,973 in 2004-05, which increased to Rs.43,890 in 2011-12. During 2011-12, it has increased at the rate of 8.79 per cent compared to 2010-11. On comparison, the district per capita income was lower than the State during 2011-12. These figures seem to be truly representative of the economic condition of the district. It is obvious that this district lags behind many districts in Tamil Nadu in economic performance. It is indicative of the existing backwardness of this district in both agriculture and industry.

### Poverty and Inequality

Poverty and inequality need no introduction in the developing countries. Poverty is generally defined as the inability to attain a minimal standard of living. Inequality is not the same as poverty, while poverty is concerned with the absolute standard of living of a part of the society – the poor – inequality refers to the relative living standards across the whole society. The burden of poverty and inequality are spread unevenly among various regions – different countries, states, districts, blocks, etc. So, poverty at the block level has to be analysed in this district.



**Table 3.6 Trends in Poverty Level**

Sl. No	Blocks/District	Total No. of HHs	Total No. of BPL HHs	% of BPL families
1	Annavasal	33,599	11,356	33.80
2	Arimalam	21,433	7,799	36.39
3	Kunrandarkovil	22,580	7,191	31.85
4	Ponnamaravathi	27,104	13,859	51.13
5	Pudukkottai	55,998	26,978	48.18
6	Thirumayam	20,398	7,547	37.00
7	Viralimalai	32,018	12,487	39.00
8	Aranthangi	47,360	14,666	30.97
9	Avudayarkovil	20,926	7,533	36.00
10	Gandarvakkottai	20,072	7,828	39.00
11	Karambakkudi	24,980	9,116	36.49
12	Manamelkudi	20,228	7,687	38.00
13	Thiruvarankulam	40,983	13,573	33.12
	District	3,87,679	1,47,620	37.76

Source: DRDA, Pudukkottai (2014)

Table 3.6 shows the trend in the poverty level in terms of BPL HHs for the year 2014. The lowest poverty level can be seen in Aranthangi with 30.97 per cent of the HHs below the poverty line followed by Kundrandarkoil with 31.85 per cent. Highest poverty levels can be seen in Ponnamaravathi and Pudukkottai with 51.13 per cent and 48.18 per cent. The district level stands at 37.76 per cent which is much worse than the State and National levels. Five blocks perform worse than the district level in terms of the number of HHs below the poverty line. This shows the backwardness of the district and lack of reach of development initiatives. The poverty figure relating to Pudukkottai block which is the district headquarters appears to be high compared to the district level. The development programmes in the block need to be first intensified and second restructured to suit the needs of different sections of the block.

## Public Distribution System

The Public Distribution System (PDS) has been playing an important role in attaining higher level of household food security and thereby reducing the incidence of poverty ever since it was started in 1939. The PDS was started for a different purpose but has undergone metamorphosis several times and in its present form roughly distributes about 10 to 12 per cent of the annual food grains production or it meets on 12 to 15 per cent of the individual food requirements. This is the reason why the PDS is often criticized for its failure to serve the Below Poverty Line (BPL) population due to the targeting system. But, Tamil Nadu is different from the other states of India, it has the history of following universal PDS for over three decades. Currently, the Government of Tamil Nadu provides 35 kg of rice to AAY card holders and 20 kg of rice to other card holders per month free of cost through the PDS. Other than this, the Government of Tamil Nadu also offers wheat, palm oil, coarse cereals, sugar and kerosene at subsidized prices through the PDS.

**Table 3.7 Family Card Holders**

Sl. No	Taluk-wise	HH Provided Family Cards
1	Pudukkottai	61,602
2	Alangudi	42,630
3	Kulathur	42,151
4	Gandarvakkottai	22,351
5	Thirumayam	40,828
6	Aranthangi	52,756
7	Avudayarkovil	23,758
8	Illuppur	52,107
9	Manamelkudi	27,379
10	Ponnamaravathi	29,084
11	Karambakkudi	26,450
	District	4,21,096
Source: District Supply Office, Pudukkottai		

Table 3.7 depicts the block-wise details of households with family cards of Pudukkottai district for the year 2013-14. In terms of taluk-wise percentage share of

households with family cards, Pudukkottai taluk had the largest share of 14.63 per cent against a population share of 13.36 per cent. Similar situation could be noticed in three taluks, viz., Avudaiyarkovil, Illupur and Manamelkudi.

## Land Use Pattern and Agriculture

Block-wise details on sizes of different categories of lands for the period 2007-08 to 2013-2014 (see Appendix Table 3.2) reveal that, there is no change in the area under forest, barren and uncultivable land, and permanent pastures and grazing lands in the blocks. In the remaining categories, some structural changes can be observed in Pudukkottai district. Looking at the patterns of changes, it can be concluded that more and more lands are allocated for the use of agricultural and non-agricultural purposes. This is a welcoming change. Lands classified as current waste have shrunk. Also, the area covered by trees have shrunk. These trends indicate that the lands are being used up for mobilizing more money at the cost of ecological balance. This is the obvious result of the present kind of development witnessed in larger parts of the world and Pudukkottai district could not escape from the general trend.

The analysis of cropping intensity of Pudukkottai district (see Appendix Table 3.3) reveals that the net cropped area and the gross cropped area were almost the same in the year 2007-08, i.e., cropping intensity was 1.01. In the year 2013-14, the cropping intensity marginally increased to 1.04. In eight blocks, the cropping intensity was exactly 1.0 in the year 2007-08. In the remaining five blocks, it was just above 1.0 ranging from 1.01 to 1.03. But, this cannot be considered significantly higher and it may be said that all the blocks had the same cropping intensity of 1.0. The situation does not change much in 2013-14, six blocks had cropping intensity equal to 1.0, while the remaining blocks registered an increase in the gross cropped area and net cropped area over the reference period. The maximum increase in the gross cropped area in 2013-14 compared to 2007-08 can be seen in Aranthangi block (1,408 ha.), while Viralimalai block registered the highest drop in the gross cropped area during the same period (4,812 ha.).

In terms of irrigation intensity same picture as of cropping intensity (see Appendix Table 3.4) is reflected. All the blocks had irrigation intensity of 1.0 or just above one ranging from 1.00 to 1.02 in 2007-08. Over the period 2007-08 to 2013-14, eight blocks register an increase in the gross area irrigated, while one block, viz., Kunrandarkovil registered a decline. Maximum increase has been found in

Gandharvakottai over the reference period (3,874 ha.), while Annavasal registered the maximum decline during the same period (4,779 ha.).

## Conclusion

From the above chapter, it can be concluded that although work participation rates in Pudukkottai district have been growing, there are variations among the blocks. The total female workers rate is more in Karambakkudi, followed by Viralimalai with the rate of 43.68 and 42.06 respectively. Pudukkottai and Manalmelkudi blocks register low total female work participation rate. In the case of agricultural labourers, all the 13 blocks record an increase in 2011 over 2001. Arimalam block tops the chart with an increase of 207.51 per cent followed by Thirumayam with 189.48 per cent. The lowest increase can be found in Manamelkudi with 82.31 per cent followed by Avudaiyarkovil with 87.52 per cent. In the household industries category labourers, Kundrandarkovil records the highest increase with 514.63 per cent followed by Pudukkottai 349.81 per cent. Viralimalai and Annavasal record the highest decline with 84.54 per cent and 84.26 per cent respectively.

These variations across the blocks may be explained by regional factors, occupational structure of the villages, cultural background of the people and so on. Thanks to transport and communication networks, nowadays, the workers find it easier to move from one place to the other (even too far off cities and countries, particularly from Ponnamaravathi and Annavasal). Hence, the wage rates for uniform works have been equalized and the people have better access to employment opportunities. Under such circumstances, if the workforce participation rates differ widely across the blocks or between male and female, it might be due to personal or cultural factors.

Comparing the three economic sectors, the tertiary sector contributes more than 60 per cent to the GDDP of the district, which shows the transformation from an agricultural base to a service sector driven economy. The contribution of the agriculture sector to the GDDP is the lowest compared to the other two sectors. The lowest poverty level can be seen in Aranthangi with 30.97 per cent of the HHs below the poverty line followed by Kundrandarkoil with 31.85 per cent. Highest poverty levels can be seen in Ponnamaravathi and Pudukkottai with 51.13 per cent and 48.18 per cent. In such blocks, MGNREGA could be extended to building toilets, clean and green environment schemes, rebunding the lakes, ponds to generate sustained employment and consequently increase income growth among such rural poor. Continued man power development has

also to be geared up to train the growing Non - Farm work force so as to be employed in building social capital in such blocks through NGOs and Socially Interested Groups (SIGs). Family card holder data during 2013-14 shows surplus of family card holders in Pudukkottai, Aranthangi, Iluppur are increasing which should be checked. Young educated entrepreneurs must be identified and trained to tap financial sources from SIDBI, SIDCO, subsidiaries of RRBs and MFIs under the Central Government's latest MUDRA bank scheme.



**CHAPTER 4**  
**DEMOGRAPHY, HEALTH AND**  
**NUTRITION**





---

## DEMOGRAPHY, HEALTH AND NUTRITION

---

### Introduction

Public Investment in social sector, i.e., health and education could mainly enhance everyone's potential and might attenuate the effects of rising inequality. It would be possible to achieve substantial health gains particularly among people at the lowest rung of the society if the rising revenue was invested prudently for universalizing a core package of health care service for all that addresses the major causes of morbidity and mortality. Planners and Policy makers in developing countries like India have to take into account the ongoing demographic changes (number and age structure of the population) so that available human resources could optimally be utilized as agents of change and development to achieve improvement in quality of life.

Demography, health and nutrition are one among the important aspects of human development in any area, state or country. The main objective of development is to mend the quality of life of the society. Yet an analysis of the development process over the last four decades shows that one of the major causes for slow economic and social development in developing economies has been due to unplanned population growth. Population - its growth, composition, size, and quality play an important role in the process of development in any area. The hyper growth of population, in a poor economy, with limited resources and embryonic technology can be a liability. Whereas, when population is efficiently engaged, it will result as an asset and a resource to the State and Nation.

Good health is the basic objective of any development effort. The concept of human development as defined by UNDP rests on three pillars: knowledge, health and livelihood. Health of the people has been recognized as a valuable national resource and the government's endeavor has been to improve the same and enable them to contribute to the enhancement of the Nation's productivity.

Health was defined by World Health Organization (WHO) as a state of complete physical, mental and social well-being and not just avoidance of disease. Physical health implied the perfect functioning of the body (WHO 1948). It conceptualized health as a state in which every cell or organ is functioning at optimum capacity and is in perfect harmony with the rest of the body. Mental health implies not merely the absence of illness but the state of balance between the individuals (Sartorius, 1983). Social well-being implies the quality and quantity of interpersonal ties and the extent of involvement within the individual, between each individual and other members of the society. Thus, health is a multi-dimensional and a holistic concept involving the well-being of the whole community.

In this chapter we will analyze the changes in demography, health and nutritional pattern in the district and ways to improve the health status of the people.

## **Demographic Trends and Health Indicators**

### **Population and Demographic Transition**

Recently a growing literature has evolved, which contradicts the commonly accepted view regarding population that higher population growth is hindrance to development. There are positive as well as negative impacts of population growth on human development. There are many known arguments regarding the negative impact of population growth, which are known very well. One of the arguments of large population is that it increases the rate of technological progress. But, this could be only possible with proper schooling and health facilities available and made accessible to all. Anyhow the demographic dividend has a bearing on the economy and the society.

The population of Pudukkottai district was just 2.34 per cent of the total population of the State during 2001 and it decreased to 2.24 in 2011. In Pudukkottai district, Pudukkottai block had the highest population in the years 2001 and 2011. Likewise, Aranthangi, Thiruvarankulam, Annasaval and Viralimalai retained their top ranking both in 2001 and 2011 Census. Pudukkottai block registered a slight increase in the population growth rate by 0.48 per cent. Gandarvakottai block improved its ranking from 13 in 2001 to 9 in 2011, whereas Thirumayam block slid to the last rank in the district in terms of population in 2011. Rapid decline in fertility has brought the birth rate

in Tamil Nadu to a low level and now, the rural - urban differences in the birth and the death rates have also been declining. This also has been a reality in Pudukkottai district.

The density of population is a measure of the intensity of land use, expressed as the number of people per square kilometer. Pudukkottai district had a population density of 314 in 2001 and it increased to 348 in 2011, but was much lower than the level of State, which was 480 in 2001 and 555 in 2011. Table 4.1 provides the population details of Pudukkottai district for the years 2001 and 2011.

**Table 4.1 Demographic Profiles**

Sl.No	Blocks/ District/State	Population (no.)		Density (per sq km)		SC Pop per cent		ST Pop per cent	
		2001	2011	2001	2011	2001	2011	2001	2011
1	Pudukkottai	2,01,448	2,31,074	683	784	11.49	23.74	0.08	0.17
2	Annavasal	1,30,164	1,44,991	296	344	16.30	16.72	0.00	0.04
3	Arimalam	78,492	86,112	232	255	14.11	14.00	0.00	0.02
4	Thirumayam	79,040	82,816	276	291	15.99	16.09	0.01	0.00
5	Gandharvakkottai	76,930	86,720	240	271	20.00	16.00	0.00	0.08
6	Viralimalai	1,13,516	1,40,227	226	266	20.49	22.01	0.03	0.10
7	Ponnamaravathi	97,028	1,08,479	337	332	16.97	17.80	0.04	0.11
8	Thiruvarankulam	1,56,918	1,70,419	409	380	9.60	9.60	0.10	0.24
9	Kunnandarkovil	92,524	97,267	243	255	18.30	19.31	0.06	0.05
10	Aranthangi	1,70,030	1,87,390	417	460	28.25	28.14	0.03	0.01
11	Avudaiyarkovil	80,280	85,574	202	215	26.77	26.36	0.01	0.01
12	Manamelkudi	82,326	86,672	332	349	13.00	13.71	0.10	0.03
13	Karambakkudi	1,00,905	1,10,604	375	411	14.10	14.30	0.01	0.01
	District	14,59,601	16,18,345	314	348	17.09	17.60	0.05	0.08
	State	6,24,05,679	7,21,47,030	480	555	19.00	20.01	1.04	1.10

Source: Census 2001 and 2011

Pudukkottai block had the highest population density of 683 and 784 during 2001 and 2011 respectively, which is greater than that of the district and State levels because the block was the main centre of trade for the whole district and was more congested. Slowdown of agriculture and the engagement of people in business activities had pushed up the density over the decade in all the other blocks of Pudukkottai district except Ponnamaravathi and Thiruvarankulam. Avudaiyarkovil block had the lowest density in both 2001 and 2011 and was much lower than that of the district.

SC population of Pudukkottai district increased from 17.09 to 17.60 per cent between the years 2001 and 2011, while state's SC population increased from 19 to 20.01 during the same decade. Among the blocks, Pudukkottai block registered an increase in SC population from 11.49 per cent to 23.74 per cent during 2001-11 which was much higher than that of the district and the State. The highest decline was observed in Gandharvakkottai block as it decreased from 20 to 16 per cent during the decade. Among the blocks of the district, four blocks registered decline in the population of SCs and the rest showed an increase in the population during 2001-11.

ST population of Pudukkottai district increased from 0.05 per cent to 0.08 per cent between the years 2001 and 2011, which is lower than the State in both the years. Among blocks Viramilalai block registered an increase from 0.03 per cent to 0.1 per cent between 2001 and 2011. The highest increase among the blocks in the district was found in Thiruvarankulam. Four blocks in the district registered a decline in the ST population between 2001 and 2011. But, in two blocks, viz., Karambakkudi and Avudaiyarkovil, the population of STs remained constant during 2001 and 2011.

### **Crude Birth Rate and Crude Death Rate**

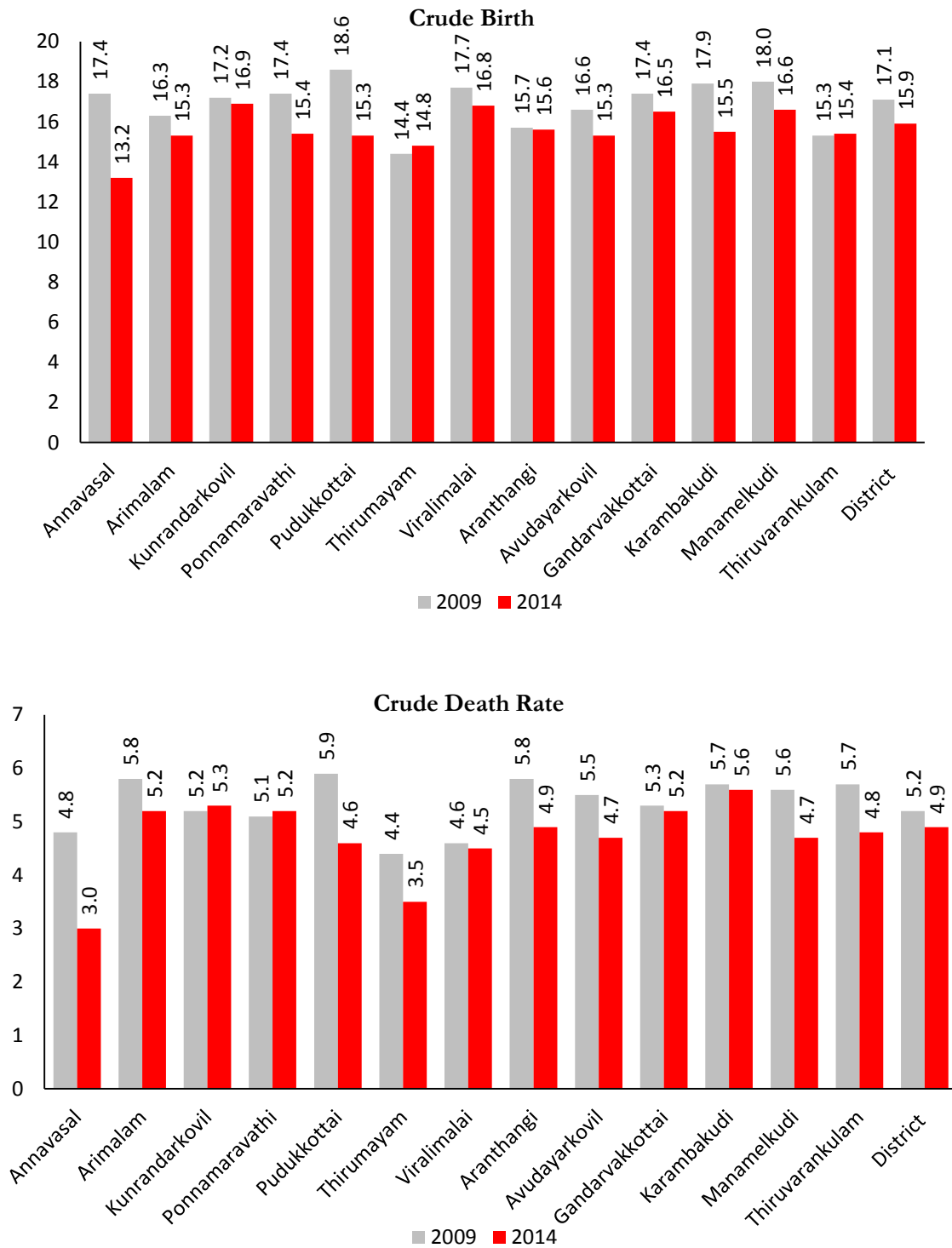
Achievements and gaps can be assessed by observing the trends for various health indicators like life expectancy at birth, infant mortality rate, crude birth rate, crude death rate, total fertility rate, maternal mortality rate, and morbidity patterns in any block, district, state or country.

Crude Birth Rate (CBR) is the number of live births occurring among the population of a given geographical area during a specified period of time usually one year; it is often expressed as the number of live births per 1,000 of the population per year. This is a common measure of fertility for a given population. Crude death rate (CDR) is the simplest method of measuring death rate in any area. Crude death rate is the ratio of total deaths to total population in a specified community or area over a specified period of time. The death rate is often expressed as the number of deaths per 1,000 of the population per year. It is also called the fatality rate.

It can be observed that the CBR and CDR in the district have been declining over the years. But, comparing the district and State levels of CBR and CDR, it can be observed that these two rates were higher in the district in the year 2009. From the figure, it can be seen that CBR in the district has decreased from 17.1 in 2009 to 15.9 in 2014 (see Appendix Table 4.1). The CBR declined in 11 blocks of Pudukkottai district

between 2009 and 2014. Among the blocks, Annavasal block showed a sharp decline from 17.4 in the year 2009 to 13.2 in the year 2014. In contrast, Thirumayam block witnessed an increase in the CBR from 14.4 in 2009 to 14.8 in 2014.

**Figure 4.1 Trends in CBR and CDR**



Source: Health Department, Pudukkottai

Synchronizing with the CDR of Tamil Nadu, CDR in Pudukkottai district has also declined since 2009 to 2014 (see Appendix Table 4.1). The CDR for Pudukkottai district was 5.2 in 2009 and it declined to 4.9 in 2014. CDR was within a range of 3.0 to 5.6 among the blocks of the district during the period 2013. The CDR declined in 11 blocks of Pudukkottai district between 2009 and 2014. Among the blocks, Annavasal block showed a sharp decline from 4.8 in 2009 to 3.0 in 2014, while there is a marginal increase in the CDR in Kunrandarkovil and Ponnamaravathi during the same period.

## Sex Ratio

Sex ratio is an important component of demography. It has major implications for the marriage and labour markets in an economy. Skewed sex ratio in favour of male can affect their behavior in terms of income, expenditure, saving and investment pattern. It can also affect psychomotor behavior of a particular sex, which may have societal consequences. So, it is important to analyze the sex ratio of the population.

**Table 4.2 Sex Ratio**

Sl.No	Blocks/ District/ State	General		Increase or Decrease	SC		Increase or Decrease
		2001	2011		2001	2011	
1	Annavasal	1,023	1,007	-16	1,007	1,005	-2
2	Arimalam	1,060	1,016	-44	1,028	999	-29
3	Kunrandarkovil	991	996	+5	984	999	+15
4	Ponnamaravathi	1,060	1,017	-43	1,052	995	-57
5	Pudukkottai	1,005	1,003	-2	910	999	+89
6	Thirumayam	1,033	1,003	-31	1,032	1,012	-20
7	Viralimalai	1,001	1,006	+5	1,017	1,018	+1
8	Aranthangi	1,040	1,056	+16	1,028	1,037	+9
9	Avudayarkovil	1,031	999	-32	1,038	1,019	-19
10	Gandarvakkottai	999	993	-6	1,011	997	-14
11	Karambakkudi	1,005	1,022	+17	1,007	1,026	+19
12	Manamelkudi	1,010	1,018	+8	1,025	1,056	+31
13	Thiruvarankulam	990	1,028	+38	995	1,040	+45
	District	1,015	1,015	0	1,017	1,014	-3
	State*	987	996	+9	999	1,004	+5

Source: Census 2001 and 2011

The sex composition of the population has been an important indicator of social development. It is a great source to find the equality of males and females in a society at a given period of time. In India, the sex-ratio has been defined as the number of females per 1,000 males. It was observed that there was a declining trend in sex ratio consistently in many states since last six decades and in some states it continued to be a demographic enigma. It has been reflected in the sex ratios of the districts also.

Table 4.2 gives the sex ratio of Pudukkottai district, block-wise. The overall sex ratio in Pudukkottai was 1015 during Census 2001 and 2011, but higher than the State level of 987 and 996 during the same period. Arimalam and Ponnamaravathi blocks had the highest sex ratio of 1060 in 2001, which reduced to 1016 and 1017 respectively in 2011. Highest sex ratio among the general category was in Aranthangi (1056) followed by Thiruvarankulam (1028) in the year 2011, which were higher than the district and State levels, whereas Gandarvakkottai block's sex ratio declined during the decade and was below the 1,000 mark. The sex ratio of the six blocks was higher than the district sex ratio.

In Pudukkottai district, SC sex ratio was 1014 in 2011, which was higher than the SC sex ratio of the State (1004) in the same year. Most of the blocks in Pudukkottai district had satisfactory sex ratio among SCs during the decade 2001 to 2011. Highest SC sex ratio was recorded in Manamelkudi block as it increased from 1025 to 1056 between the years 2001 and 2011. Highest increase of 9.8 per cent in SC sex ratio was registered in block Pudukkottai as it increased from 910 to 999 during 2001 to 2011. Lowest SC sex ratio was recorded as 995 in Ponnamaravathi block during 2011. There was 5.4 per cent decrease in SC sex ratio in block Ponnamaravathi from 1052 to 995 during 2001 to 2011. The ST sex ratio of the district was 983 during 2011, but was higher than the State level figures of ST sex ratio. The district ST sex ratio registered a decline from 990 in 2001 to 983 in 2011.

### **Child Sex Ratio**

The child sex ratio is a very important component of the demographic data. It has a bearing on the future characteristics of the population of an economy. A skewed child sex ratio also implies social evils prevailing in the society like sex selection and female feticide. Hence, it is important that the child sex ratio of the district as well as the block, be discussed.

In India, the child sex ratio has been the number of female children per 1,000 of male children in the population within the age group of 0-6 years. Changes in child sex ratio reflected the underlying socio-economic and cultural patterns of the society, especially its attitude towards the girl child which drew the society towards the early scanning of fetus through scientific techniques like ultra-sonography, etc. The child sex ratio also has a bearing on the future demography of a country.

**Table 4.3 Child Sex Ratio**

Sl. No	Blocks/ District/ State	Population in the Age Group of 0-6 (2011)		Child Sex Ratio
		Male	Female	
1	Pudukkottai	12,326	11,797	957
2	Thiruvarankulam	9,323	8,996	965
3	Thirumayam	4,340	4,226	974
4	Gandharvakkottai	5,000	4,891	978
5	Ponnamaravathi	5,883	5,561	945
6	Arimalam	4,583	4,457	973
7	Kunnandarkoil	5,859	5,602	956
8	Aranthangi	10,545	10,047	953
9	Avudaiyarkovil	4,645	4,508	971
10	Manamelkudi	4,890	4,874	997
11	Karambakkudi	6,957	6,447	927
12	Annavasal	8,754	8,327	951
13	Viralimalai	8,591	8,259	961
	District	91,696	87,992	960
	State*	38,20,276	36,03,556	943

Source: Integrated Child Development Scheme, Pudukkottai

Table 4.3 gives the child sex ratio of the various blocks of Pudukkottai district. Tamil Nadu had a child sex ratio of 943 as per census 2011 of India estimates, while the district had a child sex ratio of 960, which was higher than the State level. Among blocks, Manamelkudi block had the highest child sex ratio of 997 in the district. The child sex ratio was 927 for Karambakkudi block, which was the lowest among all the blocks of the district. The child sex ratio in Pudukkottai block was 957 in 2011, which was less than



the sex ratio in the district. Among the 13 blocks, 7 blocks registered a higher sex ratio than the district level. The lower level of child sex ratio in certain blocks might reflect lesser girl children in the blocks and increased level of private medical practices where the chances of female feticide exist, could not be disputed. Also the natural decline in the birth of female children could be responsible for the decline in child sex ratio because no valid proofs of female infanticide were available. The child sex ratio in the district has decreased and needs to be paid attention.

### Life Expectancy at Birth

Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout his/her life. It is one of the most preferred indicators in demographic and health analysis. Life expectancy measures quantity rather than quality of life. It is a proxy measure for several dimensions like adequate nutrition, good health, education and other valued achievements.

**Table 4.4 Life Expectancy at Birth** (in years)

Sl. No	District/ State	2001-02		2013-14 <sup>#</sup>		Rise or Fall in LEB	
		Male	Female	Male	Female	Male	Female
1	District	67.6*	70.6*	68.8	72.5	1.2	1.9
2	State	64.8 <sup>^</sup>	67.1 <sup>^</sup>	71.8	75.8	7.0	8.7

Source: Health Department, \*Pudukkottai&#Tamil Nadu^Statistical Handbook of TN 2013

The Table 4.4 provides the life expectancy at birth at the district level in 2001-02 and 2013-14. The life expectancies at birth in Pudukkottai district for both male and female have increased by 1.2 and 1.9 years respectively during the reference years and stood at 68.8 and 72.5 years respectively in the year 2013-14. The same for the State were lower than that at the district level in the year 2001-02, but have improved tremendously in the year 2013-14. The State level rates of life expectancy at birth for male and female were 71.8 and 75.8 respectively, and were higher than the Pudukkottai district level.

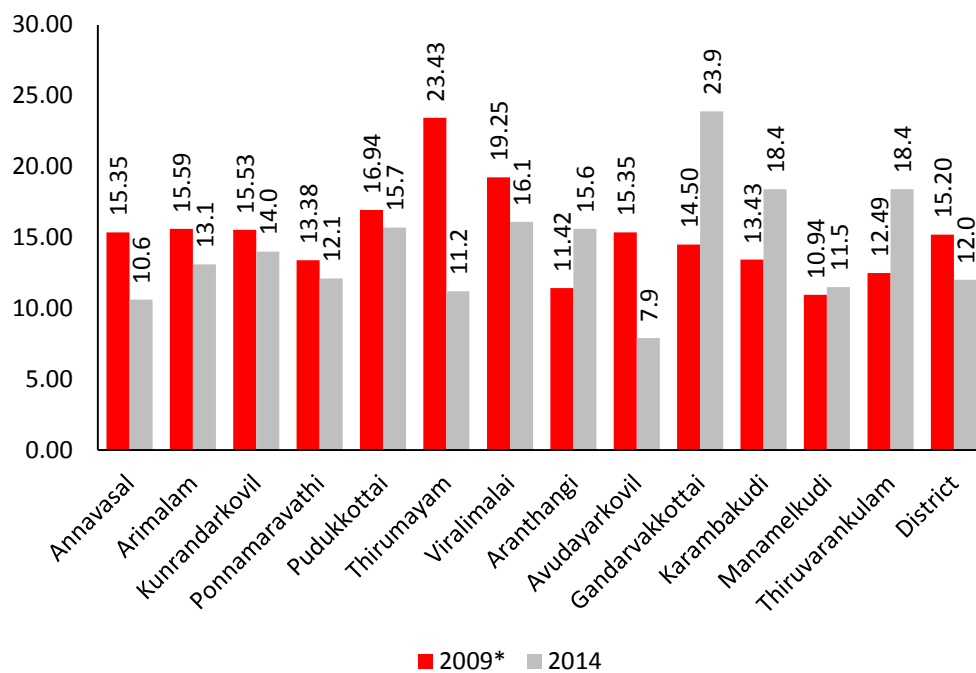
Coronary heart disease, lung disease, diarrhoea, influenza, pneumonia, tuberculosis, hypertension, diabetics, liver disease, kidney, suicide, road accidents,

HIV/AIDS, birth trauma, peptic ulcer, breast cancer and oral cancer were the top 10 cases for increasing deaths in general.

## Infant Mortality Rate

There are various indicators of the overall state of health status of a country, region and community. Some indicators are widely accepted while others are not as widely accepted. Infant Mortality Rate (IMR) is one such indicator of health and it is widely accepted as a good indicator of health by Governments as well as International Health Organizations such as World Health Organization (WHO). IMR is the number of infants dying before reaching one year of age. It is calculated per 1,000 live births in a given year. It is most widely accepted as one of the most sensitive indicator of health status due to several reasons. The IMR always reflects the overall health scenario of a region. The rate is low in developed regions and high to very high in developing or underdeveloped regions. If health infrastructure (preventive and curative infrastructures) of a region of a country is very good, the IMR is always under control.

**Figure 4.2 Infant Mortality Rate**



Source: Health Department, Pudukkottai; \*VES 2009

Figure 4.2 gives the IMR of Pudukkottai district and its blocks for the period 2009 and 2014. The district level has decreased from 15.2 in the year 2009 to 12.0 in the year 2014. The IMR of Pudukkottai district compares equally with the State IMR for the same year. Among the blocks, seven blocks have higher IMR than the district level in the year 2009, whereas it is eight blocks in 2014. In the year 2009 Manamelkudi registered a lower IMR of 10.9 followed by Aranthangi (11.4). In the same year, Thirumayam block registered the highest IMR of 23.4 followed by Viralimalai with 19.3, both the blocks reduced their IMR rates to 11.2 and 16.1 respectively in the year 2014. The lowest IMR was recorded by Avudaiyarkovil with 7.9 followed by Annavasal (10.6) in 2014. The highest IMR was recorded by Gandharvakottai block (23.9) in the year 2014 followed by Karambakkudi (18.4).

As the number of physicians increased in the State by four fold recently, the percolating benefits have been reaped by all districts and blocks in terms of improvement in health indicators. Women employment, education for women and high female worker participation in the economic growth were the reasons for the decrease in IMR. Increasing number of skilled professionals was negatively correlated with maternal, infant and childhood mortality.

The prevailing rate of infant mortality was a symptom of the inadequate care given to the child during pregnancy and after childbirth. The quality of antenatal and post-natal care influenced the survival of infants. This was reflected in the high incidence of pre-mature births as being the significant cause of infant mortality. Low birth weight including premature birth was one of the major causes for infant mortality as this increased their receptiveness towards infection. Respiratory infections, water-borne diseases, poor immunity of neonates and infants, unclassified conditions peculiar to infancy, anaemia and unspecified fever were the major causes of infant mortality, reflecting poor nutritional and hygiene standards. Other causes providing stimulus to infant deaths are cord infection, congenital malformation and birth injuries. Thus, a combination of poor nutrition, and inadequately treated infections caused preventable mortality during early childhood in certain blocks of the district.

### **Case Study: Infant Mortality**

Infant mortality is used as one of the key indicators of community health. It has been considered as a crucial test for health services despite social progress of a country and the improvement in hospitals, survival of infants continues to be a challenge in the area. So its decline is one of the prerequisite for acceptance of a small family norm and improvement in the hygiene of the mother and the baby. High infant mortality is considered as social and demographic enigma in the modern society which results as disorder in the demographic structure of the area. It also has its effects on the health of the mother due to immediate conceiving of the next baby. So, it is important to examine the causes of infant mortality.

In Pudukkottai district, Viralimalai block had the highest number of infant mortality cases registered during 2013-14. So, Viralimalai block was chosen for the case study. There were five PHCs in the block and infant mortality cases were high under the Viralimalai PHC. In Viralimalai block 33 cases of infant mortality were registered during the period March 2013 to April 2014 and 10 cases were registered under Viralimalai PHC which was the highest among all the other PHCs in the block. From the field visits of the villages under the Viralimalai PHC, the reason for infant deaths was identified as pre-mature delivery and low birth weight. Apart from this, it was observed that there was no gap between the first and second child. Next, the respondents had studied up to class eight and their husbands were illiterate. The economic status of the respondents was very low and sometimes weaning food provided by ICDS was shared among the family members. Out of all ten cases, four were registered as premature delivery, two as conjunctive heart disease, one as Jaundice, two with aspiration lung disease, and one with several other diseases.

Less or no gap between the first and next delivery, lack of health education among the parents, improper care for the newly born baby, squalid and unhygienic housing, the lack of most basic facilities like clean water, latrines, and transportation, prevalence of poverty with all its vices, all combine to cause high rates of disease and death among infants in the area. Evidence suggests that the survival of infants after the age of one month is mainly influenced by the external environment in which the infant lives, and this is poor in the study area.

## Maternal Mortality Ratio

Maternal Mortality Ratio (MMR) is the number of women who die during pregnancy and childbirth, per 1,00,000 live births. Maternal death refers to the death of a woman while pregnancy or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes. The MMR represents the risk of hypertension and anaemia during pregnancy, i.e., the obstetric risk. Complications during pregnancy and childbirth are a leading cause of death and disability among women of reproductive age in developing countries. Life Saving Anesthetic skills (LSAS) training for medicos in Tamil Nadu State were provided to facilitate the mitigation of maternal deaths in circumstances in which, cause of death were to be unavoidable.

But, more than the medical issues behind maternal mortality, there lies a myriad of socio-economic issues occurring at different levels in the society. One instance can be the education of reproductive health among the youth, which is suppressed due to social stigma. The fact is however that it should be a major concern for the youth; being the segment of the population that is most sexually active, but has limited information and knowledge about sexual and reproductive health. Without having the right information, access to services and health systems adequately meeting service needs, young people in their families (especially young women) will not only face the mortality risks when they are adults, but they are also at risk now. Without the pre-requisites mentioned above, the ability to make positive, sound and sustainable health decisions, especially those effecting maternal health will be significantly low. Therefore, it is emphasized that young people should get information and seek sexual and reproductive health services that would enable them to make the right health decisions.

**Table 4.5 Maternal Mortality Ratio**

Sl. No	Blocks/ District/ State	2009*	2014
1	Annavaasal	242.3	0.0
2	Arimalam	212.6	140.0
3	Kunrandarkovil	0.0	160.0
4	Ponnamaravathi	0.0	120.0
5	Pudukkottai	70.6	0.0
6	Thirumayam	0.0	90.0
7	Viralimalai	0.0	80.0
8	Aranthangi	42.3	30.0
9	Avudayarkovil	133.5	20.0
10	Gandarvakkottai	72.5	30.0
11	Karambakkudi	49.7	40.0
12	Manamelkudi	57.6	40.0
13	Thiruvarankulam	113.5	130.0
	District#	82.0	82.0
	State#	85.0	68.0

Source: Health Department,Pudukkottai

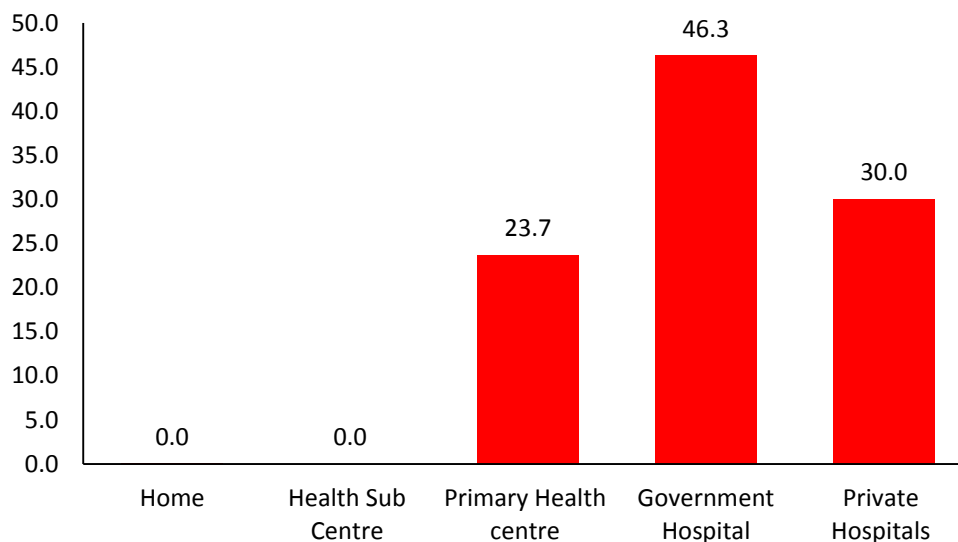
Table 4.5 provides the MMR for the blocks of Pudukkottai district in 2009, however, discussion would be taken-up for the period 2009 and 2014. The State level MMR has declined from 85.0 in 2009 to 68.0 in 2014, however the district MMR has remained the same at 82 between 2009 and 2014. Among the blocks, four blocks, viz., Annavaasal, Arimalam, Avudaiyarkovil and Thiruvarankulam, have higher MMR than the district level during 2009 and Annavaasal and Pudukkaootai blocks managed to reduce MMR to zero level in 2014. This may be due to some intervention by the respective authorities or by sheer chance as the zero level can be observed in many blocks during the two years. In some of the blocks, the MMR has increased from 2009 to 2014, they are Kunrandarkovil, Ponnamaravathi, Thirumayam, Viralimalai and Thiruvarankulam. But, nothing much can be said regarding the blocks in terms of the trend of MMR, as these seem to be random occurrences and moreover the methodology of MMR uses maternal mortality per 1 lakh live births, which is not even close to the number of pregnant women in a block in a particular year. In general, the causes of maternal mortality as discussed earlier may be kept in mind and better support mechanisms for

pregnant women may be developed at the grass root level in order to reduce the risk of maternal deaths.

### Place of Delivery

The place of delivery is of crucial importance as it has significant implications for the fetus/infant and the mother. These are the places where pregnant women get medical care at a time of giving birth to the children. These places are equipped with better medical facilities, and well experienced doctors and other medical staff. There were different types of medical centres available in India for this service usually known as health sub centres (HSCs), primary health centers (PHCs), government hospitals and privately owned hospitals. Despite this, in some places home deliveries have been reported to be taking place because of distance factor. In Tamil Nadu PHC's, HSC's are operative in every district.

Figure 4.3 Percentage of Institutional Delivery



Source: Health Department, Pudukkottai (2013-14)

In Pudukkottai district, home deliveries have almost become non-existent, which can be seen from the Figure 4.3 for the year 2013-14. Deliveries in the rural side took place at PHCs at an average of 23.7 per cent (see Appendix Table 4.3). Ponnamaravathi block recorded the highest share of deliveries at PHCs among the blocks with 35.1 per cent. Seven blocks had a higher share of deliveries at PHCs compared to the district level. Similarly, share of deliveries at GHs in the district was 46.3 per cent.

Annaavsal block registered the highest deliveries in GHs at 65.7 per cent. In this category also seven blocks had shares higher than the district level. The share of deliveries at the private hospitals accounted for 30 per cent in Pudukkottai district. Manamelkudi had the highest percentage share in category among blocks in the district with 45.8 per cent. In this category eight blocks had shares higher than the district level. The overall record of the share of place of deliveries reveals that all blocks and the district are performing extremely well with ten blocks registering 100 per cent institutional deliveries.

### Still Birth Rate

The definition recommended by WHO for international comparison referred that still birth means, “a baby born with no signs of life at or after 28 weeks' gestation”. In calculating the still birth rate, the number of still births has been divided by the number of live births and still births and then multiplied by 1,000. Sometimes (mainly for the sake of comparison), the number of still births can be calculated per 1,000 live births only. The major causes of still birth include: childbirth complications, maternal infections in pregnancy, maternal disorders (especially hypertension and diabetes), fetal growth restriction, congenital abnormalities.

**Table 4.6 Still Birth Rate**

Sl. No	Blocks/ District/ State	2007	2008	2009	2010	2014
1	Annaavsal	20.2	17.4	16	15.1	12.8
2	Arimalam	13.9	14.7	14.1	7.7	12.2
3	Kunrandarkovil	17.7	19.2	23.1	19.6	21.3
4	Ponnamaravathi	15.7	15.8	10	14.5	18.4
5	Pudukkottai	15.9	18.1	13.9	13.6	15.5
6	Thirumayam	7.5	9.1	17.1	6.3	6.8
7	Viralimalai	16.5	19.3	17.3	16	8.4
8	Aranthangi	15.1	12.4	11.2	12.4	13.8
9	Avudayarkovil	9.2	11.2	11.5	19.4	14.8
10	Gandarvakkottai	20.8	25.7	21.8	32.5	14.4
11	Karambakkudi	10.8	17.1	10.1	21.4	14.3
12	Manamelkudi	8.1	13.1	10.2	11.8	8.7
13	Thiruvarankulam	14.8	20.1	15.8	16.1	15.8
	District	16.1	13.5	15.4	12.8	14.4

Source: Health Department, Pudukkottai



The data for still birth rate has been provided in the Table 4.6 for the various blocks of Pudukkottai district. Still birth rate in the district was 16.1 during 2007, which decreased to 14.4 in 2014. The highest still birth rate in 2007 had been registered in Gandharvakottai and Annavasal blocks, while in 2014, Kunrandarkovil registered the highest still birth rate of 21.3 followed by Ponnamarvathi (18.4). The lowest still birth rate was recorded by Thirumayam (7.5) in 2007 followed by Manamelkudi (8.1), while the lowest still birth rate in the year 2014 was recorded by Thirumayam (6.8) followed by Viralimalai (8.4).

## **Immunization**

Immunization is the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine. Vaccines stimulate the body's own immune system to protect the person against subsequent infection or disease. In modern scientific era immunization has been a part and parcel of a health maintenance activity which helped in improving the health status of children at later stages of development. Immunization for children is particularly done below five years so that their immune system would fight against the diseases like polio, ear infections, respiratory infections, diarrheal infections, etc. The best way found to treat any disease before its occurrence was by way of immunization. Past studies have proven that vaccines have always been very safe and helpful in the reduction of some severe diseases.

In Pudukkottai district 97.7 per cent of children were immunized during the year 2013-14 (see Appendix Table 4.4). Avudaiyarkovil and Manamelkudi blocks achieved 100 percent of immunization during the same year. Among the blocks, only three blocks had higher percentage of immunization compared to the district level. In overall terms, the immunized percentage of children in the district was satisfactory. The department has been serving to provide immunization cover to children against the six dreaded diseases of polio, diphtheria, pertussis, tetanus, TB and measles, in addition to prophylaxis against the vitamin A deficiency.

## **Female infanticide**

Female infanticide refers to the killing of newborn female child by parents, due to their desire for a male child. It has been a social evil prevalent in many States of India since the pre independence era, which has considerably increased after globalization. The

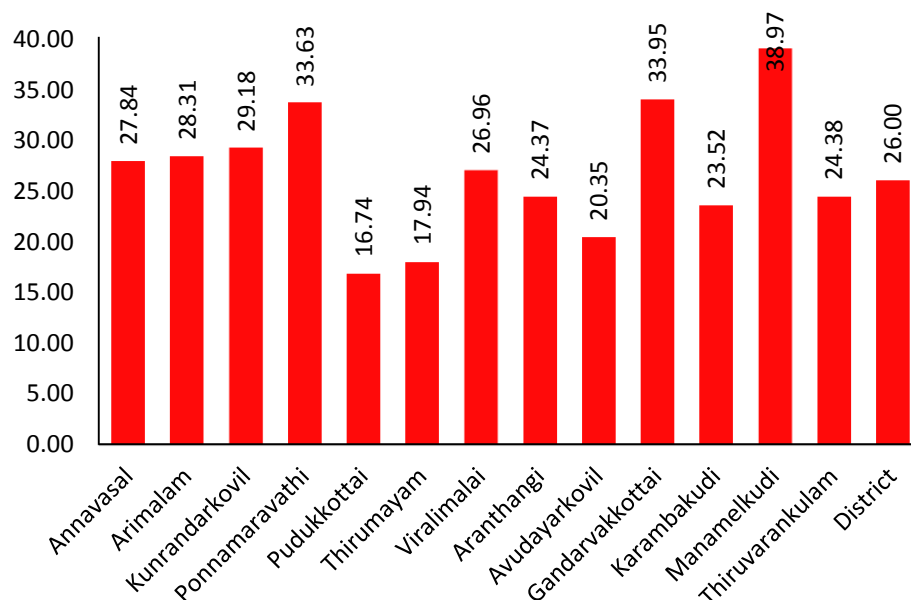
modern scientific advancements in technologies like ultra-sonography have complicated this issue by helping the parents to identify the gender of the foetus at an early stage, thus this technology has promoted foeticide or aborting the female child. This malpractice has led to considerable decline in the child sex ratio in India. Mostly, in this district son preference was prevalent, but there were no official records of female infanticide. Though unofficial sources reveal that foeticide was present in the district.

## Nutritional Status

### Nutrition Level and Trend

Eradication of hunger, poverty, and halving proportion of people in poverty, ensuring adequate nutrition and dietary improvement for the poor were few among the goals of SAARC Development Goals. The National Nutrition Policy (NNP) has considered poverty in terms of a self-perpetuating vicious circle: causative sequential links being low intake of food and nutrition – under nutrition with attendant nutrition related diseases and infections – faltering growth of children – small body size of adults – impaired productivity – low learning capacity — back to poverty. Children are vulnerable to malnutrition because of low dietary intakes, infectious diseases, and lack of appropriate care and inequitable distribution of food within the household which may even be newly coined as ‘Family Welfare Index. Anyhow, the two standard indices commonly used for physical growth that normally describe the nutrition status of children are: Height for-age (Stunting), and Weight for-age (Underweight).

**Figure 4.4 Trend in Nutritional Status (0-5 years)** (in percentage)



Correlation between highly educated people and malnutrition has decreased. Over the decade nutritional programmes have covered a wide area resulting in improving the health status of children. Basic educational status has been increased through the Mid-day-meal programme as most of the poor people admit their children to government schools. The provision of iron, folic acid and calcium tablets, pulses, daliya, channa and other food items prepared at Anganwadi centers in the villages have been done in order to improve the health status of children particularly among adolescent girls. Nutritious Meal Scheme followed by the State had the above indicators in mind while implementing it.

#### Box4.1 Nutritional Programmes of Government

The ICDS was launched on 2<sup>nd</sup> October 1975 and has achieved one of the world's largest and most unique programme for the early child hood care, better nutrition and overall social welfare of the children, male/female infants and women. It also takes care of the pregnant women pre and post delivery. The ICDS provides nutritious noon meals to the children between the age of 0-5 years in every district of Tamil Nadu, so as to improve the nutritional level, and provide them pre-school education. In Pudukkottai district, from the field visits it was observed that the programme was running in an efficient manner in the district but the raw material provided by government to improve overall health status like rice and wheat could be improved in terms of quality to achieve better results.

The Ministry of Women and Child Development, Government of India, in the year 2000 came up with a scheme called Kishori Shakti Yojna (KSY). This scheme was initiated using the infrastructure of Integrated Child Development Services (ICDS). The objectives of the Scheme were to improve the nutritional and health status of girls in the age group of 11-18 years, as well as to equip them to improve and upgrade their home-based and vocational skills and to promote their overall development including awareness about their health, personal hygiene, nutrition, family welfare and management. The scheme provided for Rs.1.1 lakh per project per annum. 2-3 adolescent girls per Anganwadi center were targeted under this scheme, who were provided supplementary nutrition by the State government. From the data and field visits it was observed that every block of the district covered non-school going girls in the district. For the proper implementation of the scheme for school going girls were also included after their school hours.

In the district, adolescent girls were divided into two groups as per their age structure. The first group between the age of 11-15 years were given orientation training, life education and the women's rights. Every block covered 13 such adolescent girls in a year so that the whole district covered 150 girls in a year. In the second group between the age of 15-18 years, more focus was placed on the school dropouts in the blocks in order to teach them vocational skill training, computer education and accessing public services. Again if the number of dropouts was low, school going girls were included and provided with guidance and counseling. In every block 30 such girls were covered in a year and in the district, total 390 adolescent girls were covered every year.

Figure 4.4 shows the block-wise percentage of malnourished children in the age group 0 – 5 years in Pudukkottai district indicating the levels of nutritional status in the district during the year 2013-14 (see Appendix Table 4.5). The figure shows that the malnourishment in the district ranges from 16.74 per cent to 38.97 per cent in the year 2013-14, with a district level of 26.00 per cent. Six blocks, viz., Pudukkottai, Thirumayam, Avudaiyarkovil, Karambakkudi, Aranthangi and Thiruvarankulam have recorded lower rates of malnourishment than the district level among children in the age group 0 -5 years, while the remaining seven blocks registered higher rates than the district level. Manamelkudi, Gandharvakottai and Ponnamaravathi have registered malnutrition levels above 30 per cent, which is quite high compared to other blocks in the district and something in this regard needs to be done at the earliest. Pudukkottai and Thirumayam are better than other blocks in levels of malnutrition among children in the district. This may be due to the urban characteristics with respect to Pudukkottai block and out-migration (overseas) with respect to Thirumayam block as both these aspects lead to better awareness and access levels.

### **Provision of IFA Tablets**

One of the major issues faced by the female gender in India is anaemia. Anaemia is the root cause of other diseases due to lack of resistance power. The problem of anaemia during pregnancy is much acute putting both the mother and child at risk. The most important cause of anaemia during pregnancy is inadequate dietary intake of iron. Hence, in this regard, the Reproductive and Child Health Programme in India aimed at providing pregnant women with at least three antenatal check-ups, two doses of tetanus toxoid vaccine, and iron and folic acid (IFA) supplementation during pregnancy. The adolescent girls were also covered under the programme through the provision of IFA tablets.

From Table 4.7 it can be seen that the total number of persons provided with IFA tablets in the district was 87,934 in 2013-14, out of which women were 22,811, children were 26,252, and adolescent girls were 38,871. In terms of percentage, women constituted 25.94 per cent, children 29.85 per cent and adolescent girls 44.21 per cent. Among the blocks, the number of women provided with IFA tablets ranged from 1,034 to 2,573, children from 1,298 to 2,885 and adolescent girls ranges from 749 to 5,584.

**Table 4.7 Provision of IFA Tablets (2013-14)**

Sl.No	Blocks/ District	No of Women took IFA Tablets	No. of Children took IFA Tablets	No. of Adosolent Girls took IFA Tablets
1	Annavasal	2,304	1,306	5,355
2	Arimalam	1,772	2,079	5,030
3	Kunrandarkovil	1,722	2,885	3,814
4	Ponnamaravathi	1,856	2,309	5,584
5	Pudukkottai	1,475	2,467	5,089
6	Thirumayam	1,034	1,687	3,542
7	Viralimalai	1,908	1,298	4,069
8	Aranthangi	1,872	2,057	1,385
9	Avudayarkovil	1,384	1,642	874
10	Gandarvakkottai	1,352	1,963	867
11	Karambakkudi	1,875	2,359	1,027
12	Manamelkudi	1,684	1,813	749
13	Thiruvarankulam	2,573	2,387	1,486
	District	22,811	26,252	38,871

Source: Health Department, Pudukkottai

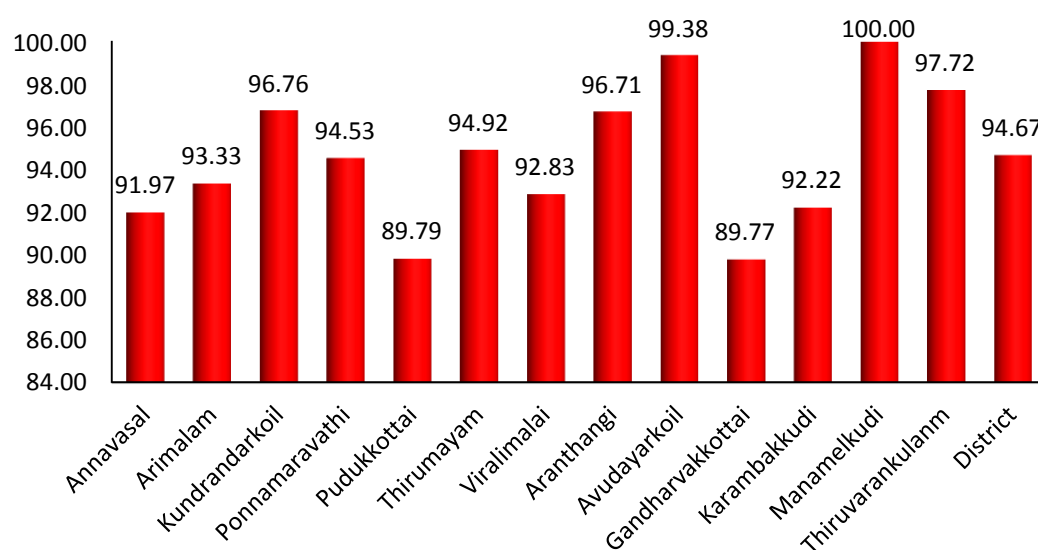
Among the blocks, Thiruvarankulam block provided highest number of IFA tablets to women, Kunrandarkovil to children and Ponnamaravathi to adolescent girls. Thirumayam block recorded the lowest number of women provided with IFA tablets, Viralimalai for children and Manamelkudi for adolescent girls. Highest variation among blocks seems to be in the provision of IFA tablets to adolescent girls. Manamelkudi, Gandarvakottai and Avudayarkovil seem to perform poorly in terms of provision of IFA tablets to adolescent girls among the various blocks of Pudukkottai district.

## Non –Nutritional Factors and their Impact on Nutrition

### Water Supply

Access to safe drinking water and access to water in general and all other activities are a prerequisite for human development. The State government has made huge investments in this regard. Safe water in sufficient amounts can have positive effects on the general health of the people in terms of helping them to absorb the nutrition in the food they consume. Regular water surveillance and water purification through cost-effective methods is to get rid of water-borne diseases including intestinal infections, worm infection, diarrhea, jaundice, typhoid, etc. which in turn would bring down the cost of the treatment of these diseases and would improve the economic condition of the people.

**Figure 4.5 Access to Drinking Water**



Source: Nirmal Bharat Abiyan Report 2013-14

Figure 4.5 shows the details of the access to drinking water in the various blocks of Pudukkottai district (see Appendix Table 4.6). In Pudukkottai district 95 per cent of habitations were covered with access to drinking water facility. Total number of habitations covered was 4,541 during 2013-14. Most of the blocks covered 90-100 per cent of habitations. Six blocks covered 95-100 per cent of its habitations and 100 per cent was covered by Manamelkudi block. Wastage of precious water could be observed

in many places. All efforts have been made to safeguard water through rain water harvesting by the district authorities, thanks to the directions from State government. But, better leak detection methods should be found and repair of broken taps and/or replacement of stolen taps could be overcome by making use of native resources including knowledge, management capacity and labour. The concerned department could take most of the work which would have been otherwise taken by outside contractors. Investment in better leak detection, maintenance and repair of water system could improve the supply of water to a large extent. This would improve personal hygiene and reduce the occurrence of water-borne and other associated diseases.

## Sanitation

According to the WHO, sanitation generally refers to the provision of facilities and services for the safe disposal of human urine and faeces. Inadequate sanitation is a major cause of disease world-wide and improving sanitation is known to have a significant beneficial impact on the health both in households and across the communities. The word 'sanitation' also refers to the maintenance of hygienic conditions, through services such as garbage collection and waste water disposal.

Table 4.8 provides the block-wise details of the number of households with toilet facilities in Pudukkottai district according to the Nirmal Bharat Abiyan data for 2013-14. In Pudukkottai district 56.48 per cent of the households had access to toilet facility during 2013-14. Pudukkottai and Thirumayam blocks have the highest percentage of households with toilets (85.28 and 84.44 respectively). The third place is recorded by Ponnamaravathi in terms of the percentage of households (62.75) provided with toilet facilities. The least percentage of households provided with toilets is recorded by Thiruvankulam block with 34.52 per cent, but, in terms of actual numbers it is ahead of the other seven blocks. The second lowest percentage is recorded by Manmelkudi block with 36.60 per cent and it has the least number of households having toilets. Eight blocks in the district achieved more than 50 per cent provision of toilets. Five blocks have provided toilets to less than 50 per cent of the households in 2013-2014. Awareness in this regard is to be enhanced in the district.

**Table 4.8 Provision of Toilet**

Sl. No	Blocks/ District	Total No. of HHs	Number of HHs with Toilet Facilities	Percentage of HHs Provided
1	Annavasal	25,765	14,987	58.17
2	Arimalam	17,436	9,391	53.86
3	Kunnandarkoil	20,484	10,791	52.68
4	Ponnamaravathi	22,496	14,117	62.75
5	Pudukkottai	52,483	44,759	85.28
6	Thirumayam	17,698	14,944	84.44
7	Viralimalai	25,236	10,494	41.58
8	Aranthangi	38,949	17,736	45.54
9	Avudaiyarkovil	17,008	8,380	49.27
10	Gandarvakottai	16,217	8,431	51.99
11	Karambakkudi	20,756	11,862	57.15
12	Manamelkudi	15,459	5,658	36.60
13	Thiruvarankulam	35,323	12,193	34.52
	District	3,25,310	1,83,743	56.48

Source: Nirmal Bharat Abiyan Report 2013-14.

### Case Study: Toilet Facility

Toilets with proper water connections are to be ensured at every household so as to ensure the households free of health hazards. In Pudukkottai district, though 56.48 per cent households have access to toilet facilities, about 80 per cent of the total households do not use toilets and open air defecation is very common in the district. And hence, this issue has been taken for case study. Sundangi Managar village of Kothamangalam panchayat located in Thiruvarankulam block, which comes last under the criteria of sanitation as per the Nirmal Bharath Abiyan data, was selected for the study. Hence, Thiruvarankulam block has been chosen for the survey, in which two villages were selected randomly. From the field visits, it was found that 43 per cent of the households in these villages did not have toilets in their house. These people feel ashamed to have toilets within their house. Around 20 per cent of the households have built the toilets through Government Schemes. But, these toilets are not in use. These toilets are used for storing or dumping waste goods. Around 37 per cent of the households have toilets and are using them. The main reason for this is the presence of girl children.



## Box 4.2 Utilization of Public Health Services and health Programmes of State and Central Governments

The health programs of State Government running in the district are as follows:

A) Maternal and Child Health Programme, B) Epidemic Prevention and Control Programme, C) Malaria & Fileria control Programme, D) Adolescent Anemia Control Programme, E) School Health Programme, F) Dental Programme, G) Hospital on Wheels Programme, H) MRMBS benefit for pregnant mother for two deliveries, I) Birth and Death Registration Programme, J) E-Governance of all the Programmes. K) Family Welfare Programme. L) Fund support for building construction through TNHSP etc.

Central Government programs running in the district include:

A) National Aids Control Programme, b) National Leprosy Eradication Programme, C) Tuberculosis Control Programme, E) Janani – Shishu Suraksha Karyakaram, F) Janani Suraksha Yojna, G) Funding for MCHV & public health services through NRHM, H) Building, Vehicle, and Infrastructure support through NRHM and much more.

During 2011-12, the total number of hospitals in the district was 12, which comprised of some Siddha and Homoeopathy hospitals also. During the reference period there were four dispensaries in the district comprising of one Modern Medicine, one Ayurveda, one Siddha and one Homoeopathy. There were 68 Primary Health Centers PHCs in the district comprising of 55 Modern Medicine, two Ayurveda, and 11 Siddha during the same period. There was a total bed strength of 1083 in Modern Medicine hospitals for patients during the reference period which was serviced by 133 doctors and 210 nurses. Also 21 Siddha doctors, two Ayurveda doctors and one Homoeopathy doctor were working in their respective hospitals during the reference year.

The Progress of Family Welfare Program in the district during 2011-12 was notable. In General Hospitals a target of 6,480 was fixed for sterilization and 4,041 was achieved and in PHCs a target of 1,329 for sterilization was fixed and 717 was achieved. Un approved nursing homes also registered 161 sterilizations during the reference period. For motivating women to use Intra Uterine Device (IUD) General Hospitals had fixed a target of 2,005 while the achievement was 2,498, which was more than the target fixed. PHCs also had fixed a target of 6,745 and were successful in achieving 4,955 during the reference year. Local bodies also helped in this aspect with a target of 750 and achievement of 463 in the district. Approved nursing homes also contributed towards the family welfare through IUD in the district by achieving 112 cases.

A target of 200 was fixed for oral pill users in General Hospitals with an achievement of 312 which was more than the target fixed during the reference period. In PHCs a target of 2,430 was fixed with an achievement of 1,337 during the reference year for oral pill users.

Government hospitals had fixed a target of 300 for Condom users where 836 were achieved during 2011-12, which was much higher than the target. PHCs and Local Bodies had fixed a target to 4,048 and 52 with an achievement of 2,018 and 277 respectively for condom users in the district, which was more than expected in case of local bodies.

## Special Programmes

### AIDS Control

AIDS (Acquired Immune Deficiency Syndrome) is one of the worst pandemics the world has ever known. HIV (Human Immunodeficiency Virus), the virus that causes AIDS, was first discovered in 1981 in a remote area of central Africa. It has since swept across the globe, infecting millions in a relatively short period of time. Millions have died due to this dreaded disease, which can go unnoticed for even a decade and during the same period, infecting many others. While many cases go unreported, the prevalence of the disease is increasing and so, controlling its spread is of paramount importance. AIDS is not only a medical problem, but also a social problem. AIDS patients are often not accepted by the conservative society. In many cases the children affected by AIDS are denied admission in schools. People affected by AIDS are prone to various diseases that make them physically weak and often they can hardly bear the high cost of frequent treatments. Gradually their economic condition worsens and their life becomes tougher.

### National AIDS Control Programme

**Table 4.9 Prevalence of HIV AIDS** (in no.)

Sl.No	Age-Group Wise	2007		2011		2013	
		Male	Female	Male	Female	Male	Female
1	0-14	3	3	6	5	3	3
2	15-19	1	2	2	1	3	1
3	20-24	1	0	5	15	3	12
4	25-29	31	41	22	30	13	21
5	30-39	86	108	85	57	49	43
6	40-49	142	103	57	32	56	29
7	50&above	50	29	29	19	18	17
District Total		314	286	206	159	145	126

Source: Health Department, Pudukkottai

Though a full-fledged war against AIDS was started in the 1980s, the AIDS Control Programme as a 100 per cent centrally sponsored scheme in India was initiated in 1992 to arrest and eradicate the disease. Table 4.9 gives the details of the prevalence of HIV in the years 2007, 2011 and 2013. From the table it can be seen that the prevalence of HIV has been reduced by 64.4 per cent between 2007 and 2011. The reduction is seen more for female than male between the same years. The prevalence of HIV was the

highest in the age group of 40-49 years (both male and female) during 2007, which has considerably reduced in the year 2011. The age group 30-39 recorded the second highest number of HIV positive cases in the year 2007, but in 2011 it is the first in this regard, though the absolute number of HIV positive cases has reduced between 2007 and 2011. The case of 20-24 age group needs special attention as the number of HIV positive cases has increased from one for male and zero for female in 2007 to five for male and 15 for female in 2011. This is the only age group where the prevalence of HIV has increased from 2007 to 2011 and that too for both male and female. So, something in this regard needs to be done for the age group 20-24 years.

### **Prevalence of Tuberculosis and Leprosy**

According to the WHO, Tuberculosis, or TB, is an infectious bacterial disease caused by *Mycobacterium tuberculosis*, which most commonly affects the lungs. It is transmitted from person to person via droplets from the throat and lungs of people with the active respiratory disease. The symptoms of active TB of the lung are coughing, sometimes with sputum or blood, chest pains, weakness, weight loss, fever and night sweats. Tuberculosis is treatable with a six-month course of antibiotics.

According to the WHO, Leprosy is a chronic infectious disease caused by *Mycobacterium leprae*, an acid-fast, rod-shaped bacillus. The disease mainly affects the skin, the peripheral nerves, mucosa of the upper respiratory tract and also the eyes, apart from some other structures. Leprosy has afflicted humanity since time immemorial. Today, the diagnosis and treatment of leprosy is easy.

Table 4.10 presents the TB and Leprosy cases registered in Pudukkottai district. In Pudukkottai district, the number of TB patients has marginally increased by 0.94 per cent between 2007 and 2012. Among the blocks Aranthangi has the highest prevalence in both reference years and the lowest prevalence was reported in Thirumayam block. It can be noticed that in the inter-block comparison Pudukkottai block has registered the maximum prevalence, while the increase was marginal in blocks like Annavasal, Ponnamaravathi, Avudaiyarkovil and Thiruvarankulam.

**Table 4.10 Prevalence of TB and Leprosy (in no.)**

Sl. No	Blocks/ District	Tuberculosis		Leprosy	
		2007	2012	2007	2012
1	Annavasal	52	58	0	0
2	Arimalam	34	20	0	0
3	Kunrandarkovil	32	30	1	0
4	Ponnamaravathi	35	41	0	1
5	Pudukkottai	76	105	0	0
6	Thirumayam	17	15	0	0
7	Viralimalai	56	55	0	0
8	Aranthangi	107	106	1	0
9	Avudayarkovil	31	32	2	1
10	Gandarvakkottai	50	47	0	0
11	Karambakkudi	48	37	0	0
12	Manamelkudi	34	31	0	0
13	Thiruvarankulam	68	69	0	0
	District	640	646	4	2

Source: Health Departmet, TB Centre and Leprosy Centre, Pudukkottai.

The higher increase in Pudukkottai block may be attributed to better targeting and reporting of TB cases. All other blocks witnessed a decline in the prevalence of TB. With regard to Leprosy, it can be seen that the number of Leprosy cases registered has been marginal during 2007 and 2012. There seems to be no pattern of Leprosy prevalence and can be said to be random occurrences. So, it can be said that the prevalence of Leprosy was found to be strongly stable in the district during reference years. The presence of granite mining industries in some of the blocks in Pudukkottai may have led to more TB prevalence in the respective blocks. So, rehabilitative ventures through TB-sanatoriums should be initiated in the district. More than this, corrective measures need to be enforced in granite quarries in order to control the pollution created by these ventures and safeguard the people working in and around such hazardous activities.

## Conclusion

Block-wise demographic profiles show that there has been an increase in the rate of growth of population in all blocks of Pudukkottai district despite the fact CBR and CDR are declining, SC, ST population has increased steadily over a period of ten years in

most of the blocks of the district which illustrates that there is no trace of any permanent migration among such socially oppressed and excluded sections in the district. Sex ratios in the blocks namely Annavasal, Ponnamaravathi, Thirumayam, Audayarkovil and Gandarvakkottai have declined which may lead to gender discrimination and hence need to be addressed. As far as child sex ratio is concerned a watch over by both statutory and Non-statutory steps to be administered in the district as there has been vehement disliking for girl children in almost all blocks of the district.

IMR in blocks namely Aranthangi, Gandarvakkottai, Karambakkudi, Manamelkudi and Thiruvarankulam have increased till 2014 which need to be taken up with health bodies of the blocks. Awareness campaigns regarding gaps between children and reproductive health oriented education and connectivity between remote villages and PHCs need to be ensured. High IMR rates have been noticed in Kundrandarkovil, Ponnamaravathi, Thirumayam, Viralimalai and Thiruvarankulam. Priority in saving mothers instead of mother and child are common reason for low MMR and high IMR. Rise in number of deliveries in government hospitals accounted for fall in SBR which is a healthy symptom in these blocks. Low nutritional status in Pudukkottai, Thirumayam and Avudaiyarkovil needs to be addressed with scaling up appropriate activities. Access to drinking water is worse in Pudukkottai and Gandarvakkottai. The government should take necessary steps to improve the situation. Toilet facilities are below 40 per cent in blocks namely Manamelkudi and Thiruvarankulam. Awareness and fund assistance given to build toilets must be enhanced to level of Rs.15,000 per HH atleast for such blocks.



**CHAPTER 5**  
**LITERACY AND EDUCATION**





LITERACY AND EDUCATION

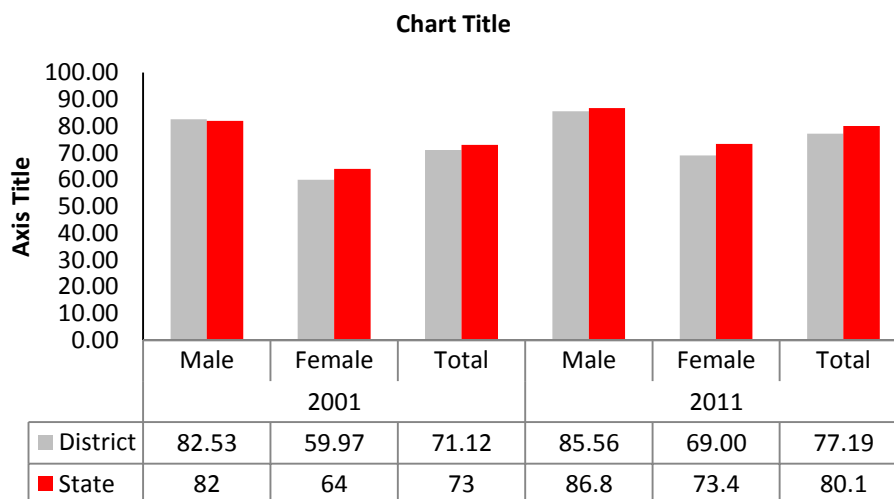
Introduction

Human resource development will lead to human capital formation only with literacy, education, skill building, training etc. It is the basic indicator of status of any nation. If a country is incapable of providing required literacy for its population, it is unfortunate, as it is unable to provide the basic necessity to survive and compete. Education contributes to individual development, and human capital formation. Hence, adequate allocation for SGDP towards primary education in general and secondary and higher education in particular would contribute positively to Human Development.

Literacy

Literacy is the basic requirement for Human Development. The following figure illustrates the growth of literacy rate during 2001 and 2011 for Tamil Nadu and Pudukottai district.

Figure 5.1 Literacy Rate



Source: Census 2001 and 2011

The district literacy rate in 2011, for Pudukottai was 77.19 per cent, which was 3.14 per cent lower than the State literacy rate 80.33 per cent (see Appendix Table 5.1). The gender disaggregated male and female literacy rates were 85.56 per cent and 69.0 per cent and lower than the State by 1.25 per cent and 4.86 per cent respectively during the period 2011. The literacy rate gap between male and female in Pudukottai district is 16.56 per cent.

As far as block-wise variations in the literacy rate achievement is concerned, Pudukkottai block stands at the top. It is higher than the district and State literacy rates. Manamelkudi and Aranthangi blocks also have higher literacy rates than the district and State. All the other blocks have lower literacy rate than the district and State levels. Regarding the male literacy rate, Pudukkottai block stands at the top. Pudukkottai (90.70 per cent), Manamelkudi (89.45 per cent), Aranthangi (89.13 per cent), Thiruvarankulam (88.63 per cent) and, Avudaiyarkoil (87.40 per cent) blocks have higher male literacy rate than the district and State levels.

It is to be noted that, three blocks, viz., Pudukkottai (78.77 per cent), Manamelkudi (75.70 per cent) and Aranthangi (74.15 per cent) have higher female literacy rate than the district and State levels. Thiruvarankulam and Avudaiyarkoil blocks have higher female literacy rate than the district but lower than the State female literacy rate. Rest of the eight blocks in Pudukkottai district, have lower female literacy rate than the district and as well as the State level.

Gandharvakkottai block's overall, male and female literacy rates is very low among the blocks. The male and female gender gap was very high at 20.07 per cent in Ponnamaravathi block. The male and female gender gap ranges from 13.7 per cent to 20.07 per cent in the district. Hence, any State initiative needs to prioritise to reduce the gender gap in literacy on the one hand and improve the overall achievements on the other in Gandharvakkottai and Ponnamaravathi blocks.

## **Elementary Education**

### **Primary Education**

Primary Education is the basic necessity in the early years of human capital formation and knowledge building. Hence, primary education must be the basis and priority. Though India has brought the Right to free and compulsory Education Act 2009, which imposes that every child in the eligible group is supposed to be in Schools,

still there are gaps. Thanks to Sarva Shiksha Abhiyan (SSA) and other initiatives of both the State and Central Governments to improve Literacy and Education through Universalization of Education.

The primary level enrolment in Pudukkottai district during the period 2011-12 to 2013-14 reveals that the enrolment has increased by 2.34 per cent among boys and 3.13 per cent among girls. The overall increase has been three per cent. The gender difference in the district primary enrolment was 0.71 per cent during 2013-14 in favour of girls, which is negligible. The district level of total primary enrolment rate in 2013-14 was 101.89, the district level of boys and girls was 101.54 and 102.25 respectively. The same at the State level was 102.45, 102.49 and 102.42 respectively. There was no big difference between the district and State levels, so it can be said that the district performs almost at par with State as far as primary enrolment rate is concerned.

**Table 5.1 Gender Wise Enrolment in Primary Education**

Sl. No	Blocks/District	Primary								
		Boys			Girls			Total		
		2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
1	Annavasal	98.51	98.51	93.13	99.56	99.56	95.17	99.04	99.03	94.15
2	Arimalam	99.67	99.67	109.40	99.74	99.74	114.95	99.70	99.70	112.17
3	Kunrandarkovil	99.45	99.45	100.72	98.14	98.14	104.15	98.80	98.8	102.43
4	Ponnamaravathi	99.18	99.18	111.73	99.18	99.18	99.18	99.18	99.18	109.70
5	Pudukkottai	99.56	99.56	114.49	98.24	98.37	116.76	98.90	98.96	115.63
6	Thirumayam	99.16	99.16	114.59	99.50	99.50	104.55	99.33	99.33	109.57
7	Viralimalai	98.38	99.85	97.98	99.38	99.38	103.43	98.88	99.62	100.70
8	Aranthangi	99.41	99.41	104.31	99.32	99.32	104.86	99.36	99.36	104.59
9	Avudayarkovil	99.82	99.82	80.76	99.05	99.05	84.02	99.43	99.43	82.39
10	Gandarvakkottai	99.50	99.50	94.91	99.50	99.50	97.26	99.50	99.50	96.09
11	Karambakkudi	99.09	99.09	91.30	99.98	99.98	90.69	99.53	99.53	90.99
12	Manamelkudi	99.14	99.20	103.09	99.10	99.10	104.42	99.12	99.15	103.76
13	Thiruvarankulam	99.23	99.23	103.68	98.23	98.23	101.26	98.73	98.23	102.47
	District	99.24	99.35	101.54	99.15	99.16	102.25	99.19	99.22	101.89

Source: Education Department, Pudukkottai

Block-wise variations in comparison with district level indicate that Pudukkottai block has shown the highest increase during the reference period of 16.92 per cent, followed by Arimalam with 13 per cent increase. Avudaiyarkovil, Karambakkudi,

Annavaasal and Gandharvakkottai register a fall in the primary enrolment rate during the reference period. Thirumayam block records the highest increase in the primary enrolment rate for boys, while Pudukkottai block records the highest increase in the primary enrolment rate for girls. Avudaiyarkovil records a fall in the primary enrolment rate for both boys and girls.

Block-wise gender differences in primary enrolment shows that nine blocks have gender differences in the GER Primary in favour of girls; Arimalam (5.55 per cent) and Viralimalai (5.45 per cent) are the top two blocks in this regard. Four blocks record gender difference in the GER Primary against girls and the top two blocks in the regard are Ponnamaravathi (12.55 per cent) and Thirumayam 10.04 per cent. Thanks to the efforts of the Education Department for keeping the primary enrolment near 100 per cent. The reasons for deviations from the district level identified in certain blocks as mentioned above, may need to be identified whether it is due to the migration, or other factors and accordingly relevant strategies must be devised to eliminate the same.

### Completion Rate and Dropout Rate in Primary Education

**Table 5.2(a) Completion Rate**

Sl. No	Blocks/District	Primary								
		Boys			Girls			Total		
		2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
1	Annavaasal	98.64	99.65	98.65	98.51	99.87	98.87	98.58	99.76	98.76
2	Arimalam	99.67	99.74	99.17	98.33	99.82	99.25	99.00	99.78	99.21
3	Kunrandarkovil	99.02	99.86	99.12	99.41	99.64	98.90	99.22	99.75	99.01
4	Ponnamaravathi	99.54	99.90	99.43	98.12	99.51	99.03	98.83	99.71	99.23
5	Pudukkottai	98.69	99.41	98.55	98.41	99.60	98.75	98.55	99.51	98.65
6	Thirumayam	99.59	99.87	99.24	98.17	100.00	99.36	98.88	99.94	99.30
7	Viralimalai	99.41	100.00	99.28	98.12	99.86	99.14	98.77	99.93	99.21
8	Aranthangi	99.14	99.86	99.79	99.32	99.70	99.63	99.23	99.78	99.71
9	Avudayarkovil	99.31	100.00	98.88	98.45	99.93	98.82	98.88	99.97	98.85
10	Gandarvakkottai	99.14	98.65	98.92	98.50	98.47	98.74	98.82	98.56	98.83
11	Karambakkudi	99.24	99.89	98.23	99.11	99.78	98.13	99.16	99.84	98.18
12	Manamelkudi	99.64	99.54	99.98	99.64	99.48	99.92	99.64	99.51	99.95
13	Thiruvarankulam	99.49	99.71	99.43	99.37	99.90	99.63	99.43	99.81	99.53
	District	99.27	99.73	99.13	98.73	99.70	99.09	99.00	99.72	99.11

Source: Education Department, Pudukkottai

The district level completion rate at the primary level for Pudukkottai district (Table 5.2(a)) was marginally higher for boys compared to girls with 0.04 per cent gender gap during the year 2013-14. The total district completion rate for primary was 99.11 for the year 2013-14, which was marginally lower than the previous year. In eight blocks, the completion rate at the primary level was relatively higher for boys compared to girls for the year 2013-14. Block-wise comparison of completion rate at the primary level showed that Manamelkudi had the highest completion rates for both boys and girls in 2013-14, while Karambakkudi had the lowest completion rate for both boys and girls in 2013-14. But, the variations among the blocks during the reference period for all the categories was not much with regard to completion rate at the primary level.

**Table 5.2(b) Dropout Rate**

Sl. No	Blocks /District	Primary								
		Boys			Girls			Average		
		2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
1	Annavasal	0.62	0.17	0.40	0.62	0.06	0.34	0.62	0.12	0.37
2	Arimalam	0.62	0.21	0.37	0.85	0.18	0.43	0.74	0.20	0.40
3	Kunrandarkovil	0.67	0.14	0.39	0.67	0.36	0.30	0.67	0.25	0.34
4	Ponnamaravathi	0.62	0	0.38	0.86	0.29	0.42	0.74	0.15	0.40
5	Pudukkottai	0.62	0.59	0.39	0.82	0.13	0.29	0.72	0.36	0.34
6	Thirumayam	0.39	0	0.35	0.56	0	0.32	0.48	0	0.34
7	Viralimalai	0.57	0	0.40	0.78	0	0.36	0.68	0	0.38
8	Aranthangi	0.61	0	0.43	0.87	0	0.36	0.74	0	0.40
9	Avudayarkovil	0.60	0	0.46	0.86	0.07	0.34	0.73	0.04	0.40
10	Gandarvakkottai	0.65	1.35	0.42	0.82	1.53	0.36	0.74	1.44	0.39
11	Karambakkudi	0.63	0.11	0.32	0.78	0.22	0.41	0.71	0.17	0.37
12	Manamelkudi	0.60	0.46	0.44	0.89	0.52	0.40	0.75	0.49	0.42
13	Thiruvarankulam	0.64	0.19	0.42	0.79	0	0.29	0.72	0.09	0.35
	District	0.60	0.22	0.39	0.69	0.23	0.35	0.65	0.23	0.37

Source: Education Department, Pudukkottai

The block-wise dropout rates of boys and girls at the primary level for the period 2011-12 to 2013-14 has been given in Table 5.2(b). The data reveals that the dropout

rates in general were very low for both boys and girls at 0.39 and 0.35 during 2013-14 and these rates were lower than State level at 0.9 and 1.0 respectively for the same year. Block-wise variations are also quite less ranging between 0.34 to 0.42 in 2013-14. Gandharvakkottai had dropout rates of greater than one for both boys and girls in 2012-13, and same has been brought down to less than one, which is commendable.

## Upper Primary / Middle School Education

As regards to the upper primary enrolment rate in Pudukkottai district for the period 2011-12 to 2013-14 (Table 5.3), there is an increase in the boys enrolment by 0.69 per cent and girls by 2.04 per cent. The overall enrolment showed an increase of 1.34 per cent. Block-wise deviations from the district level has been analysed and it is found that Thirumayam block registered the highest increase of 18.87 per cent in the upper primary enrolment rate during the reference period followed by Pudukkottai (17.81). It has been influenced by the increase in both boys' and girls' enrolments. The highest fall in the upper primary enrolment rate was found in Avidaiyarkovil (13.23 per cent) during the reference period followed by Karambakkudi (9.52 per cent). Pudukkottai block records the highest increase in the upper primary enrolment rate for boys (16.06 per cent) followed by Thirumayam (13.60 per cent). The same for girls was recorded by Thirumayam (24.15 per cent) followed by Pudukkottai (19.55). Avudaiyarkovil recorded the highest decline in terms of upper primary enrolment rate for both boys (14.62 per cent) and girls (11.85 per cent). Annavasal, Viralimalai, Karambakkudi, Ponnamaravathi and Manamelkudi record a fall in the upper primary enrolment rate for boys, while Karambakkudi, Gandharvakkottai, Annavasal and Ponnamaravathi record a fall in the upper primary enrolment rate for girls. Gender difference in upper primary enrolment rate is in favour of Girls during 2013-14 for Pudukkottai district. Similar picture is reflected in Kunrandarkovil, Annavasal, Viralimalai, Pudukkottai, Thirumayam, Ponnamaravathi and Manamelkudi, while the remaining blocks have gender difference against girls. Overall, thanks to the Education Department for keeping the enrolment higher in general and more among girls in particular.

**Table 5.3 Gender Wise Enrolment in Upper Primary Education**

Sl. No	Blocks/District	Upper Primary								
		Boys			Girls			Total		
		2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
1	Annavasal	98.51	99.80	90.15	99.56	99.80	93.77	99.03	99.80	91.96
2	Arimalam	99.67	99.50	111.53	99.74	99.50	101.32	99.70	99.50	106.42
3	Kunrandarkovil	99.95	99.70	106.31	98.14	99.70	109.18	99.04	99.70	107.75
4	Ponnamaravathi	99.62	99.80	96.60	99.01	99.80	97.72	99.31	99.80	97.16
5	Pudukkottai	99.56	99.70	115.62	98.24	99.70	117.79	98.90	99.70	116.71
6	Thirumayam	99.16	99.80	112.76	99.50	99.80	123.65	99.33	99.80	118.20
7	Viralimalai	98.40	99.96	90.68	99.38	99.50	101.23	98.83	99.73	95.95
8	Aranthangi	99.37	99.70	103.43	99.32	99.60	103.27	99.34	99.70	103.35
9	Avudayarkovil	99.77	99.50	85.15	99.05	99.50	87.20	99.41	99.50	86.18
10	Gandarvakkottai	99.50	99.80	101.12	99.50	99.80	92.07	99.50	99.80	96.60
12	Manamelkudi	99.11	99.40	95.55	99.10	99.30	99.45	99.10	99.30	97.50
13	Thiruvarankulam	99.33	99.80	100.11	98.23	99.70	99.74	99.28	99.80	99.93
	District	99.31	99.71	100.00	99.13	99.65	101.19	99.26	99.68	100.60

Source: Education Department, Pudukkottai

### Completion Rate and Dropout Rate in Upper Primary /Middle School Education

The district level upper primary completion rate (Table 5.4(a)) has been relatively higher for girls than boys in Pudukkottai with 1.44 per cent gender gap. It is in favour of girls as per 2013-14, where girls performed better than the boys in terms of completion rate. The rate of growth of completion rate between 2011-12 and 2013-14 has been relatively higher for boys, but still the average completion rate is higher among girls.

The inter block variations in upper primary completion rate showed that Kunrandarkovil, Pudukkottai, Thirumayam, Manamelkudi and Thiruvarankulam blocks have performed better than the district level of 94.50 per cent completion rate. Arimalam showed the lowest completion rate of 92.52 per cent in the upper primary for boys during 2013-14. For girls, it is observed that Manamelkudi figured the best performing block with 97.62 per cent completion rate, whereas Arimalam, had the least

completion rate among girls at the upper primary level. The fact is that almost all the blocks have realized an increase in completion rate irrespective of gender.

**Table 5.4(a) Completion Rate**

Sl. No	Blocks/District	Upper Primary								
		Boys			Girls			Total		
		2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
1	Annavasal	91.64	99.56	93.47	93.01	99.49	93.39	92.33	99.53	93.43
2	Arimalam	91.67	99.13	92.52	92.15	99.80	93.20	91.91	99.47	92.86
3	Kunrandarkovil	92.14	98.00	96.58	92.46	98.63	97.20	92.30	98.32	96.89
4	Ponnamaravathi	91.54	98.64	93.33	93.12	98.8	93.49	92.33	98.72	93.41
5	Pudukkottai	92.19	98.02	94.25	93.41	99.29	95.53	92.8	98.66	94.89
6	Thirumayam	92.64	98.47	94.46	94.19	100.00	96.00	93.42	99.24	95.23
7	Viralimalai	91.41	95.85	91.99	93.19	99.45	95.59	92.30	97.65	93.79
8	Aranthangi	92.68	98.66	93.53	93.32	98.72	93.59	93.00	98.69	93.56
9	Avudayarkovil	91.26	98.81	93.18	94.45	99.58	93.94	92.86	99.20	93.56
10	Gandarvakkottai	91.96	98.37	93.26	93.01	99.37	94.26	92.49	98.87	93.76
11	Karambakkudi	91.36	97.22	93.48	93.11	99.1	95.36	92.24	98.16	94.42
12	Manamelkudi	91.69	97.96	97.10	93.69	98.48	97.62	92.69	98.22	97.36
13	Thiruvarankulam	91.74	99.45	95.48	92.24	99.20	95.24	91.99	99.33	95.36
	District	91.84	98.52	94.05	93.18	99.28	94.95	92.51	98.90	94.50

Source: Education Department, Pudukkottai.

The dropout rate for Upper Primary Education is shown in Table 5.4(b). Here also the dropout rates are low except a couple of blocks registering dropout rates at about one per cent. The overall district dropout rate was 0.89 per cent in 2013-14, while the same for boys was 0.87 per cent and for girls was 0.90 per cent. The State level figures for the same were 1.65, 1.64 and 1.67 respectively during the same year, which show that the district is performing better than the State in this respect. The inter block variations in dropout among boys ranges between 0.60 per cent and 1.15 per cent. Among girls, the highest dropout rate was found in Aranthangi with 1.08 per cent and the lowest dropout rate was found in Arimalam with 0.60 per cent. The blocks which showed an increase in the dropout rate during the reference period are Aranthangi for boys and Avudaiyarkovil for girls. All efforts have been made to arrest the dropout rates, and boys' dropout rate



has reduced relatively more than the girls' dropout rate in Pudukkottai district at the upper primary level during the reference period.

**Table 5.4(b) Dropout Rate**

Sl. No	Blocks/District	Upper Primary								
		Boys			Girls			Total		
		2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
1	Annavasal	1.87	0.38	0.85	0.96	0.51	0.80	1.42	0.45	0.83
2	Arimalam	1.78	0.87	0.60	1.88	0.20	0.60	1.83	0.54	0.60
3	Kunrandarkovil	1.46	1.90	0.80	1.24	0.98	0.84	1.35	1.44	0.82
4	Ponnamaravathi	1.36	0.97	0.78	1.12	1.00	0.86	1.24	0.99	0.82
5	Pudukkottai	1.87	1.39	1.04	1.62	0.24	1.06	1.75	0.82	1.05
6	Thirumayam	1.02	1.53	0.85	1.87	0	0.93	1.45	0.77	0.89
7	Viralimalai	1.86	0.61	0.92	0.98	0.18	1.05	1.42	0.40	0.99
8	Aranthangi	1.02	0.34	1.05	1.78	0.16	1.08	1.40	0.25	1.07
9	Avudayarkovil	1.86	1.03	0.90	0.86	0.42	0.99	1.36	0.73	0.94
10	Gandarvakkottai	1.24	1.33	0.63	1.02	0.47	0.74	1.13	0.90	0.68
11	Karambakkudi	1.24	2.78	0.95	1.34	0.90	1.03	1.29	1.84	0.99
12	Manamelkudi	1.62	2.04	0.85	0.94	1.52	0.90	1.28	1.78	0.88
13	Thiruvankulam	1.88	0.44	1.15	1.87	0.80	0.88	1.88	0.62	1.01
	District	1.54	1.15	0.87	1.34	0.58	0.90	1.44	0.87	0.89

Source: Education Department, Pudukkottai

The upper primary completion and dropout rates must be analysed taking the psychological and physiological changes that the adolescents experience. This is the crucial period, which shape the mind of adolescent groups. The boys particularly get distracted, socially remain deviated or join the peer group just to enjoy the adolescent company, which contribute to higher dropout among the boys in Pudukkottai blocks at the upper primary levels.

### **Transition Rate from Primary to Upper Primary and Upper Primary to Secondary**

Table 5.5(a) and Table 5.5(b) shows the block-wise transition rate of primary to upper primary and upper primary to secondary for the years 2011-12 to 2013-14. The

district transition rate of primary to upper primary has been generally good, touching the 99 per cent mark. Between boys and girls, boys transition rate is marginally higher than the girls in 2013-14. The State level rates in this regard were nearing the 100 per cent mark and were marginally higher than the district level rates. For the year 2013-14, four blocks, viz., Annavasal, Viralimalai, Pudukkottai and Thiruvarankulam achieve 100 per cent boys' transition rate from primary to upper primary, whereas in terms of girls only one block, viz., Kunrandarkovil achieved 100 per cent transition rate for the year 2013-14, though the rates of other blocks are closer to 100 per cent. Kunrandarkovil, Aranthangi, Thirumayam, Avudaiyarkovil and Manamelkudi register a fall in the transition rate of boys during the reference period, while all the remaining blocks registered an increase. Kunrandarkovil, Viralimalai, Pudukkottai, Thiruvarankulam, and Avudaiyarkovil registered an increase in the transition rate of girls during the reference period.

**Table 5.5(a) Transition Rate**

Sl. No	Blocks/District	Primary to Upper Primary								
		Boys			Girls			Total		
		2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
1	Annavasal	98.97	100.00	100.00	99.46	99.98	99.00	99.22	99.99	99.50
2	Arimalam	99.18	99.10	99.80	99.48	99.98	99.20	99.33	99.54	99.50
3	Kunrandarkovil	100.00	98.12	98.10	99.87	100.00	100.00	99.94	99.06	99.05
4	Ponnamaravathi	99.08	99.37	99.90	99.89	100.00	99.00	99.49	99.69	99.45
5	Pudukkottai	99.18	100.00	100.00	98.23	99.99	99.20	98.71	99.99	99.60
6	Thirumayam	100.00	98.53	98.50	99.78	99.95	99.20	99.89	99.24	98.85
7	Viralimalai	100.00	100.00	100.00	99.12	99.99	99.20	99.56	99.99	99.60
8	Aranthangi	99.12	99.31	99.30	99.06	100.00	99.00	99.09	99.66	99.15
9	Avudayarkovil	99.24	98.32	98.30	99.24	99.92	99.30	99.24	99.12	98.80
10	Gandarvakkottai	100.00	99.17	99.20	99.57	99.98	99.20	99.79	99.58	99.20
11	Karambakkudi	98.24	99.37	99.40	99.98	99.90	99.00	99.11	99.64	99.20
12	Manamelkudi	99.43	98.20	98.70	99.86	99.96	99.30	99.65	99.08	99.00
13	Thiruvarankulam	98.12	100.00	100.00	98.23	99.98	99.20	98.18	99.99	99.60
	District	99.27	99.19	99.32	99.37	99.97	99.22	99.32	99.58	99.27

Source: Education Department, Pudukkottai.

**Table 5.5(b) Transition Rate**

Sl. No	Blocks/District	Upper Primary to Secondary								
		Boys			Girls			Total		
		2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
1	Annavasal	99.74	97.53	98.83	99.50	97.53	99.51	99.62	97.53	99.17
2	Arimalam	99.45	96.32	98.97	99.00	97.94	98.18	99.23	97.13	98.57
3	Kunrandarkovil	98.50	96.12	98.88	98.75	96.12	98.80	98.63	96.12	98.84
4	Ponnamaravathi	99.78	98.14	98.45	96.00	98.14	96.59	97.89	98.14	97.52
5	Pudukkottai	96.57	95.03	99.00	99.70	98.78	99.38	98.14	96.91	99.19
6	Thirumayam	98.78	97.15	99.00	96.30	97.15	99.59	97.54	97.15	99.29
7	Viralimalai	99.85	99.73	99.00	99.00	99.73	99.52	99.46	99.73	99.26
8	Aranthangi	92.05	98.15	99.00	98.30	99.31	99.18	95.18	98.73	99.09
9	Avudayarkovil	96.03	99.15	99.00	96.75	98.31	99.40	96.39	98.73	99.20
10	Gandarvakkottai	98.45	97.01	98.91	100.00	99.50	99.02	99.23	98.25	98.96
11	Karambakkudi	93.12	97.56	98.71	99.75	97.76	99.37	96.44	97.66	99.04
12	Manamelkudi	98.50	96.95	99.00	98.50	96.95	99.17	98.5	96.95	99.08
13	Thiruvarankulam	99.72	98.79	98.94	100.00	96.78	97.36	99.86	97.79	98.15
	District	97.73	97.51	99.28	98.58	98.00	99.28	98.16	97.75	99.28

Source: Education Department, Pudukkottai

The district transition rate of upper primary to secondary for girls is higher than the boys in 2011-12 and 2012-13 and it is same for boys and girls for the period 2013-14. Eight blocks showed an increase in transition rate between the year 2011-12 and 2013-14 for both boys girls. The total (combined boys and girls) transition rate in the district showed marginal increase from 98.16 per cent in the year 2011-12 to 99.28 per cent during 2013-14. Among the blocks, seven blocks registered an increase in the transition rates during the reference period. Overall, the transition from upper primary to secondary level for Pudukkottai district indicated that all the blocks are performing well in this regard.

## Access to Schools

The block-wise availability of school is given in Table 5.6. On an average, there is a primary school for every four habitations and there is an upper primary school for every fourteen habitations. Among the blocks, in actual numbers, Thiruvarankulam has the highest number of primary schools with 136 schools, followed by Pudukkottai with 131 schools in the year 2013-14. Manamelkudi block has the least number of primary schools (63) followed by Thirumayam with 67 schools during the same year. The number of habitations per school is high in Pudukkottai block, where one school covers about six habitations followed by Viralimalai block with one school covering about four habitations. The highest increase in the number of primary schools can be noticed in Pudukkottai block during the reference period.

**Table 5.6 Availability of School**

Sl. No	Blocks/District	Number of Habitations	Number of Primary Schools		Number of Upper Primary /Middle Schools	
			2011-12	2013-14	2011-12	2013-14
1	Annavaasal	417	115	124	27	29
2	Arimalam	234	68	78	14	17
3	Kunrandarkovil	259	80	92	18	18
4	Ponnamaravathi	298	91	93	18	19
5	Pudukkottai	717	84	131	35	38
6	Thirumayam	260	62	67	21	25
7	Viralimalai	461	100	109	25	26
8	Aranthangi	426	92	118	50	51
9	Avudayarkovil	317	72	82	21	21
10	Gandarvakkottai	244	60	68	28	27
11	Karambakkudi	310	91	96	29	29
12	Manamelkudi	235	50	63	19	19
13	Thiruvarankulam	515	117	136	25	26
	District	4,693	1,082	1257	330	345

Source: Education Department, Pudukkottai

In terms of upper primary schools, Aranthangi has the highest number of schools (51) and Arimalam has the least number of schools with 17. Gandharvakkottai block has one upper primary school covering nine habitations, while Thiruvarankulam has one upper primary school covering 20 habitations. The number of schools have been provided on the basis of the population in each village. Access to school has been the major factor for rural children to enroll. Even if there is a school close to their residence, the children may remain absent for various other reasons including parental absence

when both parents go out for work or to look after the household activities to provide income to the poverty stricken children. Hence, the intervention may focus on providing day care centres for babies. Such day care centres must link with the households where dropout occurs, so that reasons for dropout could be identified and addressed accordingly.

## Pupil – Teacher Ratio in Primary and Upper Primary

**Table 5.7 Pupil Teacher Ratio**

Sl. No	Blocks/District	Pupil Teacher Ratio		
		Govt.	Aided	Pvt Financed
1	Annavasal	22	51	37
2	Arimalam	17	33	25
3	Kunrandarkovil	21	34	33
4	Ponnamaravathi	18	21	41
5	Pudukkottai	20	30	27
6	Thirumayam	14	28	22
7	Viralimalai	21	39	71
8	Aranthangi	20	28	34
9	Avudayarkovil	16	38	38
10	Gandarvakkottai	19	32	38
11	Karambakkudi	21	27	33
12	Manamelkudi	20	40	30
13	Thiruvarankulam	19	34	27
	District	19	31	32

Source: Education Department, Pudukkottai (2013-14)

The Table 5.7 gives the Pupil Teacher Ratio (PTR) in Pudukkottai district, which indicates that the district level was 19, 31 and 32 for the Government, Aided and Private Financed School categories. It informs that the Government Schools had better PTR compared to the Aided and Private Financed School categories. The inter-block variations reveal that in most of the blocks the PTR is higher, while in some blocks, Viz., Thirumayam, Avudayarkovil and Arimalam, it was lower than the district level in the Government Schools category. In the Aided Schools category, Ponnamaravathi was the only block, which had PTR like Government Schools category (21). In this category, the highest PTR of 51 was found in Annavasal block followed by Manamelkudi block (40). In the remaining blocks, the PTR was around the district average. In the Private

Financed Schools category, Thirumayam is the only block, which had PTR (22) nearing the Government Schools category. The highest PTR in this category was found in Viralimalai block at 71, which is quite alarming. Thirumayam, Arimalam, Pudukkottai, Thiruvankulam and Manamelkudi blocks had PTR lower than the district level in this category. In all the other blocks, the PTR is higher than the district level and is also quite higher than the Government Schools.

## Secondary Education

**Table 5.8 Enrolment in Secondary Education**

Sl. No	Blocks /District	Secondary							
		No.		Boys		Girls		Total	
		2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14
1	Annavasal	11	19	100.98	95.33	99.41	94.15	100.20	94.75
2	Arimalam	8	11	101.12	47.22	98.98	38.56	100.05	42.71
3	Kunrandarkovil	7	7	100.86	99.08	98.25	106.16	99.56	102.47
4	Ponnamaravathi	10	11	101.26	99.87	98.62	106.60	99.94	103.14
5	Pudukkottai	18	24	100.49	268.89	99.43	283.30	99.96	275.91
6	Thirumayam	6	9	101.89	47.09	98.92	69.56	100.40	57.62
7	Viralimalai	10	7	101.50	99.78	98.84	108.75	100.17	104.18
8	Aranthangi	19	19	100.30	164.85	99.75	165.27	100.02	165.05
9	Avudayarkovil	6	10	101.29	77.23	99.45	66.28	100.37	71.65
10	Gandarvakkottai	4	7	102.94	54.34	95.49	43.14	99.22	48.87
11	Karambakkudi	8	12	101.65	148.98	98.38	147.47	100.01	148.17
12	Manamelkudi	9	9	100.61	52.61	99.37	54.38	99.99	53.49
13	Thiruvankulam	17	19	100.28	111.93	99.71	113.04	100.00	112.45
	District	133	164	101.17	95.66	98.81	95.97	99.99	95.82

Source: Education Department, Pudukkottai.

The Table 5.8 provides the block-wise number of secondary schools and the enrolment in the secondary education. It can be seen that there were 133 secondary level schools in Pudukkottai district in 2012-13, which had increased to 164 in 2013-14. In terms of the total enrolment ratio at the secondary level, Pudukkottai district recorded 95.82 per cent during 2013-14. The boys' and girls' enrolment at the secondary level were 95.66 per cent and 95.97 per cent during 2013-14. It could be noted that there has

been a fall in these rates compared to the previous year, i.e., 2012-13. Among the blocks, gross enrolment is highest in Pudukkottai followed by Aranthangi and Karambakkudi. Similar trend can be seen in the boys and girls rates also. This can be attributed to high number of leading schools in these blocks. Due to this, students from neighbouring blocks join school in these blocks. The lowest rates in this regard can be found in Arimalam and Gandharvakkottai blocks.

The Gender-wise enrolment shows that boys enrolment at the secondary level is lower than the girls enrolment. The gender gap was 0.23 per cent at the High School level. On the other hand, the gender gap at the Higher Secondary Level had shown still wider difference compared to High School level, indicating that the girls enrolment tends to decline as one moves up the ladder of higher level of school education. Girls' enrolment at Higher Secondary level was below the district level.

**Table 5.9 Dropouts in Secondary Education**

Sl. No	Blocks /District	Secondary								
		Boys			Girls			Total		
		2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
1	Annavaasal	12.04	11.59	3.70	4.05	1.60	3.49	8.17	6.72	3.59
2	Arimalam	18.58	7.81	1.27	11.78	4.47	1.01	15.37	6.08	1.15
3	Kunrandarkovil	19.48	21.70	4.27	7.49	8.56	2.06	13.44	15.05	3.25
4	Ponnamaravathi	13.69	13.93	6.30	10.54	7.84	3.05	11.90	10.61	4.66
5	Pudukkottai	17.02	12.73	3.99	4.58	6.16	2.15	10.22	9.11	3.07
6	Thirumayam	14.03	13.11	5.92	0.43	6.87	3.00	4.78	8.70	4.27
7	Viralimalai	12.33	13.64	4.96	11.08	9.33	2.47	11.74	11.53	3.70
8	Aranthangi	8.87	21.98	3.23	9.75	9.59	1.21	9.33	15.52	2.27
9	Avudayarkovil	0.00	0.00	6.62	0.00	0.00	2.26	0.00	0.00	4.58
10	Gandarvakkottai	10.09	15.73	0.81	3.69	9.37	0.61	6.97	12.43	0.73
11	Karambakkudi	7.26	1.67	3.39	11.78	1.36	1.78	9.60	1.51	2.62
12	Manamelkudi	0.00	0.00	4.22	11.79	5.31	6.07	5.98	0.95	5.16
13	Thiruvankulam	15.93	9.65	3.88	7.78	6.22	1.91	12.05	8.01	2.93
	District	11.49	11.04	4.27	7.29	5.90	2.06	9.20	8.17	3.25

Source: Education Department, Pudukkottai.

In Table 5.9, block-wise dropouts in secondary education for the period 2011-12 to 2013-14 has been figured out. At the district level, the overall dropout rate at the secondary level has reduced from 9.20 per cent in 2011-12 to 3.25 per cent in 2013-14. Similarly boys' and girls' dropout rates have also reduced from 11.49 per cent and 7.29 per cent to 4.27 per cent and 2.06 per cent during the same period respectively. It is good to see that in Gandharvakkottai block both boys and girls dropout is lowest in 2013-14. Contrarily, Manamelkudi block has the highest dropout rate for girls and Avudaiyarkovil has the highest dropout rate for boys in the same year. The highest difference in dropout rate between boys and girls can be seen in Avudaiyarkovil and the least in Annavasal.

### Box 5.1 Initiatives for Improvement in Quality of Education

The quality of education mainly depends on the interaction between the teacher and the student. Gap between the teacher and the student is one of the reasons for the deteriorating quality in education. Parents wish to admit their children in private schools rather than government schools due to declining quality. In this scenario, Activity Based Learning (ABL) summative and formative systems have been introduced to overcome these problems as part of the Sarva Siksha Abhiyan (SSA). ABL training is handled by both resource teachers and Block Resource Teacher Educators (BRTes). Initially, all BRTes were trained by the resource teachers working in Chennai schools. Later, BRTes and resource teachers together become a resource group for training teachers in the district. While BRTes provide the details of theoretical aspects of ABL, practicing teachers share their experience through demonstrating ABL classroom activities. Training programmes are conducted, based on specific content to enrich ABL classroom activities and enhance the teacher's performance in implementing the ABL methodology. Training is focused on ABL cards, Villupattu, puppet show, use of self learning material, supplementary reader, logo, charts, self attendance chart, binding wires and low level blackboard. Follow-up activities after training have been provided through regular visits by the BRTes. During the visits, they organise review meetings, and discuss maintenance of records at the school level such as the consolidated reports of student achievement, self attendance charts, weather charts, and children's workbooks. Schools are also graded and monitored through a 2-point rating scale containing 12 items.

To enhance the quality of education, Pudukkottai district has 13 Block Resource Centres (BRCs) and 145 Cluster Resource Centres (CRCs). Out of the total number of CRCs 107 are Primary and 38 are Upper Primary. Teachers handling classes I -VIII are given opportunities to express their novelties in teaching during monthly meeting, which leads to innovation in teaching and learning.



## Box 5.2 Reading Writing Skills among Primary and Upper Primary School Children

Effective reading writing skills are as important for effective communication as speaking and listening skills. Reading skills serve as a foundation for writing. Developed and mastered, effective reading skills give people the opportunity to learn new information about the world, people, events, and places, to enrich their vocabularies, and improve their writing skills. In India, around 40 per cent of the children cannot read or write a paragraph without any struggle. In this scenario, ABL has been introduced by the government. This activity based learning moderately influences the students' reading and writing skills. A separate supplementary reader book is issued to each student for improving the reading capability. For developing writing skills among the students, a separate black board has been allotted to each student in primary education. BRTes have been appointed by the Government of Tamil Nadu for analyzing reading and writing skills among the children. BRTes visit the schools once in fifteen days and examine the progress of the students in reading and writing skills. Apart from this, summer camps, non-residential and residential bridge courses are conducted regularly in the district to improve the reading and writing skills of the children. The Education Department has initiated the concept of Village Education Committee (VEC), which mobilises the community participation in bring positive outcomes in the teaching learning front. These are the current initiatives implemented towards encouraging the reading and writing skills in all the blocks of Pudukkottai district.

### Access to Higher Secondary Schools

The blockwise availability of high schools and higher secondary schools would give some understanding about the access to secondary education (see Appendix Table5.2). There are totally 164 high schools and 139 higher secondary schools in the district in the year 2013-14. It is noticed there are 25 more high schools than higher secondary schools. Among the blocks, Pudukkottai block has the highest number of high schools, while Aranthangi has the highest number of higher secondary schools. In terms of the ratio of schools to habitations (access ratio), the district level is 3.49 for high schools and 2.96 for higher secondary schools. The access ratio needs to be improved, in order to check the dropouts in the secondary and higher secondary levels. The lowest ratio of high schools to habitations is found in Viralimalai block and the lowest ratio of higher secondary schools to habitations is found in Avudaiyarkovil block. In terms of the secondary access ratio Arimalam ranks the first and Aranthangi stands first in higher secondary access ratio. It is interesting to note that Viralimalai and Aranthangi blocks

have more number of higher secondary schools compared to high schools. In Kunrandarkovil and Manamelkudi blocks, the number of high schools and higher secondary schools are the same. In the remaining blocks, the number of high schools have been more than the higher secondary schools.

## Basic Infrastructure

Table 5.10 provides the details regarding the school infrastructure for the year 2013-14. Pudukkottai block possesses the maximum number of schools (212) and Avudaiyarkoil has the least, which is half the number of schools of Pudukkottai (101). Higher Secondary schools with access to basic infrastructure for Pudukkottai for 2013-14 indicates that more than 50 per cent of the schools have three class rooms and above. There is no category-wise data available, to find out whether Government or Aided or Private schools have more than three class rooms. In terms of number of schools, Pudukkottai tops the position with more than 200 schools followed by Aranthangi. These two blocks have the maximum number of class rooms, with more than three class room category.

**Table 5.10 Infrastructure**

Sl. No	Blocks /District	Total No. Of schools	With 3 Class Rooms	more than 3 Class Rooms	Without Toilet	Without Girls Toilet	Without Electricity	Without Compound Wall	Without Drinking Water	With Desk and Chair
1	Annavasal	183	96	87	0	0	1	64	0	0
2	Arimalam	115	48	67	0	0	0	31	0	0
3	Kunrandarkovil	123	54	69	0	0	0	29	0	0
4	Ponnamaravathi	133	70	63	0	1	2	34	0	0
5	Pudukkottai	212	62	150	0	0	1	41	0	0
6	Thirumayam	106	40	66	0	0	2	21	0	0
7	Viralimalai	152	58	94	0	0	2	47	0	0
8	Aranthangi	211	75	136	0	0	2	19	0	0
9	Avudayarkovil	101	30	71	0	0	0	15	0	0
10	Gandarvakkottai	106	47	59	0	0	1	52	0	0
11	Karambakkudi	147	82	65	0	0	1	57	0	0
12	Manamelkudi	119	57	62	0	0	4	44	0	0
13	Thiruvankulam	198	80	118	0	1	3	56	0	0
	District	1,906	799	1,107	0	2	19	510	0	0

Source: Education Department, Pudukkottai

There is no school in any block in Pudukkottai, which does not have access to toilets as per reported data. It is indeed a great achievement. But, there are two blocks Thiruvarankulam and Ponnamaravathy, which do not have access to girls' toilet. This gender gap tends to influence the gender inequality index. There are 19 Schools in the entire district which do not have electricity facilities. Manamalkudi and Thiruvarankulam have reported relatively more schools without electricity. All the schools are equipped with drinking water and desk and chair facilities in the Higher Secondary Schools.

## Hostel Facilities

Tamil Nadu Government provides hostel facilities for girls under two categories, Backward Class and Adhidraavidar Welfare. The students from rural areas and those who are in remote areas are supported with such hostel facilities. Hostel facilities will encourage more girls to join the education stream.

Table 5.11 gives the details of the hostels in Pudukkottai district for the year 2013-14. The hostel facilities are available in 84 schools in Pudukkottai out of the total 1906 schools.

**Table 5.11 Hostels**

Sl. No	Blocks (Including Taluk Area)/District	No. Schools	Total Number of Students	No. of Students in Hostels
1	Annavasal	1	100	98
2	Arimalam	3	150	217
3	Kunrandarkovil	7	1,420	722
4	Ponnamaravathi	3	155	387
5	Pudukkottai	15	1,107	1,230
6	Thirumayam	3	119	255
7	Viralimalai	5	376	250
8	Aranthangi	15	810	916
9	Avudayarkovil	4	179	374
10	Gandarvakkottai	5	256	420
11	Karambakkudi	5	353	299
12	Manamalkudi	4	220	310
13	Thiruvarankulam	14	755	660
District		84	6,000	6,138
Source: District Adhi Dravidar Welfare Officer and District Backward Officer				

Pudukkottai and Aranthangi blocks have the maximum number of schools covered with Backward Class and Adiravidar Welfare hostel facilities. However, Backward Class and Adiravidar Welfare Hostels of Pudukkottai block accommodate the maximum number of students followed by Aranthangi. There is a difference in the actual capacity of the student accommodation and the actual number of students. Kunuandarkovil has the maximum accommodation for the Adiravidar students, followed by Gandarvakottai and Ponnamaravathy blocks. Compared to the Backward Class Hostels, the gap between the capacity and actual accommodation was more in the Adiravidar Hostels. In Kundrandarkoil, only around one third of the capacity has been filled. In the entire district, both the hostels, put together, the hostel facility has been provided to 10,157 students.

### Box5.3 Technology Initiatives in School Education

Technology initiative programmes have been implemented since the introduction of SSA. In Pudukkottai district computer aided learning in schools is empowering the students in the technologized world. To further develop the level of computer aided learning (CAL), the concerned authorities have adopted ICT oriented education. The main goal of CAL is to incorporate latest technologies that enhance teaching-learning process. In order to achieve this, 186 CAL centres are currently functioning in Pudukkottai district in 186 schools. In this direction, internet connections have been provided to 14 schools in the district, which is a small number and needs to be increased rapidly. This scheme would be helpful to improve connectivity in the classrooms and assist collaborative learning. This system sets up avenues for the teachers and students to exchange unique teaching and learning processes. Apart from this, in an effort to reduce the study materials of school children, audio-visual based learning material has been given to all schools. For reducing communication gap between Headmasters and administrations, a special SIM card has been provided to all Headmasters. A science mobile van has been going around the district to provide science lab facility in primary education. It visits each school every fortnight.

In order to get upto date information, regarding infrastructure of the schools, school-based Annual Information System, called Unified District Information System for Education (UDISE 2012) has been introduced. This system helps to get data online and keep track of infrastructural facilities by the concerned authorities.

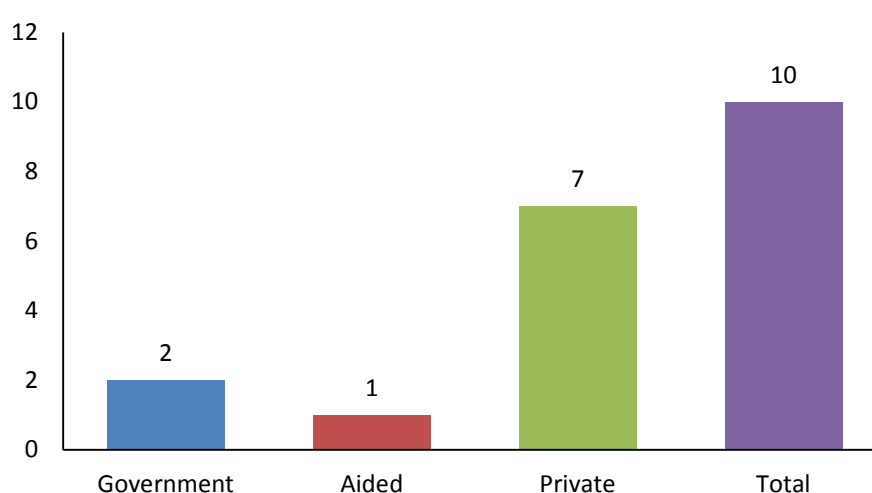
## Higher Education

### Arts and Science Colleges

Access to Higher Education in both Arts and Science and Technical Education reveals that Arts and Science Colleges are only in four blocks, which include Pudukkottai, Ponnamaravathy, Aranthangi and Thiruvarankulam (see Appendix Table 5.3).

### Arts and Science College

Figure 5.2 Arts and Science Colleges

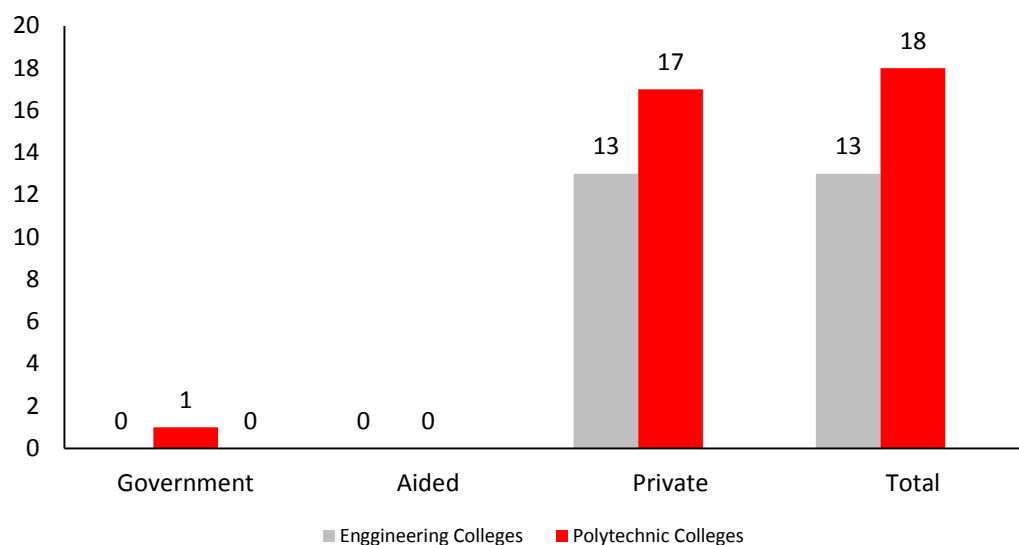


Source: District Statistical Hand Book 2012-13, Pudukkottai.

In three colleges, the female students are more than the male students. In Thiruvarankulam, the male students are more than the female students. The gender gap has been unfavourable to male, which has to be analysed with respect to the admission in technical courses. Block-wise analyses of distribution of Engineering Colleges present a completely different picture. Of the 13 blocks, six blocks have engineering colleges, which include Annavasal, Pudukkottai, Thirumayam, Viralimalai, Aranthangi and Gandarvakottai (see Appendix Table 5.4). Thanks to privatization of education, which has permitted several private institutions to establish colleges in economically backward blocks such as Gandarvakottai, Annavasal etc., this is primarily due to the low land price and access to transport facilities.

## Technical Education

**Figure 5.3 Engineering and Polytechnic Institutions**



Source: District Statistical Hand Book 2012-13, Pudukkottai.

A comparison of block-wise access to Arts and Science Education and Engineering Education informs that Pudukkottai and Aranthangi are the two blocks, which have both arts and science and engineering colleges. Gender-wise distribution in engineering colleges shows that male enrolment has been higher than female. The gender gap in Engineering College enrolment has been wide in Pudukkottai. The enrolment in Pudukkottai district has been higher in Engineering colleges than Arts and Science Colleges indicating that parents and students prefer technical education to Arts and Science.

Block-wise access to Polytechnic education shows a considerable difference compared to Arts and Science and Engineering Colleges, where nine out of 13 blocks have polytechnic institutions. The blocks which have Engineering Colleges also have Polytechnic Institutes. Avudaiyarkoil, Karambakkudi, Manalmelkudi and Thiruvarankulum blocks do not have Polytechnic Institutes. Gender-wise enrolment in Polytechnic shows that there are more male than female enrolments, particularly so, in Viralimalai block, where the gender gap is maximum.

Except Thirvuvarankulum block, where two Arts and science colleges are present, the other three blocks do not have any educational institutions. Avudaiyarkoil, Karambakkudi and Manalmelkudi are backward with respect to Higher Education as there are no institutions of Higher Education. Apart from Arts and Science Colleges, Engineering Colleges, and Polytechnic institutions, there is another category of 'Other Institutions' which include the Centres or Institutes offering Diploma Courses, P.G. Diploma Courses, etc. More female students in Arts and Science colleges and more male students in Engineering and Polytechnic colleges indicate the gender stereotyping perception among parents. Due to financial constraints, women are confined to their houses or they are made to join low fee courses than men, who are preferred for hard core courses with higher fee structure.

Pudukkottai district has relatively performed better in terms of gender equality in enrolment in primary and secondary and higher secondary schools. Higher Education access needs to be improved in each block having at least one college per block. Improving the basic facilities and increasing the PTR, increasing the class room infrastructure to have at least one class room for one standard and distributing more class rooms based on the number of students, will help Pudukkottai to achieve better indicators on Literacy and Education and contribute to the improvement in HDI.

## **Conclusion**

As far as block-wise variations in the literacy rate achievements are concerned, Pudukkottai block stands at the top. It is higher than the district and State literacy rates. Manamelkudi and Aranthangi blocks also have higher literacy rates than the district and State. Gandharvakkottai block's overall, male and female literacy rates are very low among the blocks. Primary level enrolment in Pudukkottai block is the highest and Avudaiyarkovil is the lowest. Karambakkudi, Annavasal, and Gandharvakkottai blocks are other low performing blocks in the primary level enrolment. Residential schools with free food shelter may help to increase the enrolment ratio in these blocks. Block-wise gender differences in primary enrolment shows that nine blocks have gender differences in the GER Primary in favour of girls; Arimalam (5.55 per cent) and Viralimalai (5.45 per cent) are the top two blocks in this regard. Four blocks record gender difference in the GER Primary against girls and the top two blocks in the regard are Ponnamaravathi (12.55 per cent) and Thirumayam 10.04 per cent.

Completion rate at upper primary education in most of the blocks of Pudukkottai district is lower than the primary level, especially in Arimalam, Ponnamavarathi, Viralimalai, Aranthangi and Gandharvakkottai blocks, completion rate is less than 94 per cent. Dropout rates in such blocks needs to be watched out. Block-wise deviations from the district level has been analysed and it is found that Thirumayam block registered the highest increase of 18.87 per cent in the upper primary enrolment rate during the reference period followed by Pudukkottai (17.81). The highest fall in the upper primary enrolment rate was found in Avidaiyarkovil (13.23 per cent) during the reference period followed by Karambakkudi (9.52 per cent). In blocks, viz., Avudaiyarkovil, Karambakkudi and Manamelkudi, upper primary level enrolment has gone down during 2013-14 with no change in the number of schools. Whereas, Kundrandarkovil has low number of middle schools but has high level of enrolment at the upper primary level. Cluster schooling in such blocks will solve such problems of high enrolment in blocks with low number of schools and high number of schools in blocks with low enrolment. Arimalam, Thirumayam, Avudaiyarkovil, Gandharvakkottai and Manamelkudi have low enrolment in the secondary level during 2013-14.

The Pupil Teacher Ratio (PTR) of Thirumayam, Avudayarkovil and Arimalam, blocks are much lower than the district level in Government Schools category. Increasing dropouts in such blocks need to be checked. Schools at higher secondary level should aim to give quality education in these blocks. They have low level of infrastructure, which is a major constraint. Hostel facilities, library facilities and technical facilities in schools should be managed through School – College – University – Tie ups to overcome the constraint.



**CHAPTER 6**  
**GENDER**



---

## Gender

---

### Status of Women

Status of women is a significant indicator of development. The socio cultural impositions and conditioning and social expectations from men and women primarily determine the role and contributions of women to the society. The policies of the State favour the participation of women in public life and contribute to the society. But, often such policies go in contradiction to social norms, where the State often remains silent taking the sensitivity of such issues and social instability. However, since 1980s, gender as a concept got recognized and was well discussed. It is since 1995, that the UNDP HDR report became inclusive, introducing gender as a component and measured the status of women through Gender Related Development Index. Now it has been measured with Gender Inequality Index (GII). It is a negative variable with an inverse relationship with gender equality. Higher the GII, lower the equality in achievement between men and women. However gender as the category of analysis has emerged only recently. Hence, the data available with development indicators are not gender disaggregated. The following section presents the gender analysis of the human development indices in Pudukkottai district.

The status of women in Pudukkottai has been analysed taking the percentage to total population and their achievements in terms of sex ratio, female literacy rate, school enrolment (2013-14), Maternal Mortality Rate (MMR) (2013-14), percentage of women workers in agricultural sector and percentage of women in non-agricultural sector. Pudukkottai is better in terms of share of female population (50.37 per cent) compared to the State (49.91 per cent) and National (48.53 per cent) levels. It has to be analysed as to whether it is the same with respect to other variables. The female literacy rate is considerably higher than the national level, but it is lower than the State level.

The School enrolment showed that it has covered two third of the eligible student population as per the 2013-14 data. It still needs to go a long way to attain universal coverage.

Pudukkottai being the backward district has more women being absorbed in the agricultural sector. The percentage of women workers in agriculture in Pudukkottai has been higher than both the State and National levels. Due to non- availability of regular employment, men migrate either temporarily or permanently to other districts or states or countries, which render relatively more employment opportunity in agriculture for women.

**Table 6.1 Comparative Status of Women**

Sl.No		District
1	Female Population	8,15,157
2	Percentage in Total population	50.37
3	Sex-ratio	1,015
4	Female Literacy Rate	69.00
5	School enrollment (Primary)*	103.46
6	MMR*	82.00
7	% of women worker in Agriculture Sector	34.23
8	% of women in Non-Agri. Sector	9.23
Source: Census 2011, *Education Department, Tamil Nadu		

According to the Table 6.1, the female population of the district was 8,15,157, which is 50.37 per cent of the total population. As the percentage of female population is more than the 50, the sex ratio is tilted towards female at 1,015, which is a good trend. The female literacy rate was 69 per cent and was lower than the male literacy rate in the district as well as the female literacy rate at the State level as per the Census 2011. The district female school enrolment at the primary level stood at 103.46 in 2013-14, which was better than the district male and State female rates of 102.22 and 102.42 respectively. The MMR of the district was 82 in the year 2013-14, which is far behind the State rate of 68. The percentage of women in the non-agricultural sector was four times lower than the agricultural sector in Pudukkottai district as per the Census 2011. The percentage of women in non-agricultural sector has been lower than both the State and National levels.

It indicates that only less than 10 per cent of the women were able to assume non-farm employment, which is supported by the fact that relatively more women are in farm employment. So, except the share in population and literacy rate and employment in agriculture, the participation of women needs to be improved to reduce the gender gap. Only when women are employed in paid jobs, it will prepare them to participate in decision making position. Any scheme for their empowerment needs to concentrate on increasing the economic participation of women and recognition of such employment.

### **Access and Control over Resources**

Women's equal access and control over economic and financial resources is critical for the achievement of gender equality and empowerment of women. It paves the way for equitable and sustainable economic growth and development. Gender equality in the distribution of economic and financial resources has positive multiplier effects for a range of key development goals, including poverty reduction and the welfare of the children. Micro-level efficiency results through increased household productivity and macro-efficiency results through positive synergies between indicators of gender equality and economic growth which have been recorded. Development rationale for enhancing women's access to economic and financial resources includewomen's role as "safety net of last resort" in economic downturns. But, women's access to major economic and financial resources such as land and capital, and other productive resources such as extension services, inputs including fertilizers and seeds remain very much limited, although policies and schemes aiming at enabling women in the mainstream of economic affairs have been implemented by the Government of India in general and the Government of Tamil Nadu in particular. One such policy has been the development of the Self Help Group (SHG) movement. The SHG movement has been welcomed by all over the world including India. The performance of the SHGs in Pudukkottai district has been discussed in the box.

## Box 6.1 Self Help Groups

Self Help Groups (SHGs) among women have been proving a significant strategy to bring the women to the public space on the one hand and also make them self-reliant through micro credit operations and other. The women in the group come together and save their money and practice internal lending. This has considerably driven the traditional money lenders away. SHGs have created a silent revolution at the grass roots and proved that women in groups could influence and change the structure of saving. It has established that poor are bankable. Women, also proved that if they are provided with the opportunity and support, they will successfully transact with banking and avail formal credit. Access to formal credit was a dream, but now millions of women directly transact with banks and serve as models to other women. Banks are willing to support the SHG women on the basis of the performance of the internal lending and other indicators while doing the rating. Also, thanks to the Women Development Corporation for institutionalizing thousands of SHGs.

In Pudukkottai district, Pudukkottai block tops with maximum number of SHGs (1600) followed by Aranthangi, Thiruvarankulam and Viralmalai with above 1500 SHGs. The lowest number of SHGs has been found with Thirumayam block (572) with twice less than the top blocks. Similar trend has been noticed with respect to the number of members in the respective blocks. Maximum number of members has been registered with Pudukkottai block and the minimum has been observed with Thirumayam. It is incredible to notice that Rs.83.04 crores has totally been availed by SHGs in Pudukkottai district till 2011-12.

Block-wise variations demonstrates that Annavalal tops all the block with maximum amount of credit availed (Rs.7.77 crore), followed by Karambakkudi, Kundnarkoil and Pudukkottai. The block which has accessed the lowest SHG credit is Ponnamaravathy with just Rs.0.62 crore, though in terms of number of SHGs and number of SHG members, it was above the least performing block Thirumayam. It indicates that the amount of saving per person might be the least.

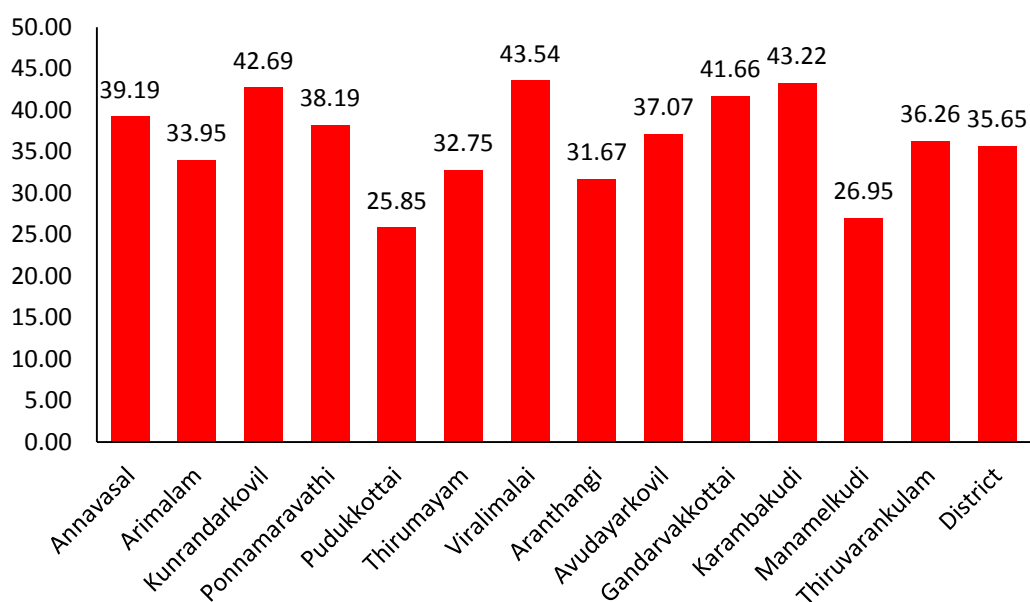
Though in terms of number of groups and number of members, Pudukkottai block tops, in terms of absolute credit availed Annavalal comes first, pushing Pudukkottai to the fourth place. Karambakkudi (921) and Kundanarkoil (947), which have relatively less number of SHGs and members roughly little higher than half of the number of SHGs possessed by the top block, such as Pudukkottai (1600). It indicates that blocks with maximum number of SHGs does not necessarily exhibit maximum record with access to credit. It further informs that, not all the SHGs in blocks with maximum number are fully active and linked with bank. Several groups would have remained with internal lending or failed to have qualified in the credit rating done by the Mahalir Thittam.

The SHG concept has gained momentum and gets spread to other areas by not overlooking some of the processes laid down by the Women Development Corporation. Such deviations by Micro Finance Institutions may not take the SHG women to capacity building. Mere credit operations alone may not ensure empowerment unless the money saved is invested in enterprise development. Access to credit is one step forward and proved that women are bankable.

## Employment

Employment is an indicator of development and empowerment. The status of employment can be understood by analysing the WPR. The district female WPR was 35.65 as per the Census 2011, which was far behind the male WPR of 58.65 (see Appendix Table 6.1). Among the 13 blocks of Pudukkottai district, eight blocks had higher female WPR compared to the district level, while the remaining five had female WPR lower than the district level. Pudukkottai and Manmelkudi blocks had the lowest female WPRs of 25.85 and 26.95 respectively. Moving on to formal employment, female participation in State Government employment (36.1 per cent) has been little higher than private and corporate (28.1 per cent) during 2011-12. It shows that State Government has been taking initiatives to reduce the gender gap in employment in the government sector primarily with the objective of extending at least 33 per cent employment for women. Private companies normally offer more employment to women, but in temporary and adhoc positions. Given the capabilities and the kind of delivery, women must be given positions in permanent employment in the private sector. The factor is that the female participation, in unpaid employment is enormous whereas as per UN Statistics, women perform 2/3<sup>rd</sup> of the work but receive only 1/10<sup>th</sup> of the world's income. Such disparity must be brought down by the increasing economic participation of women.

**Figure 6.1 Female Work Participation Rate**



Source: Census 2011

## Trends in Political Participation

Political participation of women directly empowers women and contributes to women empowerment unlike employment, where the economic freedom through earnings, may not offer them to spend on their own if the social expectation that women cannot manage financial budget effectively as it is the domain of men. As such economic participation may not guarantee employment unless they get transferred into acquiring political skills to question critically their unequal position in the society. On the other hand participation of women in politics will take them to power and accordingly, sharing of power will be exercised contributing to empowerment. But, it has to be handled independently by the women involved in decision making as per the constitutional norms. It is equally necessary to make the women actively participate in politics which will only involve them in decision making and also empower them.

**Table 6.2 Membership in Assembly, Local Bodies**

Sl. No	Membership of Women in State Assembly and Local Body	Number of Male	Number of Female	% of Female Participation
1	Annavasal	271	159	36.98
2	Arimalam	188	113	37.54
3	Kunrandarkovil	220	124	36.05
4	Ponnamaravathi	227	140	38.15
5	Pudukkottai	190	126	39.87
6	Thirumayam	191	119	38.39
7	Viralimalai	288	152	34.55
8	Aranthangi	322	203	38.67
9	Avudayarkovil	168	134	44.37
10	Gandarvakkottai	200	118	37.11
11	Karambakkudi	219	130	37.25
12	Manamelkudi	156	102	39.53
13	Thiruvarankulam	309	186	37.58
	District	2,949	1,806	38.06
Source: PAPD, Pudukkottai				

It is observed that in Pudukkottai district, the district level participation in Local Bodies and Assembly for the year 2011 for both urban and rural has been 38.06 per cent (Table 6.2). It is around five per cent higher than the reservation of 33 per cent. Block wise representation of women in local bodies and assembly illustrates that Avudaiyarkoil



tops with 44.37 per cent of local body positions represented by women followed by Manalmelkudi, Pudukkottai, Aranthangi and Thirumayam blocks which are the top five blocks in women's political participation. On the other hand, Viralimalai and Kunderadarkoil receive the least representation among all the blocks with lower percentage of women in Local Bodies and Assesmbly in Pudukkottai district during 2011. The gender gap in the district is around 25 per cent. Viralimalai registers the maximum gender gap with 31 per cent followed by Kundnadarkoil and Annavasal with relatively larger gap between the political participation of men and women in Pudukkottai district. Thanks to 33 per cent reservation in Local Bodies, which has driven the percentage of women's political participation to above 33 per cent in certain blocks. Such trends indicate that the people have accepted women contestants and leaders. Also the women have proved that they can equally perform in every field if opportunity is given to them. Similar reservation in Assembly and Parliament alone will ensure more women to enter into politics.

## **Conclusion**

The female population of the district was 8,15,157, which is 50.37 per cent of the total population. As the percentage of female population is more than the 50, the sex ratio is 1,015, which is a good trend. The female literacy rate is 69 per cent and is lower than the male literacy rate in the district as well as the female literacy rate at the State level as per the Census 2011. Among the 13 blocks of Pudukkottai district, eight blocks had higher female WPR compared to the district level, while the remaining five had female WPR lower than the district level. Pudukkottai and Manmelkudi blocks had the lowest female WPRs of 25.85 and 26.95 respectively.

Block-wise representation of women in local bodies and assembly illustrates that Avudaiyarkoil tops with 44.37 per cent local body represented. Viralimalai and Kunderadarkoil receive the least representation among all the blocks with lower per cent of women in Local Bodies and Assesmbly in Pudukkottai district during 2011. The gender gap in the district is around 25 per cent, Viralimalai registers the maximum gender gap with 31 per cent.

Sex ratio, female literacy, and female work participation rate are encouraging in most of the blocks of the district. But yet, women empowerment in terms of freedom in decision making is still lacking. Proxy participation in politics, business entrepreneurship are no solution to women empowerment. Free higher education for women, awareness and training camps, fund assistance through MAHILA banks can help women achieve women empowerment.



**CHAPTER 7**  
**SOCIAL SECURITY**



---

## SOCIAL SECURITY

---

### Introduction

Social security is the measure of welfare of the citizens in a state or country. Every Government has an agenda to improve the status of livelihood of its people and create equitable development. Social security measures form an important tool to realize the set goals, as there is bound to be heterogeneity in any population with reference to economy, social status and health. The prime duty is identification of marginalized groups who are in need of assistance to satisfy their basic needs and supply cash or kind to help them. The Government would be an appropriate institution to implement the schemes in a sustainable basis without any lacunae. There may be many NGOs that carry out similar activities but they could only act as supplementary institutions to the Government as their sphere of action is small and constrained to a particular sector.

The performance of the Government of Tamil Nadu in this context is a model to other states as the schemes carried out are holistic and inclusive. All the schemes that both Central and State Government sponsored are meticulously implemented in the State and this could be understood by the number of beneficiaries under different categories. 13,40,154 old age pensions, 50,911 disability pension, 4,58,599 widow pensions of Rs.1,000 per month for the year 2011-12 have been provided through Central government schemes in Tamil Nadu. In addition, through State Government sponsored schemes 1,81,063 destitute disabled, 4,54,361 destitute widows, 4,28,529 destitute agricultural laborers, 1,38,943 deserted wives and 19,424 unmarried women of more than 50 years get Rs.1,000 per month as assistance. Totally, 30,71,984 people of Tamil Nadu (2011-12) get financial assistance from the state on a monthly basis and this is about 4.25 per cent of the total population of Tamil Nadu for the year 2011. (Source: Director of Social welfare, Chennai). Other than this, maternity and marriage assistance given to expectant mothers and young girls below BPL is unique to the State of Tamil Nadu. Maternity assistance of Rs.1000 per month for six months given to mothers to

improve their nutritional status so as to beget healthy babies is a laudable scheme covering all villages and towns of Tamil Nadu. Marriage assistance given to one female child of the BPL family of Rs.50,000 for graduate and Rs.25,000 for non-graduate along with 4 sovereigns of gold is yet another scheme, first of its kind, in Tamil Nadu wherein 1,60,228 in 2011 and 1,63,228 in 2012 were beneficiaries. Both schemes give an impetus to improve the status of women and encourage them to continue their education to college level.

Another important scheme to be reckoned is PDS (Public Distribution System), whose practice and function in Tamil Nadu has been the best that it almost covers the entire population below poverty line. No gainsaying the fact that there are modifications in quality and quantity of PDS according to the Government in power, the staple food for the people – rice – is always distributed at a subsidized rate or free of cost ensuring absence of starvation.

## Demographic Profile of the Aged

**Table 7.1 Demographic Profile** (in no.)

Sl. No	District/ State	Total Population	Population Aged Above 60*		
			Male	Female	Total
1	District	16,18,345	81,441	82,929	1,64,370
2	State	7,21,47,030	36,61,226	38,48,532	75,09,758
Source: Census 2011					

Pudukkottai district in central Tamil Nadu, comprising 13 blocks has a total population of 16,18,354 according to Census 2011. From Table 7.1 the population above 60 years was 1,64,370 in 2011 which was 10.16 per cent of total population. Among the 60+ group the female outnumbered the male to a smaller degree – 82,929 females (50.45 per cent) as against 81,441 males (49.55 per cent). The data clearly brings out the need for social security measures for the target population. The current trend predicts an increase in 60+ populations in the coming years necessitating more financial outlay to implement the assistance programs by the district administrative authorities.

## Financial Security

Assistance given to various categories of population is presented in Table 7.2 and from this the maximum beneficiaries come under OAP scheme, which is 23.82 per cent of the target population, i.e., persons aged above 60 years. Totally 39,144 persons get

OAP out of which, 33,359 persons aged above 60 years, 4,558 destitute widows and 1,227 disabled persons get OAP. Pension exclusively for other women like deserted women and unmarried women would benefit women to manage their lives independently and respectfully. Agriculture being the mainstay of rural economy is subjected to upheavals that lead to abject poverty among agricultural labourers during monsoon failure and hence, such persons could also get some relief from this scheme. Marginalized workers need some support to tide over the crisis period, here also such scheme would be valuable and it may even prevent the suicide by farmers.

**Table 7.2 Financial Assistance to Old Age People**

Sl. No.	Name of the Scheme	Total No. of Beneficiaries
1	OAP	33,359
2	OAP for Destitute Widows	4,558
3	OAP for Disabled Persons	1,227
	Total	39,144
Source: District Revenue Department, District Statistical Handbook 2011-12 & 2013-14		

## Differently Abled

**Table 7.3 Assistance to Differently Abled** (in no.)

Sl. No	Categories	Male	Female	Total
1	Locomotor	6,605	5,467	12,072
2	Hearing Impaired	2,606	1,667	4,273
3	Mental Retardation	1,984	1,759	3,743
4	Cerebral palsy	545	394	939
5	Visual Impaired	622	433	1,055
6	Multiple Disappear	495	302	797
7	Leprosy	263	215	478
8	Mental Illness	609	113	722
9	AU	2	0	2
	Total	13,731	10,350	24,081
Source: Differently Abled Welfare Department, Pudukkottai.				

One of the major social security measures is pension to differently abled and this is brought out in Table 7.3. Inclusive development of the differently abled, is a compelling need of any society could be achieved through such assistance given to all

categories of special people, blind, deaf, lame, mental retardation etc. Pudukkottai district data on assistance to differently abled shows various categories of differently abled persons getting financial assistance such as persons with locomotor disability (12,072), hearing impaired (4,273), mentally retarded (3,743), cerebral palsy (939), visually impaired (1055), multiple disorder (797), leprosy (478), mental illness (722) and AU (2). More male persons are able to get such benefit compared to female persons, if the number of such male persons is greater than female persons, then there would be no problems. If some female persons are not able to access such benefits, then the issue should be addressed suitably.

### Box 7.1 Marriage and Maternity Assistance Programme

The Government of Tamil Nadu provides several marriage and maternity assistance programmes for the benefit and upliftment of the persons, especially women in dire needs of such assistance like, Moovalur Ramamirtham Ammaiyaar Marriage Assistance Scheme provides Rs.25,000 and four gram gold coin to support the marriage related expenses of poor families; E.V.R. Maniammaiyaar Ninaivu Poor Widow's Daughter's Marriage Assistance Scheme provides a similar financial assistance to help the poor mothers who are widows for the marriage of their daughters ; Dr. Muthulakshmi Reddy Ninaivu Intercaste Scheme provides similar assistance to a person belonging to a Forward Community and marrying a person belonging to BC/MBC/SC/ST; Annai Teresa Ninaivu Orphan Girls Marriage Assistance Scheme provides similar to financially help Orphan Girls for their marriage; Dr. Dharmambal Ammaiyaar Ninaivu Widow Remarriage Scheme provides similar assistance to encourage widow remarriage and to rehabilitate widows; Marriage Assistance to Normal Person Marrying Orthopaedically Handicapped Person provides similar assistance; Marriage Assistance to Normal Person Marrying Speech and Hearing Impaired Person provides similar assistance; and Dr. Muthulakshmi Reddy Memorial Maternity Assistance Scheme provides maternity assistance grant of Rs.6,000 at the rate of Rs.1,000 per month, to pregnant women to compensate for the loss of income and to ensure adequate nutrition for them. The financial assistance for marriage is given with certain conditions related to the beneficiary's socio-economic and educational background such as studying 10 Standard. It may be noted that in order to promote higher education among the girls, enhanced assistance of Rs.50,000 is provided to girls with Degree or Diploma. Maternity benefits consider only the economic background and this bears a positive impact on the nutritional status of the mothers.

Table 7.1 in the Appendix presents, data on marriage and maternity assistance doled out to women as a part of social security measures in Pudukkottai district. The total number, who received marriage assistance, was 3,791 in 2012-13, which dropped to 2,999 in 2013-14. Among the blocks, Aranthangi acquired maximum aid given to 350 persons and Gandharvakkottai the least with 61. Maternity benefits have been distributed in three phases in line with the three trimesters of pregnancy



## Case Study: Widows, Destitute Women and Disabled

Three case studies conducted among widows, destitute women and disabled persons in Keeranur Town Panchayat in Pudukkottai district illustrate the way these marginalised section of the society have been sidelined in mainstream development policies and the implementation of existing social security programmes. It is observed that the concerns of widows cannot be dissociated from those of other single women, or indeed from those of women in general. Widows do experience special difficulties and deprivations, connected with the restrictions that are imposed on their lifestyle and the persistence of negative social attitudes towards them. In the development context, it is important to give attention to widowhood as a particular cause of deprivation. And, in the context of affirmative action, it is right to organise and support widows in their specific demands (e.g., relating to pensions, property rights and other entitlements). But this does not mean that action has to take the form of working for or with widows in isolation from other women. The case studies and personal testimonies summarised here demonstrate that there are intimate links between the predicament of widows and a wide range of patriarchal institutions and the gender division of labour. The cause of widows must be seen as an integral part of the broader battle against gender inequalities. The case studies also clearly demonstrate that widows, destitute women and disabled persons are in distress conditions in which they have to face difficulties in realising existing social security measures such as pension for widows, and skills and vocational training for disabled persons. For instance, a woman deserted by her husband cannot avail a ration card as her name would not have been deleted from the ration card, which is held by her deserted husband. A woman taking care of her grand children as her destitute daughter has expired would not be able to include their name in her ration card. The level of disability prevents disabled persons to get assistance from the Governments schemes. Such destitute persons should be included in the mainstream development process empathetically through some suitable policy measures.

## Crime against Women

Data set out in Table 7.4 lists the crime against women for a period of five years from 2009 to 2014. This record is a major indicator of social security as women's safety and security are of prime importance. The data may be only a tip of the iceberg as only registered cases will be tabulated, while unregistered crime against women would show a higher value if documented. Rape cases in the district have a declining phase from 5 in 2009 to 3 in 2014.

**Table 7.4 Crime Against Women**

Sl. No	Category	Number of Cases					
		2009	2010	2011	2012	2013	2014
1	Rape	5	7	7	6	2	3
2	Dowry Death	4	5	-	-	-	2
3	Molestation	21	42	24	26	12	29
4	Sexual Harassment	1	2	2	1	-	0
5	Cruelty by Husband and Relative	18	14	18	35	15	44
6	Kidnapping Women and Girls	22	54	41	28	15	47
	Total	71	124	92	96	44	125

Source: S.P.Office, Pudukkottai

Dowry deaths drastically decreased to nil in 2013 from 4 in 2009, but 2 two cases were reported in 2014. Molestation All other crimes like, sexual harassment, cruelty by husband and kidnapping of women and girls show decline in their rate through this five year period. More kidnapping of women and girls were recorded in the year 2010 (54 cases), but had come down to 15 cases in 2013. On viewing the total cases registered in this crime against women 71 in 2009, 124 in 2010, 92 in 2011, 96 in 2012 and 44 in 2013, leads to a conclusion that there is a positive input in social security as there is considerable reduction in the number of cases.

## Conclusion

The above chapter discusses the social security measures for the aged, women and the differently abled. Among the 60 plus group, the female outnumbered the male to a smaller degree – 82,929 females (50.45 per cent) as against 81,441 males (49.55 per cent), but only 23.82 per cent of the target population gets benefit from OAP. Also 24,081 differently abled in the district get benefit from various Government schemes, which is a heartening fact. But, Crimes against women are rising in the district and parental education to create awareness in each and every family can help reducing such problems. Constant vigil should be maintained on the social security benefits for old age people, differently-abled and abandoned mothers and safety net arrangement to protect such vulnerable masses need to the established in their district.

**CHAPTER 8**  
**INFRASTRUCTURE**



---

## INFRASTRUCTURE

---

### Introduction

Infrastructure is the cornerstone of development as lack of proper infrastructure forms an impediment to growth and development. Modern infrastructure facilities fall under three major categories of transport, telecommunication and power. Others like financial institutions, common utility buildings, recreational centers are equally important but the development of the major three components would automatically lead to the opening up of other facilities. Lack of job opportunities cause migration towards metropolitan cities where overcrowding leads to pollution and deteriorating living conditions. In such a scenario, proper infrastructure development all over the state even in small towns and cities would encourage people to live in their hometown as all their aspirations would be fulfilled. Globalisation has provided confidence among people that they can live in any corner of the world with good connectivity provided by transport, communication and power. There would be a feel of inclusion in the global structure though they may be very far from the centre of activity like capital towns and major cities.

Infrastructure can be defined as man-made enabling structures developed and operated by private or public sector for improvement of productivity, growth and for enhancing sustainable socio-economic development and thereby human well-being. Transport includes roadways, railways, airways and waterways with all the necessary basic structures, public utility vehicles, and its management and maintenance. Telecommunication network, telephone lines, exchanges, post-office, satellite communication infrastructure are a few components that constitute communication. Power production, transmission, supply and maintenance and electricity distribution comprise the power sector. Other basic public utilities include rivers, tanks, irrigation canals, drinking water supply, housing, sewage and sanitation, educational institutions, public buildings and maintenance. For most infrastructure facilities, construction and

maintenance are implemented by the concerned government itself or through public private partnership or outsourced to private companies. Public private partnership would be a better association as people would be involved in the maintenance of the facilities leading to proper usage, damage control and sense of belonging.

Tamil Nadu has shown a giant leap in the infrastructure development over the past decade owing to the initiatives of the Government. Most cities are connected with highways and their maintenance outsourced to private players. This has created, less travel time, comfortable journey and better mobility of goods. Up-gradation of all airports to international standard and creation of new ones is in the offing. Air travel and air transport of goods have increased in the past decade that many foreign players have entered the scenario to provide competitive prices for the services. Tamil Nadu has exemplary rail connectivity to every corner of the state that even small villages have railway stations to cater to their needs. On the communication front, the revolution of mobile phones have touched every citizen in the state that the cell phone connections may out-number the population of the State. Internet connections are ever increasing day by day and the entry of private companies as service providers has improved the quality and speed of connections. Power production and distribution in Tamil Nadu is far better than most States, as the Government is constantly improving the production output by upgrading the existing units and creating new units. Tamil Nadu stands first in wind energy production all over India, due to incentives and subsidies given as encouragement to windmill owners. Rural electrification data provided by Tamil Nadu statistical hand book 2011: nearly 100 per cent electrification in all hamlets over the State and out of 48,452 hamlets, 335 hamlets are not electrified.

## Roads

Distribution of roads in Pudukkottai district during the year 2013-14 is given in Table 8.1 showing a total coverage of 9,555.18 km length of roads as they form a major infrastructure facility in any town or village. Various categories of roads like mud, CC, WBM and BT are listed out for all the blocks of the district with Viralimalai having the maximum length of total roads, 1077.53 km and Karambakkudi next with 1037.36 km. Gandarvakottai falls last with 318.84 km total road length of which 206.83 km BT road. BT road is the highest among the type of roads with a coverage of 4,803.19, followed by mud road with 2,769.64 kms, then WBM road with 1,834.27 km and last CC road with 148.09. It is interesting to note that BT road stands first in all blocks and CC road last. In

a few blocks like Ponnamaravathy and Karambakkudi, mud roads are more than WBM and BT and CC roads. The district had a total coverage of 2011.32 km of Highways apart from the local roads in the district.

**Table 8.1 Distribution of Total Road Length** (in km.)

Sl. No	Blocks/District /State	Mud	WBM	BT	CC	Total
1	Annavaasal	139.85	185.3	466.62	6.78	798.55
2	Arimalam	144.24	148.66	243.58	5.07	541.55
3	Kunrandarkovil	281.46	132.52	334.28	18.59	766.85
4	Ponnamaravathi	361.32	61.57	293.59	5.88	722.360
5	Pudukkottai	141.46	150.25	375.66	11.73	679.10
6	Thirumayam	71.02	56.095	249.15	6.80	383.07
7	Viralimalai	416.62	232.61	425.25	3.05	1,077.53
8	Aranthangi	188.13	221.51	481.53	34.39	925.56
9	Avudayarkovil	250.35	125.46	405.06	4.62	785.49
10	Gandarvakkottai	53.27	50.40	206.83	8.34	318.84
11	Karambakkudi	433.78	176.14	400.68	26.76	1,037.36
12	Manamelkudi	167.23	50.77	313.15	5.73	536.88
13	Thiruvarankulam	120.91	242.98	607.81	10.35	982.05
	District	2,769.64	1,834.27	4,803.19	148.09	9,555.18
	State*	55,900.24	17,957.11	1,88,835.10	9,560.17	2,72,252.61

Source: PDOs, AD (IP), Corporation, Municipality; \*Statistical Handbook of Tamil Nadu 2013

## Electricity

Table 8.2 presents the status of electrification in all the blocks of Pudukkottai district in 2013-14. The district has 811 revenue villages, 4096 hamlets and 8 towns. The district had a total population of 16,18,345 as per the Census 2011. In terms of the number of street lights, the district had a total number of 1,78,165. Among the blocks, Viralimalai has the highest number of street lights with 20,762, followed by Pudukkottai block (18,780). The lowest number of street lights were found to be in Karmbakudi (8,880), followed by Manamelkudi (9,220). The least populous block Thirumayam with 45 revenue villages and 260 hamlets was well electrified with 15,220 street lights. Thiruvarankulam with the highest number of hamlets (486) and third highest population

had only 10,737 street lights. The overall view of the data shows a near 100 per cent electrification in the district of Pudukkottai.

**Table 8.2 Status of Electrification** (in no.)

Sl.No	Blocks/District	Revenue Village	Hamlets	Towns	Total Population	No. of Street Lights
1	Annavaasai	57	412	2	1,44,991	15,465
2	Arimalam	51	243	1	86,112	13,185
3	Kunrandarkovil	44	242	1	97,267	11,252
4	Ponnamaravathi	49	297	1	1,08,479	12,272
5	Pudukkottai	82	326	0	2,31,074	18,780
6	Thirumayam	45	260	0	82,816	15,220
7	Viralimalai	54	463	0	1,40,227	20,762
8	Aranthangi	102	420	0	1,87,390	17,862
9	Avudayarkovil	96	317	0	85,547	13,408
10	Gandarvakkottai	37	126	0	86,720	11,122
11	Karambakkudi	50	292	1	1,10,604	8,880
12	Manamelkudi	71	212	0	86,672	9,220
13	Thiruvarankulam	73	486	2	1,70,419	10,737
	District	811	4,096	8	16,18,345	1,78,165

Source: TNEB, Tiruchirappalli, \*Census 2011

## Communication System

The data presented in Table 8.3 brings out the statistics of taluk-wise telecommunication in Pudukkottai district for the year 2013-2014. The total number of telephone exchanges in the district were 45 and Aranthangi had the maximum of 12 exchanges. Pudukkottai and Karambakkudi had the the least number of telephone exchanges with one each. The number of PCOs stood high in Pudukkottai with 336 centres, Aranthangi with 321, Ponnamaravaty with 206 and Manamelkudi with no PCOs. Pudukkottai had recorded the maximum number of land line connections of 6,500, followed by Aranthangi with 5,233, Thirumayam 2,734, Ponnamaravathy 2,538 and the last Karambakkudi 397. Total number of landline connections were 24,109, while that of mobile phone were 1,35,273. Aranthangi again held the record for the number of mobile connections with 32,212. Consequently, it houses the maximum mobile towers in its taluk (321). Next, Pudukkottai had the maximum mobile users with 31,712 units, but it houses only 25 mobile towers. Avudaiyarkovil had the maximum number (385) of WLL



connections followed by Alangudi and Illupur (251 each). Pudukkottai had 144 WLL connections, which is lesser than most other taluks like Thirumayam 152, Gandharvakottai 200, Kulathur 216, etc. Only Karambakkudi had no WLL connections and mobile towers though its mobile phone users were 2,097 being the least of all.

**Table 8.3 Telecommunication System**

Sl. No	Blocks/ (Taluks wise)/District	No. of Tel.exch ange	No. of PCO	No. of land line	No. of WLL Connections	No. of Mobile Phone Connections	No. of Mobile phone Towers	Population Covered
1	Pudukkottai	1	336	6,500	144	31,712	25	2,29,294
2	Thirumayam	8	131	2,734	152	14,252	131	1,58,860
3	Gandharvakottai	2	91	789	200	4,169	91	89,926
4	Ponnamaravathi	6	206	2,538	120	13,409	206	1,08,579
5	Alangudi	3	111	1,612	251	9,212	111	1,70,361
6	Aranthangi	12	321	5,233	235	32,212	321	1,95,798
7	Avudaiyarkoil	4	62	734	385	3,878	62	87,306
8	Manamelkudi	3	0	1,306	112	6,900	85	86,589
9	Karambakkudi	1	26	397	0	2,097	0	1,106,12
10	Illupper	3	75	1,206	251	9,732	75	2,18,961
11	Kulathur	2	88	1,060	216	7,700	88	1,62,439
	District	45	1447	24,109	2,066	1,35,273	1,195	16,18,725

Source: Bharat Sanchar Nigam Limited, Pudukkottai.

## Financial Institutions

The data set out in Table 8.4 lists the financial institutions in the Pudukkottai district with a split up of all 13 blocks in the year 2013-14. Of the total 136 Co-operative societies, Aranthangi has 19, Gandharvakottai 15, Avudaiyarkovil and Thiruvarankulam 12 each, Annavasal 11, Pudukkottai and Viralimalai 10 each, Kunranarkovil, Ponnamaravathi, Karambakkudi and Manamelkudi nine each, Thirumayam 6, and Arimalm with the least of 5. Thiruvarnkulam has the maximum membership of 46,164 and Manamelkudi the least with 14,825. The total members of the district are 3,41,830 in co-operative societies, while that of account holders in commercial banks are 1,36,868 only. Though the number of banks are more (151) as against the societies (136), membership is more in societies. Annavasal with 26 tops the chart banks followed by Ponnamaravathy and Gandharvakottai 18 each, Aranthangi and Arimalam 14 each,

Viralimalai 12, Avudaiyarkovil 10 and Thiruvarankulam 5, the least. Aranthangi with 14 banks has the major number of account holders of 12,674 and Annavasal with 26 banks has only 5368 account holders.

**Table 8.4 Commercial and Co-operative Banks**

Sl. No	Blocks/District	Number of Co-Operative Societies	Number of Members	Commercial Banks	Number of Account Holders
1	Annavasal	11	35,762	26	5,368
2	Arimalam	5	17,149	14	5,306
3	Kunrandarkovil	9	25,659	8	10,913
4	Ponnamaravathi	9	28,791	18	14,487
5	Pudukkottai	10	31,879	7	8,787
6	Thirumayam	6	24,766	6	9,432
7	Viralimalai	10	26,476	12	12,674
8	Aranthangi	19	26,268	14	24,067
9	Avudayarkovil	12	17,206	10	4,685
10	Gandarvakkottai	15	25,034	18	7,425
11	Karambakkudi	9	21,851	7	7,564
12	Manamelkudi	9	14,825	6	6,305
13	Thiruvarankulam	12	46,164	5	19,855
	District	136	3,41,830	151	1,36,868

Source: Lead Bank Officer and Managing Director, PCC Bank, Pudukkottai

## Insurance

**Table 8.5 Insurance Companies**

Sl. No	Name of the Companies	No. of Branches	Polices Issued
1	United Insurance Co. Ltd.	1	9,200
2	The New India Assurance Company Ltd.,	1	24,185
3	National Insurance Company Ltd.,	1	9,722
4	Life Insurance Corporation Ltd, Pudukkottai.	3	51,075
	Total	6	94,182

Source: Concerned Institution. Pudukkottai.

Table 8.5 shows the list of insurance companies and the policy holders in the whole district. The LIC of India has 3 branches, United India, The New India Assurance, and National Insurance have one each. LIC has the major policy holders of 51,075, followed by New India Assurance with 24,185, then United India with 9,200 and last,

National Insurance with 9,722. On the whole there are about 94,182 policy holders for a total population of 16.1 lakh, i.e., 5.8 per cent of the total population.

## **Transport Facilities**

Pudukkottai is well connected by road and railways. The State Transport Corporation runs vehicles throughout the day connecting all towns and villages in and around Pudukkottai. Pudukkottai bus stand is a B grade bus station located in the centre of the town forming a nodal point for long distance and short distance buses plying through the town. NH 210, 226 and State highways 26 and 71 connect the district to other far off towns. Pudukkottai railway station is connected to Chennai and Rameshwaram on a daily basis and by weekly trains to Varanasi, Bhuvaneshwar, Puducherry and Kanyakumari. Apart from the above mentioned express trains, passenger trains run every day connecting Tiruchirappalli, Mannargudi, Karaikudi and Rameshwaram. The nearest airport is the International Airport at Tiruchirappalli, which is 55 kms away, connected by National Highway 210.

## **Conclusion**

The above chapter describes the various infrastructural facilities available in the blocks of Pudukkottai district. Viralimalai had the maximum length of total roads, 1077.53 km and Karambakkudi was with 1037.36 km. Gandarvakottai was last with 318.84 km total road length. In a few blocks like Ponnamaravathy, Aranthangi and Karambakkudi, mud roads were more than WBM and BT and CC roads. Pudukkottai district with 4096 hamlets had 1,78,165 street lights in 2013-14. The least populous block Thirumayam with 45 revenue villages and 260 hamlets was well electrified with 15,220 street lights. Thiruvankulam with the highest number of hamlets (486) and third highest population had only 10,737 street lights. Only 21.12 per cent of the population were members of cooperative societies, 8.46 per cent had bank accounts, and a mere 5.82 per cent had insurance, so the importance of cooperatives, banking and insurance needs to be educated.

Laying of new roads, linking of villages with semi-urban area and semi-urban areas with urban areas need to be speeded up. Electrification, telecommunication, banking and insurance especially for crops and cattle insurance need to be increased in the district. Awareness campaign with regard to the New insurance schemes (JAN DHAN YOJANA) needs to be made to reach the masses.



**CHAPTER 9**  
**SUMMARY AND WAY FORWARD**



---

**SUMMARY AND WAY FORWARD**

---

**Introduction**

- Pudukkottai district is divided into two revenue divisions, viz., Pudukkottai and Aranthangi and 13 blocks viz., Annavasal, Arimalam, Kunradarkovil, Ponnamaravathi, Pudukkottai, Thirumayam, Viralimalai, Aranthangi, Avudayarkovil, Gandarvakkottai, Karambakkudi, Manamelkudi, and Thiruvarankulam consisting of 763 revenue villages and 498 Village Panchayats.
- The per capita income of Pudukkottai district was Rs.24,973 in 2004-05 and increased to Rs.43,890, whereas for the State it was Rs.33,998 during 2004-05, which increased to Rs.63,996. On comparison with the previous years, it can be seen that though the per capita income of the district is less than the State in real terms, the growth rate of the district for the year 2011-12 is 8.79 per cent which is more than the State's growth rate of 6.71 per cent.
- The percentage of Below Poverty Line (BPL) households in the district was 1,47,620 in 2014. The lowest poverty level can be seen in Aranthangi with 30.97 per cent of the HHs below the poverty line followed by Kundrandarkoil with 31.85 per cent. Highest poverty levels can be seen in Ponnamaravathi and Pudukkottai with 51.13 per cent and 48.18 per cent. All these figures are on the higher side, which seems to be a major issue that needs urgent attention.
- The sector wise Gross District Domestic Product (GDDP) for Pudukkottai district provides a glimpse into the contribution by each sector to the output. The primary sector declined in actual numbers during 2007-08 and 2008-09, then it increased continuously. The other two sectors secondary and tertiary increased gradually all the years. In the year 2008-09, the secondary sector's increase was very marginal.
- The primary, secondary and tertiary GDDPs were Rs.1, 10, 717 lakhs, Rs1, 61, 601 lakhs and Rs.4, 09, 255 lakhs in 2011-12 respectively. The share of primary sector

to the GDDP was 16.24 per cent in 2011-12. The secondary sector contributed 23.71 per cent to the GDDP in the year 2011-12. While the contribution of the tertiary sector or service sector was 60.05 per cent.

- The major contribution of the tertiary sector to GDDP is increasing gradually, which shows the transformation from an agricultural base to a service sector driven economy.
- The contribution of the agriculture sector to the GDDP is the lowest compared to the other two sectors. This phenomenon is similar to the State and National levels.

## Status of Human Development

### Human Development Index

- The HDI of Pudukkottai district's various blocks shows that Pudukkottai block departs from all other blocks in the district with 0.730 HDI value. Aranthangi can be categorized separately as it gets a HDI value of 0.655, and another category can be formed of the Thirumayam (0.596) and Annavasal (0.527).
- The remaining blocks are way behind in the development sphere. Gandharvakottai and Karambakkudi stand last in terms of HDI as they perform poorly, compared to the district level in several indicators used in the HDI.
- These poorly performing blocks need immediate attention in terms of development initiatives.
- The particular areas (indicators) where attention is required have been pointed out in the earlier discussion regarding HDI in Chapter 2 and those particular areas may be targeted in the respective blocks in order to improve the level of human development there.

### Gender Inequality Index

- The GII of the various blocks of Pudukkottai district reveals the variations in terms of gender-wise achievements. Annavasal block performs better with lowest GII value of 0.006 followed by Pudukkottai block (0.013). Eight blocks have GII value more than 0.050 indicating more gender inequality in these blocks compared to the other blocks in the district.
- Thiruvarankulam block with a GII value of 0.105 is the most gender unequal block among the various blocks in Pudukkottai district followed by Arimalam



with 0.096. This is due to reason that they have very high MMR, low Female Literacy Rate, high gender gap in Literacy Rate, low Female WPR in Non-Agricultural Sector and high gender gap in Agricultural Wage Rate.

- All these blocks may not have uniform issues, the indicators where the gender gap is wide have been indicated in the earlier discussion and those particular areas may be targeted in the respective blocks in order to achieve gender equality. What needs to be done uniformly in all these blocks is gender sensitization.

### **Child Development Index**

- The CDI of Pudukkottai district's 13 blocks shows moderate variations among the blocks with regard to child development. As in the case of HDI, Pudukkottai block performs best in terms of CDI with 0.766 index value.
- Thirumayam, Viralimalai and Aranthangi can be categorised in the range 0.600 – 0.700; Annavasal, Thiruvarankulam, Manmelkudi, Arimalam and Ponnamaravathi can be classified in the range 0.500 – 0.600; while, Karambakkudi, Gandharvakkottai and Avudaiyarkovil can be classified in the range 0.400 – 0.500.
- The blocks in the range 0.400–0.600 need immediate attention with regard to child development.
- The immediate measures to be taken are in the education front, like strengthening of enrolment, improving transition rates and curtailing dropouts. Also the provision of nutritious meals at anganwadis to improve the malnourishment level of the children needs to be strengthened.
- Awareness campaign regarding the importance of female child needs to be strengthened in all the blocks of the district in order to improve the Child Sex Ratio.

### **Multidimensional Poverty Index**

- The MPI of the various blocks of Pudukkottai district shows the different levels of deprivation in the blocks. Here, Thirumayam and Pudukkottai perform better compared to the other blocks with MPI values 0.239 and 0.317 respectively. These blocks with lower MPI values indicate lower deprivation in these blocks compared to the other blocks of Pudukkottai district.
- The blocks with the higher MPI values indicate higher deprivation. Five blocks

fall in the range 0.400-0.500, while six blocks, viz., Gandharvakkottai (0.678), Viralimalai (0.645), Ponnamaravathi (0.624), Manamelkudi (0.600), Karambakkudi (0.597) and Thiruvarankulam (0.525) fall in the range 0.500 – 0.700.

- These blocks perform poorly or worse than the district level in all the indicators except one or two indicators.
- The discussion regarding the particular issues in each block regarding MPI in Chapter 2 can be used to take initiatives in the appropriate directions in the respective blocks in order to address the issues of deprivation.
- Overall, the status of human development in the various blocks of Pudukkottai district suggests that Pudukkottai block performs well in all indices followed by Thirumayam and Aranthangi may be considered to some extent in this regard. Annavasal and Avudaiyarkovil blocks seem to be performing averagely, while the remaining blocks need attention in various areas.
- The better performing blocks are only performing better compared to the other blocks, there are areas where the better performing blocks also need attention. So, interventions in the necessary areas as indicated in the discussions need to be focused upon in the respective blocks for achieving balanced development in the district.

## **Employment, Income and Poverty**

- Pudukkottai District, formed in early 1970, still continues to be a relatively (compared to other districts in Tamil Nadu) backward district. Though many development programmes, have been started, the relative backwardness continues, of course, with natural growth and hence, not much improvement in the per capita income (compared to the State level) can be noticed.
- In the sectoral GDDPs, it is encouraging to note that the secondary sector or the manufacturing sector is growing faster in the district compared to the primary sector as it performs poorly.
- A substantial increase is noticed in the WPR between 2001 and 2011 in Arimalam, Viralimalai and Karambakkudi but they differ widely in terms of economic structure.
- Whereas it is also noticed that only a small increase in the percentage of main workers and decrease in the percentage of non-workers and marginal worker but,

the reduction is much smaller than the increase in the percentage of total workers.

- The total female workers are more in Karambakkudi followed by Viralimalai but lower in male work participation rate whereas, in Pudukkottai and Manalmelkudi have low female and high male work participation rate.
- The total worker population has increased in the district as well as in all the blocks. In the Cultivators category, five blocks show an increase over the period 2001 to 2011, while eight blocks record a decline.
- In the case of agricultural labourers, all the 13 blocks record an increase in 2011 over 2001. There is a decline in the percentage of cultivators and household industrial workers.
- Overall, the size of the work force has increased over the years with much variation among blocks, while the work force participation rate remains somewhat the same between 2001 and 2011.
- In terms of households provided with employment under MGNREGA in the year 2013-14, Kunrandarkovil block tops the chart with provision of jobs to 89 per cent households under MGNREGA. Eight blocks perform better than the district level of 58 per cent. Three blocks, viz., Thirumayam, Manamelkudi and Thiruvarankulam performs below the 50 per cent level. None of the blocks provides job at the 90 percent level.
- Highest poverty levels can be seen in Ponnamaravathi and Pudukkottai. On the whole, the performance of the district is very poor in terms of poverty. The poverty in the district seems to be wide spread and pervasive among all the blocks, which should be a cause of concern.
- In the block-wise Social Groups and Operational Land Holdings for the year 2009-10, Viralimalai block has the highest number of Landless Labourers and highest in the Less Than One Hectare category and also high in More than One Hectare land because it has very high number of SC households.
- Among Other Social Groups, Kundrandarkoil has the highest number of Landless Labourers, Aranthangi has the highest number of farmers having Less than One Hectare of land.
- Pudukkottai has the highest number of farmers having More than One Hectare of Land.

- The land holding pattern is tilted towards the upper castes, while the SCs remain casual labourers. So, development in this district requires some big-push, a large public sector investment, which is absent since the beginning.
- People living in arid areas like Pudukottai should be provided with more employment opportunities throughout the year as agriculture depends on the vagaries of monsoon.
- The major and persistent problem of Pudukkottai district is the backward dry farming. Some private bore-well irrigation sources have come up, thanks to the efforts made by rich politically powerful sections of the society. But, they are not sufficient, for, they have their own drawbacks.
- Hence, public sector investment to irrigate the dry lands is urgently required. The relative backwardness and persistent Poverty and unemployment has worsened the living conditions of the people.

### **Demography, Health and Nutrition**

- The CBR in the district has decreased from 17.1 in 2009 to 15.9 in 2014. The CBR declined in 11 blocks of Pudukkottai district between 2009 and 2014.
- CDR has declined in the district thanks to improved health awareness and accessing health care services system developed by the State Government. Life Expectancy at birth in the district among female was higher than male and equaled the State levels.
- Over all Sex Ratio (1015) and Child Sex Ratio (960) in the district during 2011 were higher than that of the State and the Country, owing to the measures taken by the State to mitigate mortality during child birth, female infanticide and increased health awareness for nutritional status among children and pregnant women.
- Anyhow, it could not be denied that there was boy preference vehemently present in the district which could be changed only over a period of time with incessant and insistent statutory and non-statutory measures to be administered by Government departments and NGOs.
- IMR in the district has decreased from 15.2 in the year 2009 to 12.0 in the year 2014, thanks to four fold increase in the number of physicians in the PHCs and GHs by the State Government.

- Women employment, education for women and high female worker participation in the economic growth were the reasons for the decrease in the IMR till 2010. Post-natal mortality was higher than the neo-natal mortality in the district showing that there was not enough child care for the newly born. Adequate counseling to married couples and pregnant mothers would fetch desirable results in this regard.
- MMR of the district (82) was higher than that of the State (68) and had not changed between 2009 and 2014. A closer analysis of this problem brought out a fact that MMR was due to the hypertension at delivery time and high anemic status of pregnant mothers.
- Large number of these MMR related problems could be prevented by addressing the above said issues. Health Information System, High Health Intelligence Quotient, Linkages of Primary Health Centers with District Level and State Level Health Organizations and training selected villagers and ICDS staff as health workers need to be initiated.
- Water and Sanitation seemed inseparably intertwined to ensure sustenance of health in the state. In Pudukkottai district 95 per cent of habitations were covered with access to drinking water facility. But, better leak detecting techniques and repair of broken taps or replacement of the same, would improve the drinking water supply in the district.
- Rain Water Harvesting insisted by the State Government has started bearing fruit in the district. Ground Water Level in the district has gone up.
- Waste water and Garbage disposal system in the district are to be handled with more care. Unmindful dumping wastages in the rain water storms and solid medical wastages in the local water bodies spoil the quality of water and overall health and hygiene.
- In Pudukkottai district 56.48 per cent of the households had access to toilet facility. There are households which have built toilets using government schemes to avoid open defecation.
- Women and girls either use the sanitary complexes built mostly in the outskirts of their residential places or remote places in the evening hours which make them fall prey to snake bites or other pest attacks.
- Male are very precarious about using toilet facilities. Open air defecation is very common in the district which makes the people more prone to water related

diseases. Awareness about the benefits of toilet usage and strict statutory measures could bring forth desirable results in this regard.

- The prevalence of HIV has declined in the district. But, the HIV patients found in the age groups of 30-39 and 40-49 (both male and female) are to be addressed with appropriate package of treatment. Counselling and followup measures could help solve the problems.
- In Pudukkottai district, Aranthangi had registered the highest number of TB cases between 2007 and 2012. Rehabilitative ventures through TB Sanatoriums could improve the situation.
- Air Pollution caused by Granite Quarries was the major cause for increasing Chronic Obstructive Pulmonary Disease (COPD), Bronchial Asthma related restrictive lung diseases and thereby increasing TB cases in the district. Corrective measures should be initiated to mitigate the problems. Satellite Sanatoriums need to be started more in the district.
- In view of addressing the neo-natal mortality, post-natal care, health of women, water and sanitation status and other health related issues, target and area specific schemes were to be implemented with war speed.
- Integrated approaches between Health and Education Departments co-ordinated by district authority would fetch results.
- People Participatory Approach and Peoples Movement initiated by NGOs and Socially Interested Groups (SIGs) in safeguarding water bodies and environment and Health could make strides in the growth.
- There has been impressive growth in physical infrastructure and personnel in public health care in the district.

## **Literacy & Education**

- The literacy rate for Pudukkottai district was 77.19 per cent, which was 3.14 per cent lower than the State literacy rate of 80.33 per cent as per Census 2011. The male and female literacy rates of the district were 86.56 per cent and 69 per cent in 2011 respectively, which shows an increase of nearly 10 per cent in female literacy rate and three per cent in male literacy rate compared to the 2001 Census. The literacy rate gap between male and female in Pudukkottai district is 16.56 per cent.

- As far as block-wise variations in the literacy rate achievement are concerned, Pudukkottai block stands at the top. It is higher than the District and State literacy rates. Manamelkudi and Aranthangi blocks also have higher literacy rates than the District and State.
- The primary level enrolment in Pudukkottai district during the period 2011-12 to 2013-14 reveals that the enrolment has increased by 2.13 per cent among boys and 3.10 per cent among girls. The overall increase has been 2.70 per cent.
- Block-wise variations in comparison with district level indicate that Pudukkottai block has shown the highest increase during the reference period of 16.73 per cent, followed by Arimalam with 12.47 per cent increase. Avudaiyarkovil, Karambakkudi, Annavasal and Gandharvakkottai register a fall in the primary enrolment rate during the reference period.
- Block-wise gender differences in primary enrolment showed that Thirumayam registered the maximum difference of 10.04 per cent against girls followed by Ponnamaravathi (4.05 per cent). Arimalam (5.55 per cent) and Viralimalai (5.45 per cent) recorded gender differences in the primary enrolment rate are in favour of girls.
- Block-wise deviations from the district level has been analysed and it is found that Thirumayam block registered the highest increase of 18.87 per cent in the upper primary enrolment rate during the reference period followed by Pudukkottai (17.81). It has been influenced by the increase in both boys' and girls' enrolments.
- The highest fall in the upper primary enrolment rate was found in Avidaiyarkovil (13.23 per cent) during the reference period followed by Karambakkudi (9.52 per cent).
- The district transition rate of primary to upper primary has been generally good touching the 99 per cent mark. Between boys and girls, boys transition rate was marginally higher than the girls in 2013-14.
- Overall, the transition from upper primary to secondary level for Pudukkottai district indicated that all the blocks were performing well in this regard.
- Access to school has been the major factor for rural children to enroll. Even if there is a school close to their residence, the children may remain absent for various other reasons including parental absence when both parents go out for

work or to look after the household activities to provide income to the poverty stricken children.

- Hence, the intervention may focus on providing day care centres for babies. Such day care centres must link with the households where dropout occurs, so that reasons for dropout could be identified and addressed accordingly.
- The Government Schools had better PTR compared to the Aided and Private Financed School categories. The inter-block variations reveal that the PTR was higher than the district level in most of the blocks, while in some blocks like Thirumayam, Avudayarkovil and Arimalam, it was lower than the district level in the Government Schools category.
- The lowest PTR in private schools was found in Thirumayam followed by Arimalam and Thiruvarankulam. Viralimalai has relatively more number of students per teacher at the primary and upper primary levels in the private schools.
- Much variation in the enrolment rate at the secondary level can be noticed among the blocks in the year 2013-14, while such variation was absent in the year 2012-13. Arimalam, Thirumayam, Avudaiyarkovil, Gandharvakkottai and Manamelkudi are the blocks in the district, which has performed poorly in terms of secondary enrolment for both boys and girls.
- The Gender-wise enrolment showed that girls' enrolment at the secondary level was lower than the boys' enrolment. The gender gap was 0.31 per cent at the secondary level.
- At the district level, the overall dropout rate at the secondary level has reduced from 9.20 per cent in 2011-12 to 3.25 per cent in 2013-14, similarly boys' and girls' dropout rates have also reduced from 11.49 per cent and 7.29 per cent to 4.27 per cent and 2.06 per cent during the same period respectively.
- All the schools are equipped with drinking water and desk and chair facilities in the Higher Secondary Schools but Thiruvarankulam and Ponnamaravathy, do not have access to girls' toilet and Manamelkudi and Thiruvarankulam have reported relatively more schools without electricity.
- Access to education in sufficient levels would encourage more students to join the educational stream. Efforts are needed in identifying the gray areas of intervention, which will take Pudukkottai district to achieve better participation



of students in schools and colleges, improve the performance and contribute to Human Development Indicators.

- The commitment and involvement in the Educational Department is commendable, which may need to be sustained with the support, networking and collaboration of civil society, parents and other social structures.
- The minimum gap existing in certain backward blocks may be improved with further intervention. The State is committed to universalize education for which it has been a pioneer in introducing activity based learning, providing nutritious noon meals, making special efforts to improve the performance of slow learners, enhance the participation of both boys and girls such that there will be zero dropout and cent per cent transition from lower to higher levels of education.
- There has been also initiative to reduce and eliminate the gender gaps through various schemes including SSA, Kusturbha Gandhi Balika Vidhalaya (KGBV). Also the days are not far to realize cent per cent enrollment and zero per cent dropout in school education.
- The enrollment in higher education however has been poor and also there is presence of gender gap. It is recommended that additional hostel facilities may be provided to enable rural and tribal boys and girls to get education and a need-assessment survey may be conducted to arrive at the actual needs of the students.
- The participation of the community including parents, SHGs and civil society organizations to work with line departments would be a prerequisite to sustain the initiatives already being taken in this regard.
- Further, employability linked with quality of education is the need of the hour and hence, the teachers need to provide enabling environment for the students to access the various opportunities that are in store.

## Gender

- The female population of the district was 8,15,157, which is 50.37 per cent of the total population. As the percentage of female population is more than the 50, the sex ratio is tilted towards female at 1,015, which is a good trend but the female literacy rate was 69 per cent and was lower than the male literacy rate in the district as well as the female literacy rate at the State level as per the Census 2011. Whereas the district female school enrolment at the primary level stood at 103.46

in 2013-14, which was better than the district male and State female rates of 102.22 and 102.42 respectively.

- The MMR of the district was 82 in the year 2013-14, which is far behind the State rate of 68. The percentage of women in the non-agricultural sector was four times lower than the agricultural sector in Pudukkottai district as per the Census 2011.
- The percentage of women in non-agricultural sector has been lower than both the State and National levels. It indicates that only less than 10 per cent of the women were able to assume non-farm employment, which is supported by the fact that relatively more women are in farm employment. So, except the share in population and literacy rate and employment in agriculture, the participation of women needs to be improved to reduce the gender gap.
- Only when women are employed in paid employment, it will prepare them to participate in decision making position. Any scheme for their empowerment needs to concentrate on increasing the economic participation of women and recognition of such employment.
- Pudukkottai block tops with maximum number of SHGs (1600) followed by Aranthangi, Thiruvarankulam and Viralimalai with above 1500 SHGs. The lowest number of SHGs has been found in Thirumayam (572) with twice less than the top blocks.
- Female participation in State Government employment (36.1 per cent) has been little higher than private companies (28.1 per cent) during 2011-12.
- The representation of women in local bodies and assembly illustrates that Avudaiyarkoil tops with 44.37 per cent followed by Manamelkudi, Pudukkottai, Aranthangi and Thirumayam blocks which are the top five blocks in women's political participation.
- Viralimalai and Kundrandarkoil receive the least representation among all the blocks with lower percentage of women in Local Bodies and Assembly in Pudukkottai district during 2011.
- In a broader sense, gender has been integrated as a category of analysis, but there are several areas where the gender disaggregated data is not available.
- The indicators taken for analysis, be it access to resources, collective participation among grass root women, or poor economic and political participation

would yield fruits only when more variables are included and that too qualitative indicators.

- The gender analysis of achievement of women in relation to men with respect to access to credit and control over resources, employment, participation in SHG, politics, etc., revealed that there has been progress during 2011-12. All such progress could happen due to positive discrimination to compensate for historical and social disadvantaged position of women.
- The progress experienced need to be converted into real empowerment, be it economic or political participation.
- The existing incentives and provisions to empower women in all fields right from education to political participation need to be continued with integration of qualitative focus, to bring about changes in perceptions.
- Attitudes and mindset with realization of qualitative change, the mere quantitative change expressed in numbers may not help as the independent participation of women in every field is necessary.
- The gender stereotypical perspective that boys' education will bring direct returns and girls' would not, must be erased through qualitative interventions such as compulsory component of education on the traditional social norms and cultural impositions and their contexts, the changing gender roles and the expectations from both home and career for men and women, the entry of women into male domains and the acceptance, etc.

## Social Security

- Pudukottai district considered to be one of the backward districts of Tamil Nadu owing to its lack of water resources has done well in provision of social assistance to its citizens.
- The population above 60 years was 1,64,370 in 2011, which was 10.16 per cent of total population. Among the 60 plus group the female outnumbered the male to a smaller degree – 82,929 females (50.45 per cent) as against 81,441 males (49.55 per cent). This clearly brings out the need for social security measures for the target population.
- Totally 39,144 persons got OAP out of which, 33,359 persons aged above 60 years, 4,558 destitute widows and 1,227 disabled persons got OAP.

- Pension exclusively for other women like deserted women and unmarried women would benefit women to manage their lives independently and respectfully.
- Population of such dry, arid area needs more assistance for their subsistence, as people depend on rain for their work and earnings.
- On the improvement of female status with two flagship programs like Maternity assistance and marriage aid, the Government scheme of marriage assistance needs to reach more areas as only 2,999 persons have availed it in 2013-14.
- Pudukkottai district data on assistance to differently abled shows various categories of differently abled persons getting financial assistance such as persons with locomotor disability (12,072), hearing impaired (4,273), mentally retarded (3,743), cerebral palsy (939), visually impaired (1055), multiple disorder (797), leprosy (478), mental illness (722) and AU (2).
- It could be said that the overall security for girls and women has improved over the years by the reduction in the number of cases registered in the police stations across the district.
- Empowerment of women through education and employment would bring down the crime rates further and lead to zero crime in the near future.

## Infrastructure

- Tamil Nadu has shown a giant leap in the infrastructure development over the past decade owing to the initiatives of the Government. Most cities are connected with highways and their maintenance outsourced to private players. This has created, less travel time, comfortable journey and better mobility of goods.
- Distribution of roads in Pudukkottai district during the year 2013-14 shows a total coverage of 9,555.18 km length of roads.
- Electrification and street lights are more or less evenly distributed depending upon the area and population and the telecommunications system seems to be spread out well in the district except Karambakkudi, which has no mobile towers.
- Pudukkottai has seven and Annavasal has 26 commercial banks and similarly Pudukkottai has only 9 and Aranthangi has 21 co-operative societies in its precincts. It is unlike other districts where district headquarters receive major development programs than other blocks.

- Pudukottai, once the seat of the ruling Pudukottai Rajas, houses many old palaces and buildings and also has Sittanavasal, a Jain cave temple with archeological value, improvement of connectivity both by road and rail would attract more tourists and create more employment to the locals. Consequently, other facilities like banks, hotels, cabs, guides, would develop leading to high standard of living.
- World famous, Karaikudi Chettinad houses belong to this district and most houses are now being converted into resorts or hotels. Better road connectivity and other infrastructure facilities would pave way for more tourists opting to stay in these houses.
- Development of industrial sector, which is not water intensive, would create more jobs for the people. Construction of canals and pipes to provide potable water throughout the year could be the best step taken for improvement of this district. Programs to sensitize female population about the marriage assistance scheme would lead to motivation of female education till schooling and further graduation.
- Thus, policy to develop all blocks concomitantly is necessary so as to make the district a forward one in development.

## Conclusion

The District Human Development Report has laid emphasis on the overall development of the various sectors of the district focusing on the development outcomes in terms of human development, gender parity, child development and poverty. The core indicator of development still remains the Per Capita Income, which in Pudukkottai district has increased by 9.52 per cent over the past decade; however it has a long way reach the State level. The district BPL HHs stood at 41.21 per cent, which is also a big concern. Some transformation can be noticed in terms of the contribution of each sector to the GDDP; the expansion of the tertiary sector and the shrinkage of the primary sector, so Pudukkottai district seems to move from an agricultural base to a service sector driven economy. Regarding outcomes in terms of the various indices, overall, the status of human development in the various blocks of Pudukkottai district suggests that Pudukkottai block performs well in all indices followed by Thirumayam and Aranthangi may be considered to some extent in this regard. Annavasal and Avudaiyarkovil blocks seem to be performing averagely, while the remaining blocks need attention in various areas.



# ANNEXURES





**Table 2.1 Human Development Index**

Sl.No.	Blocks	Data										
	Indicators	Standard of Living					Health			Education		
	Year	Access to Cooking Fuel	Access to Toilet Facilities	Access to Drinking Water	Access to Electricity	Access to Pucca Houses	IMR	MMR	U5MR	Literacy Rate	GER Primary	GER Secondary
	Source	2011	2013-14	2013-14	2011	2011	20013-14 Health Dept.	2013-14 Health Dept.	2013-14 Health Dept.	2011 Census	2013-14 Educ. Dept.	2013-14 Educ. Dept.
	Unit	Census	NBA	NBA	Census	Census	Rate	Ratio	Rate	%	%	%
	Type	%	%	%	%	%	Rate	Ratio	Rate	%	%	%
		Positive	Positive	Positive	Positive	Positive	Negative	Negative	Negative	Positive	Positive	Positive
1	Annavaasal	11.92	58.17	91.97	92.39	92.65	10.60	10.0	13.84	71.67	94.15	94.75
2	Arimalam	43.95	53.86	93.33	88.55	84.95	13.10	140.0	10.70	73.98	112.17	42.71
3	Kundrandarkoil	20.82	52.68	96.76	91.64	74.57	14.00	160.0	11.36	72.60	102.43	102.47
4	Ponnamaravathi	19.51	62.75	94.53	91.07	39.67	12.10	120.0	12.66	74.36	109.7	103.14
5	Pudukkottai	49.55	85.28	89.79	93.91	78.77	15.70	10.0	18.28	84.71	115.63	275.91
6	Thirumayam	44.33	84.44	94.92	89.49	79.76	11.20	90.0	10.52	76.11	109.57	57.62
7	Viralimalai	9.43	41.58	92.83	90.59	72.00	16.10	80.0	12.68	71.40	100.7	104.18
8	Aranthangi	23.63	45.54	96.71	90.30	78.48	15.60	30.0	12.70	81.39	104.59	165.05
9	Avudayarkoil	21.33	49.27	99.38	85.18	81.81	7.90	20.0	15.30	79.43	82.39	71.65
10	Gandharvakkottai	10.91	51.99	89.77	91.74	69.00	23.90	30.0	15.20	70.57	96.09	48.87
11	Karambakkudi	7.38	57.15	92.22	90.39	62.96	18.40	40.0	15.80	73.75	90.99	148.17
12	Manamelkudi	20.00	36.60	100.00	89.19	71.79	11.50	40.0	12.60	82.51	103.76	53.49
13	Thiruvarankulanm	13.87	34.52	97.72	90.14	91.80	18.40	130.0	15.70	80.01	102.47	112.45

**Table 2.2 Human Development Index**

Sl. No.	Blocks	Indices										
		Standard of Living					Health			Education		
		Access to Cooking Fuel	Access to Toilet Facilities	Access to Drinking Water	Access to Electricity	Access to Pucca Houses	IMR	MMR	U5MR	Literacy Rate	GER Primary	GER Secondary
1	Annavasal	0.123	0.500	0.582	0.912	1.000	0.853	1.000	0.654	0.385	0.482	0.237
2	Arimalam	0.870	0.420	0.653	0.689	0.865	0.717	0.217	0.981	0.494	0.917	0.018
3	Kundrandarkoil	0.331	0.399	0.831	0.868	0.682	0.668	0.096	0.912	0.429	0.682	0.270
4	Ponnamaravathi	0.300	0.584	0.715	0.835	0.070	0.772	0.337	0.777	0.512	0.857	0.272
5	Pudukkottai	1.000	1.000	0.468	1.000	0.756	0.576	1.000	0.191	1.000	1.000	1.000
6	Thirumayam	0.878	0.984	0.735	0.744	0.774	0.821	0.518	1.000	0.594	0.854	0.081
7	Viralimalai	0.065	0.194	0.627	0.808	0.637	0.554	0.578	0.775	0.372	0.640	0.277
8	Aranthangi	0.396	0.267	0.829	0.791	0.751	0.581	0.880	0.773	0.843	0.734	0.533
9	Avudayarkoil	0.342	0.336	0.968	0.494	0.810	1.000	0.940	0.501	0.751	0.199	0.140
10	Gandharvakkottai	0.100	0.386	0.467	0.874	0.585	0.130	0.880	0.512	0.333	0.529	0.044
11	Karambakkudi	0.017	0.481	0.595	0.796	0.479	0.429	0.819	0.449	0.483	0.406	0.462
12	Manamelkudi	0.311	0.102	1.000	0.727	0.634	0.804	0.819	0.783	0.896	0.714	0.063
13	Thiruvarekulanm	0.168	0.064	0.881	0.782	0.985	0.429	0.277	0.460	0.778	0.683	0.312

**Table 2.3 Human Development Index**

Sl.No.	Blocks	Standard of Living Index	Health Index	Education Index	Overall Index	Rank
1	Annavasal	0.504	0.823	0.353	0.527	4
2	Arimalam	0.677	0.534	0.201	0.418	11
3	Kundrandarkoil	0.579	0.389	0.429	0.459	8
4	Ponnamaravathi	0.374	0.587	0.493	0.476	7
5	Pudukkottai	0.813	0.479	1.000	0.730	1
6	Thirumayam	0.818	0.752	0.345	0.596	3
7	Viralimalai	0.333	0.628	0.404	0.439	9
8	Aranthangi	0.554	0.734	0.691	0.655	2
9	Avudayarkoil	0.537	0.778	0.275	0.486	6
10	Gandharvakkottai	0.391	0.388	0.198	0.311	13
11	Karambakkudi	0.285	0.541	0.449	0.410	12
12	Manamelkudi	0.430	0.802	0.344	0.491	5
13	Thiruvankulam	0.374	0.380	0.549	0.427	10

**Table 2.4 Gender Inequality Index**

Data																
	Blocks	Health			Empowerment						Labour					
Sl. No.	Indicators	MMR	Share of Institutional Deliveries	Share of Ante Natal Coverage	Female Literacy	Male Literacy	Share of female Children (0-6) years	Share of male Children (0-6) years	Share of Female Elected Representatives in RLBs and ULBs	Share of Male Elected Representatives in RLBs and ULBs	Female Worker Participation Rate	Male Worker Participation Rate	Female Worker Participation Rate in Non-Agri Sector	Male Worker Participation Rate in Non-Agri Sector	Female Agri. Wage rate	Male Agri. Wage rate
	Year	2013-14	2013-14	2013-14	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2013-14	2013-14
	Source	Health Department			Census				RD&PR Department		Census				DOES	
	Unit	Ratio	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Type	-ve	+ve	+ve	+ve	+ve	+ve	+ve	+ve	+ve	+ve	+ve	+ve	+ve	+ve	+ve	+ve
1	Annavasal	10.0	100.00	91.97	78.77	90.70	48.75	51.25	37.00	63.00	39.19	59.01	21.31	40.87	150.00	300.00
2	Arimalam	140.0	100.00	97.52	62.74	80.72	49.30	50.70	37.00	63.00	33.95	59.56	20.55	30.85	120.00	350.00
3	Kundrandarkoil	160.0	100.00	93.95	64.27	83.91	48.88	51.12	36.00	64.00	42.69	60.50	15.89	21.45	120.00	300.00
4	Ponnamaravathi	120.0	100.00	97.33	66.99	85.29	48.59	51.41	38.00	62.00	38.19	58.78	16.22	35.82	120.00	300.00
5	Pudukkottai	10.0	99.90	101.25	61.33	79.76	48.90	51.10	40.00	60.00	25.85	56.64	51.39	73.63	125.00	300.00
6	Thirumayam	90.0	99.90	99.40	62.39	80.51	49.33	50.67	38.00	62.00	32.75	58.65	26.38	37.03	120.00	300.00
7	Viralimalai	80.0	99.80	95.65	64.47	84.54	49.01	50.99	34.00	66.00	43.54	60.36	19.14	38.73	100.00	300.00
8	Aranthangi	30.0	100.00	96.40	71.69	88.63	48.97	51.21	39.00	61.00	31.67	58.04	17.18	36.75	100.00	300.00
9	Avudayarkoil	20.0	100.00	99.50	64.11	81.10	49.25	50.75	44.00	56.00	37.07	60.70	9.74	28.01	120.00	350.00
10	Gandharvakkottai	30.0	100.00	98.90	74.15	89.13	49.45	50.55	37.00	63.00	41.66	59.36	8.92	17.52	180.00	350.00
11	Karambakkudi	40.0	100.00	97.10	71.48	87.40	48.10	51.90	37.00	63.00	43.22	56.98	13.08	23.58	120.00	300.00
12	Manamelkudi	40.0	100.00	106.50	75.70	89.45	49.92	50.08	39.00	61.00	26.95	59.50	23.44	53.88	150.00	300.00
13	Thiruvarekulanm	130.0	100.00	101.70	64.54	83.28	49.11	50.89	37.00	63.00	36.26	57.99	15.29	32.51	100.00	300.00

**Table 2.5 Gender Inequality Index**

Sl.No	Blocks	Indices														
		Health			Empowerment						Labour					
		MMR	Share of Institutional Deliveries	Share of Ante Natal Coverage	Female Literacy	Male Literacy	Share of female Children (0-6) years	Share of male Children (0-6) years	Share of Female Elected Representatives in RLBs and ULBs	Share of Male Elected Representatives in RLBs and ULBs	Female Worker Participation Rate	Male Worker Participation Rate	Female Worker Participation Rate in Non-Agri Sector	Male Worker Participation Rate in Non-Agri Sector	Female Agri. Wage rate	Male Agri. Wage rate
1	Annavasal	1.000	1.000	0.920	0.788	0.907	0.488	0.513	0.370	0.630	0.392	0.590	0.213	0.409	0.667	0.375
2	Arimalam	0.071	1.000	0.975	0.627	0.807	0.493	0.507	0.370	0.630	0.339	0.596	0.206	0.308	0.333	1.000
3	Kundrandarkoil	0.063	1.000	0.940	0.643	0.839	0.489	0.511	0.360	0.640	0.427	0.605	0.159	0.214	0.333	0.375
4	Ponnamaravathi	0.083	1.000	0.973	0.670	0.853	0.486	0.514	0.380	0.620	0.382	0.588	0.162	0.358	0.333	0.375
5	Pudukkottai	1.000	0.999	1.013	0.613	0.798	0.489	0.511	0.400	0.600	0.259	0.566	0.514	0.736	0.389	0.375
6	Thirumayam	0.111	0.999	0.994	0.624	0.805	0.493	0.507	0.380	0.620	0.327	0.586	0.264	0.370	0.333	0.375
7	Viralimalai	0.125	0.998	0.957	0.645	0.845	0.490	0.510	0.340	0.660	0.435	0.604	0.191	0.387	0.111	0.375
8	Aranthangi	0.333	1.000	0.964	0.717	0.886	0.490	0.512	0.390	0.610	0.317	0.580	0.172	0.368	0.111	0.375
9	Avudayarkoil	0.500	1.000	0.995	0.641	0.811	0.493	0.508	0.440	0.560	0.371	0.607	0.097	0.280	0.333	1.000
10	Gandharvakkottai	0.333	1.000	0.989	0.742	0.891	0.495	0.506	0.370	0.630	0.417	0.594	0.089	0.175	1.000	1.000
11	Karambakkudi	0.250	1.000	0.971	0.715	0.874	0.481	0.519	0.370	0.630	0.432	0.570	0.131	0.236	0.333	0.375
12	Manamelkudi	0.250	1.000	1.065	0.757	0.895	0.499	0.501	0.390	0.610	0.270	0.595	0.234	0.539	0.667	0.375
13	Thiruvarankulanm	0.077	1.000	1.017	0.645	0.833	0.491	0.509	0.370	0.630	0.363	0.580	0.153	0.325	0.111	0.375

**Table 2.6 Gender Inequality Index**

Sl.No.	Blocks	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	Annavasal	0.972	1.000	0.522	0.664	0.382	0.449	0.579	0.668	0.620	0.986	0.593	0.415	0.624	0.006	1
2	Arimalam	0.411	1.000	0.486	0.636	0.285	0.569	0.385	0.713	0.500	0.706	0.561	0.427	0.553	0.096	12
3	Kundrandarkoil	0.389	1.000	0.484	0.650	0.283	0.365	0.376	0.619	0.468	0.694	0.567	0.324	0.503	0.070	10
4	Ponnamaravathi	0.433	1.000	0.498	0.648	0.274	0.429	0.390	0.653	0.488	0.716	0.573	0.352	0.525	0.070	9
5	Pudukkottai	1.004	1.000	0.493	0.625	0.372	0.539	0.569	0.696	0.626	1.002	0.559	0.456	0.634	0.013	2
6	Thirumayam	0.480	1.000	0.489	0.632	0.307	0.433	0.416	0.650	0.507	0.740	0.561	0.370	0.535	0.053	6
7	Viralimalai	0.492	1.000	0.475	0.658	0.210	0.444	0.366	0.664	0.472	0.746	0.567	0.327	0.517	0.087	11
8	Aranthangi	0.685	1.000	0.515	0.652	0.182	0.431	0.401	0.655	0.497	0.842	0.584	0.307	0.532	0.066	8
9	Avudayarkoil	0.792	1.000	0.518	0.613	0.229	0.554	0.455	0.698	0.551	0.896	0.566	0.392	0.583	0.056	7
10	Gandharvakkottai	0.691	1.000	0.514	0.657	0.334	0.470	0.491	0.676	0.569	0.845	0.586	0.402	0.584	0.025	3
11	Karambakkudi	0.624	1.000	0.503	0.659	0.266	0.369	0.437	0.624	0.514	0.812	0.581	0.318	0.531	0.032	5
12	Manamelkudi	0.643	1.000	0.528	0.649	0.348	0.494	0.491	0.684	0.572	0.822	0.589	0.421	0.588	0.028	4
13	Thiruvankulam	0.428	1.000	0.489	0.644	0.183	0.414	0.337	0.643	0.443	0.714	0.567	0.298	0.494	0.105	13

**Table 2.7 Child Development Index**

Sl.No	Blocks	Indicators									
		Indicators	Health			Education					
			U5MR	Child Sex Ratio (0-6)	Percentage of Malnourished Children	Enrollment in Primary	Enrollment in Secondary	Children Never Enrolled in Schools	Transition Rate from Primary to Upper Primary	Transition Rate from Upper Primary to Secondary	
			Year	2013-14	2011	2013-14	2013-14	2013-14	2013-14	2013-14	2013-14
			Source	Health Dept.	Census	ICDS	Education Dept.	Education Dept.	Education Dept.	Education Dept.	Education Dept.
			Unit	Rate	Ratio	%	%	%	%	%	%
			Type	Negative	Positive	Negative	Positive	Positive	Negative	Positive	Positive
1	Annavasal	13.84	951	28.15	94.15	94.75	0.13	99.5	99.17		
2	Arimalam	10.70	973	26.46	112.17	42.71	1.55	99.5	98.57		
3	Kundrandarkoil	11.36	956	29.93	102.43	102.47	0.19	99.05	98.84		
4	Ponnamaravathi	12.66	945	28.26	109.7	103.14	0.16	99.45	97.52		
5	Pudukkottai	18.28	957	12.87	115.63	275.91	0.37	99.6	99.19		
6	Thirumayam	10.52	974	11.32	109.57	57.62	0.20	98.85	99.29		
7	Viralimalai	12.68	961	26.92	100.7	104.18	0.11	99.6	99.26		
8	Aranthangi	12.70	953	21.44	104.59	165.05	0.19	99.15	99.09		
9	Avudayarkoil	15.30	971	19.79	82.39	71.65	0.18	98.8	99.20		
10	Gandharvakkottai	15.20	978	34.21	96.09	48.87	0.36	99.2	98.96		
11	Karambakkudi	15.80	927	21.31	90.99	148.17	0.16	99.2	99.04		
12	Manamelkudi	12.60	997	37.18	103.76	53.49	0.16	99	99.08		
13	Thiruvareankulanm	15.70	965	23.73	102.47	112.45	0.21	99.6	98.15		

**Table 2.8 Child Development Index**

Sl.No	Blocks	Indices								Over All Average	Rank
		Health			Education						
		U5MR	Child Sex Ratio (0-6)	Percentage of Malnourished Children	Enrollment in Primary	Enrollment in Secondary	Children Never Enrolled in Schools	Transition Rate from Primary to Upper Primary	Transition Rate from Upper Primary to Secondary		
1	Annavasal	0.572	0.343	0.349	0.354	0.223	0.986	0.875	0.932	0.579	5
2	Arimalam	0.977	0.657	0.414	0.896	0.000	0.000	0.875	0.593	0.552	9
3	Kundrandarkoil	0.892	0.414	0.281	0.603	0.256	0.944	0.313	0.746	0.556	8
4	Ponnamaravathi	0.724	0.257	0.345	0.822	0.259	0.965	0.813	0.000	0.523	10
5	Pudukkottai	0.000	0.429	0.940	1.000	1.000	0.819	1.000	0.944	0.766	1
6	Thirumayam	1.000	0.671	1.000	0.818	0.064	0.938	0.062	1.000	0.694	2
7	Viralimalai	0.722	0.486	0.397	0.551	0.264	1.000	1.000	0.983	0.675	3
8	Aranthangi	0.719	0.371	0.609	0.668	0.525	0.944	0.438	0.887	0.645	4
9	Avudayarkoil	0.384	0.629	0.673	0.000	0.124	0.951	0.000	0.949	0.464	13
10	Gandharvakkottai	0.397	0.729	0.115	0.412	0.026	0.826	0.500	0.814	0.477	12
11	Karambakkudi	0.320	0.000	0.614	0.259	0.452	0.965	0.500	0.859	0.496	11
12	Manamelkudi	0.732	1.000	0.000	0.643	0.046	0.965	0.250	0.881	0.565	7
13	Thiruvarankulanm	0.332	0.543	0.520	0.604	0.299	0.931	1.000	0.356	0.573	6



**Table 2.9 Multidimensional Poverty Index**

Sl.No.	Blocks	Data									
	Indicators	Health			Education		Living Standard				
	Year	IMR	Higher Order Birth Rate	Malnourshied Children	Drop out in Primary	Drop out in Secondary	Access to Cooking fuel	Access to Toilet Facilities	Access to Drinking Water	Pucca House	Access to Electricity
	Source	2013-14	2013-14	2013-14	2013-14	2013-14	2011	2013-14	2013-14	2011	2011
	Unit	Health Dept.	Health Dept.	ICDS	Educ. Dept.	Educ. Dept.	Census	NBA	NBA	Census	Census
	Type	Rate	Rate	%	%	%	%	%	%	%	%
	Type	Negative	Negative	Negative	Negative	Negative	Positive	Positive	Positive	Positive	Positive
1	Annvasal	10.60	14.37	28.15	0.37	3.59	11.92	58.17	91.97	92.65	92.39
2	Arimalam	13.10	9.79	26.46	0.40	1.15	43.95	53.86	93.33	84.95	88.55
3	Kundrandarkoil	14.00	13.12	29.93	0.34	3.25	20.82	52.68	96.76	74.57	91.64
4	Ponnamaravathi	12.10	13.59	28.26	0.40	4.66	19.51	62.75	94.53	39.67	91.07
5	Pudukkottai	15.70	15.08	12.87	0.34	3.07	49.55	85.28	89.79	78.77	93.91
6	Thirumayam	11.20	7.80	11.32	0.34	4.27	44.33	84.44	94.92	79.76	89.49
7	Viralimalai	16.10	15.43	26.92	0.38	3.7	9.43	41.58	92.83	72.00	90.59
8	Aranthangi	15.60	9.70	21.44	0.40	2.27	23.63	45.54	96.71	78.48	90.30
9	Avudayarkoil	7.90	9.90	19.79	0.40	4.58	21.33	49.27	99.38	81.81	85.18
10	Gandharvakkottai	23.90	16.50	34.21	0.39	0.73	10.91	51.99	89.77	69.00	91.74
11	Karambakkudi	18.40	15.20	21.31	0.37	2.62	7.38	57.15	92.22	62.96	90.39
12	Manamelkudi	11.50	9.40	37.18	0.42	5.16	20.00	36.60	100.00	71.79	89.19
13	Thiruvrankulanm	18.40	16.30	23.73	0.35	2.93	13.87	34.52	97.72	91.80	90.14
	District	12.00	12.78	24.57	0.37	3.25	23.78	56.48	94.67	76.45	90.75

**Table 2.10 Multidimensional Poverty Index**

Sl.No	Blocks	Indices										1- Overall Average	Rank
		Health			Education		Living Standard						
		IMR	Higher Order Birth Rate	Malnourshied Children	Drop out in Primary	Drop out in Secondary	Access to Cooking Fuel	Access to Toilet Facilities	Access to Drinking Water	Pucca House	Access to Electricity		
1	Annavasal	0.831	0.245	0.349	0.625	0.354	0.108	0.466	0.215	1.000	0.826	0.498	7
2	Arimalam	0.675	0.771	0.414	0.250	0.905	0.867	0.381	0.348	0.855	0.386	0.415	3
3	Kundrandarkoil	0.619	0.389	0.281	1.000	0.431	0.319	0.358	0.683	0.659	0.740	0.452	4
4	Ponnamaravathi	0.738	0.334	0.345	0.250	0.113	0.288	0.556	0.466	0.000	0.675	0.624	11
5	Pudukkottai	0.513	0.163	0.940	1.000	0.472	1.000	1.000	0.002	0.738	1.000	0.317	2
6	Thirumayam	0.794	1.000	1.000	1.000	0.201	0.876	0.983	0.503	0.757	0.494	0.239	1
7	Viralimalai	0.488	0.123	0.397	0.500	0.330	0.049	0.139	0.299	0.610	0.620	0.645	12
8	Aranthangi	0.519	0.782	0.609	0.250	0.652	0.385	0.217	0.679	0.733	0.587	0.459	5
9	Avudayarkoil	1.000	0.759	0.673	0.250	0.131	0.331	0.291	0.939	0.795	0.000	0.483	6
10	Gandharvakkottai	0.000	0.000	0.115	0.375	1.000	0.084	0.344	0.000	0.553	0.751	0.678	13
11	Karambakkudi	0.344	0.149	0.614	0.625	0.573	0.000	0.446	0.239	0.440	0.597	0.597	9
12	Manamelkudi	0.775	0.816	0.000	0.000	0.000	0.299	0.041	1.000	0.606	0.460	0.600	10
13	Thiruvrankulanm	0.344	0.023	0.520	0.875	0.503	0.154	0.000	0.777	0.984	0.569	0.525	8

**Table 3.1 Percentage of HH Provided Employment Under  
MGNREGA**

Sl. No	Blocks (Including Taluk Area)/ District	Total No. of HH	HH Provided Jobs Under MGNREGA	% of HH Provided With Jobs
1	Annasaval	31891	29322	92
2	Arimalam	14207	13684	96
3	Kunrandarkovil	16857	15368	91
4	Ponnamaravathi	22712	19982	88
5	Pudukkottai	20474	17422	85
6	Thirumayam	16509	14022	85
7	Viralimalai	26264	23794	91
8	Aranthangi	29273	25923	89
9	Avudayarkovil	20932	16012	76
10	Gandarvakkottai	15869	15713	99
11	Karambakkudi	19014	18271	96
12	Manamelkudi	16483	14124	86
13	Thiruvarankulam	29977	25517	85
	District	280462	249154	89

Source: District Rural Development Agency, Pudukkottai

**Table 3.2 Land Utilisation Pattern**

Sl.No	Category	Area in Ha						
		2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
1	Forest	23535	23535	23535	23535	23535	23535	23535
2	Barren & uncultivable land	9863	9863	9863	9863	9863	9863	9862
3	Land put to non agriculture purpose	129799	129617	129836	129845	129859	129892	137105
4	Cultivable waste	10261	10063	10063	9982	9982	9859	9788
5	Permanent pasture and grazing land	3471	3471	3471	3471	3471	3471	3471
6	Land under misc. tree crops and groves not included in the net area sown	28494	28463	28103	27762	26895	24843	22495
7	Current fallow lands	15911	13580	17073	11189	10872	24475	26305
8	Other fallow lands	93235	92802	93714	101316	98247	103037	106951
9	Net area sown	151760	154935	150671	149366	153605	137354	126817
	Area sown more than once	894	856	994	927	5521	3552	5397
	Gross area sown	152654	155791	151665	150293	159126	140906	132214
	Total geographical area	466329	466329	466329	466329	466329	466329	466329

**Table 3.3 Cropping Intensity**

Sl.No.	Blocks/District	Gross Area Sown (in Ha)	Net Area Sown (in Ha)	Cropping Intensity
1	Pudukkottai	8239	7504	1.10
2	Annavasal	5121	5065	1.00
3	Arimalam	6272	6272	1.00
4	Thirumayam	2319	2283	1.01
5	Gandharvak kottai	15862	13975	1.13
6	Viralimalai	5411	5381	1.00
7	Ponnamaravathi	3688	3643	1.01
8	Thiruvarankulam	15861	14455	1.10
9	Kunnandarkovil	8837	8837	1.00
10	Aranthangi	20520	19799	1.03
11	Avudaiyarkovil	16566	16566	1.00
12	Manamelkudi	10517	10516	1.00
13	Karambakkudi	12996	12518	1.03
	District	132209	126814	1.04

Source: Department of Economics and Statistics, Pudukkottai (2013-14)

**Table 3.4 Irrigation Intensity**

S.No.	Blocks/District	Gross Area Irrigated (in Ha)	Net Area Irrigated (in Ha)	Irrigation Intensity
1	Pudukkottai	6007	5364	1.11
2	Annavasal	4368	4314	1.01
3	Arimalam	4791	4791	1.00
4	Thirumayam	2114	2078	1.01
5	Gandharvak kottai	10393	8902	1.16
6	Viralimalai	4189	4159	1.00
7	Ponnamaravathi	2776	2731	1.01
8	Thiruvarankulam	12563	11157	1.12
9	Kunnandarkovil	6061	6061	1.00
10	Aranthangi	15845	15178	1.04
11	Avudaiyarkovil	12761	12761	1.00
12	Manamelkudi	8212	8212	1.00
13	Karambakkudi	11170	10708	1.04
	District	101250	96416	1.04

Source: Department of Economics and Statistics, Pudukkottai (2013-14)

**Table 4.1 CBR and CDR**

S. No	Blocks (Including Taluk Area)/District	CBR		CDR	
		2009	2014	2009	2014
1	Annavasal	17.4	13.2	4.8	3.0
2	Arimalam	16.3	15.3	5.8	5.2
3	Kunrandarkovil	17.2	16.9	5.2	5.3
4	Ponnamaravathi	17.4	15.4	5.1	5.2
5	Pudukkottai	18.6	15.3	5.9	4.6
6	Thirumayam	14.4	14.8	4.4	3.5
7	Viralimalai	17.7	16.8	4.6	4.5
8	Aranthangi	15.7	15.6	5.8	4.9
9	Avudayarkovil	16.6	15.3	5.5	4.7
10	Gandarvakkottai	17.4	16.5	5.3	5.2
11	Karambakkudi	17.9	15.5	5.7	5.6
12	Manamelkudi	18.0	16.6	5.6	4.7
13	Thiruvarankulam	15.3	15.4	5.7	4.8
	District	17.1	15.9	5.2	4.9

Source: Health Department, Pudukkottai

**Table 4.2 Infant Mortality Rate**

Sl. No	Blocks (Including Taluk Area)/District	2009*	2014
1	Annavasal	15.4	10.6
2	Arimalam	15.6	13.1
3	Kunrandarkovil	15.5	14.0
4	Ponnamaravathi	13.4	12.1
5	Pudukkottai	16.9	15.7
6	Thirumayam	23.4	11.2
7	Viralimalai	19.3	16.1
8	Aranthangi	11.4	15.6
9	Avudayarkovil	15.4	7.9
10	Gandarvakkottai	14.5	23.9
11	Karambakkudi	13.4	18.4
12	Manamelkudi	10.9	11.5
13	Thiruvarankulam	12.5	18.4
	District	15.2	12.0

Source: \*VES 2009, Health Department, Pudukkottai

**Table 4.3 Percentage of Institutional Delivery**

Sl. No	Blocks (Including Taluk Area)/District	Home	Sub Health Centre	Primary Health Centre	Government Hospital	Private Hospitals
1	Annavasal	0.0	0.0	15.4	65.7	18.9
2	Arimalam	0.0	0.0	25.8	42.6	31.7
3	Kunrandarkovil	0.0	0.0	23.9	55.5	20.7
4	Ponnamaravathi	0.0	0.0	35.1	24.5	40.4
5	Pudukkottai	0.1	0.0	18.4	63.4	18.1
6	Thirumayam	0.1	0.0	21.1	36.1	42.7
7	Viralimalai	0.2	0.0	25.3	38.6	35.9
8	Aranthangi	0.0	0.0	16.0	53.0	31.0
9	Avudayarkovil	0.0	0.0	23.1	39.0	37.9
10	Gandarvakkottai	0.0	0.0	25.1	59.8	15.1
11	Karambakkudi	0.0	0.0	31.5	46.6	21.9
12	Manamelkudi	0.0	0.0	23.8	30.4	45.8
13	Thiruvarankulam	0.0	0.0	23.3	46.3	30.4
	District	0.0	0.0	23.7	46.3	30.0

Soruce: Health Department, Pudukkottai (2013-14)

**Table 4.4 Immunization**

Sl. No	Blocks (Including Taluk Area)/District	Total Number of Children below 5 years	Total number of Children Immunised	% of Children Immunised
1	Annavasal	2613	2445	94
2	Arimalam	1445	1356	94
3	Kunrandarkovil	1916	1854	97
4	Ponnamaravathi	1909	1803	94
5	Pudukkottai	1380	1330	96
6	Thirumayam	1247	1180	95
7	Viralimalai	2521	2369	94
8	Aranthangi	2307	2192	95.1
9	Avudayarkovil	1346	1352	100.1
10	Gandarvakkottai	1335	1291	96.7
11	Karambakkudi	1830	1817	99.3
12	Manamelkudi	1506	1544	102.5
13	Thiruvarankulam	2517	2398	95.3
	District	10841	10594	97.7

Soruce: Health Department, Pudukkottai (2013-14)

**Table 4.5 Nutritional Status of Children below 5 years (2013-14)**

Sl. No	Blocks (Including Taluk Area)/District	Malnourished Children			
		Normal (no.)	Moderately (no.)	Severely (no.)	% of Malnourished
1	Annavasal	7876	3080	5	28.15
2	Arimalam	4121	1473	10	26.46
3	Kunrandarkovil	5018	2141	2	29.93
4	Ponnamaravathi	5689	2239	2	28.26
5	Pudukkottai	8784	1298	0	12.87
6	Thirumayam	4839	616	2	11.32
7	Viralimalai	8187	3012	4	26.92
8	Aranthangi	10182	2777	1	21.44
9	Avudayarkovil	5509	1357	2	19.79
10	Gandarvakkottai	4320	2245	1	34.21
11	Karambakkudi	7181	1945	0	21.31
12	Manamelkudi	4782	2828	2	37.18
13	Thiruvarankulam	8929	2777	1	23.73
	District	<b>85417</b>	<b>27788</b>	<b>32</b>	<b>24.57</b>

Source: ICDS, Pudukkottai

**Table 4.6 Percentage of HH provided with Safe Drinking water**

Sl. No	Blocks (Including Taluk Area)/District	Total No. of Habitation	Number of Habitation provided with drinking water	% of Habitation provided with safe Drinking water
1	Annavasal	436	401	91.97
2	Arimalam	270	252	93.33
3	Kunrandarkovil	279	270	96.76
4	Ponnamaravathi	311	294	94.53
5	Pudukkottai	333	299	89.79
6	Thirumayam	295	280	94.92
7	Viralimalai	572	531	92.83
8	Aranthangi	487	471	96.71
9	Avudayarkovil	323	321	99.38
10	Gandarvakkottai	176	158	89.77
11	Karambakkudi	334	308	92.22
12	Manamelkudi	242	242	100.00
13	Thiruvarankulam	483	472	97.72
	District	<b>4541</b>	<b>4299</b>	<b>94.67</b>

Source: Nirmal Bharath Abiyan Survey Report (2013-14)



**Table 5.1 Literacy Rate**

Sl.No.	Literacy Rate	2001			2011		
		Male	Female	Total	Male	Female	Total
1	District	82.53	59.97	71.12	85.56	69.00	77.19
2	State	82.33	64.55	73.47	86.81	73.86	80.33

Source: Census 2001 & 2011

**Table 5.2 Access to Secondary Education**

S.No	Blocks/District	No. of Schools				
		No. of Habitations	No. of High School	No. of Hr.Sec. School	Percentage of High School	Percentage of Hr.Sec. School
1	Annavasal	417	19	12	4.56	2.88
2	Arimalam	234	11	8	4.70	3.42
3	Kundrandarkoil	259	7	7	2.70	2.70
4	Ponnamaravathi	298	11	10	3.69	3.36
5	Pudukkottai	717	24	18	3.35	2.51
6	Thirumayam	260	9	6	3.46	2.31
7	Viralimalai	461	7	12	1.52	2.60
8	Aranthangi	426	19	21	4.46	4.93
9	Avudayarkoil	317	10	6	3.15	1.89
10	Gandharvakkottai	244	7	5	2.87	2.05
11	Karambakkudi	310	12	8	3.87	2.58
13	Manamelkudi	235	9	9	3.83	3.83
12	Thiruvankulam	515	19	17	3.69	3.30
	District	4693	164	139	3.49	2.83

Source: Education Department, Pudukkottai. (2013-14)

**Table 5.3 Arts and Science Colleges** (in no.)

Colleges	No. of Arts and Science colleges
Government	2
Aided	1
Private	7
Total	10
Source: District Statistical Handbook, Pudukkottai. (2013-14)	

**Table 5.4 Engineering Colleges and Polytechnic Colleges** (in no.)

Colleges	No. of Engineering Colleges	No. of Polytechnic Colleges
Government	0	1
Aided	0	0
Private	13	17
Total	13	18
Source: District Statistical Handbook, Pudukkottai. (2013-14)		

**Table 6.1 Female Work Participation**

Sl. No	Blocks/District	Female Work Participation Rate
1	Annavasal	39.19
2	Arimalam	33.95
3	Kunrandarkovil	42.69
4	Ponnamaravathi	38.19
5	Pudukkottai	25.85
6	Thirumayam	32.75
7	Viralimalai	43.54
8	Aranthangi	31.67
9	Avudayarkovil	37.07
10	Gandarvakkottai	41.66
11	Karambakkudi	43.22
12	Manamelkudi	26.95
13	Thiruvarankulam	36.26
	District	36.39
Source: Census 2011		

**Table 7.1 Marriage and Maternity Assistance Programme**

Sl. No	Blocks/District	2012-2013	2013-2014
		No.of Women assisted in Marriage Assistance Scheme	No.of Women assisted in Marriage Assistance Scheme
1	Annavasal	347	244
2	Arimalam	323	306
3	Kunrandarkovil	230	285
4	Ponnamaravathi	234	176
5	Pudukkottai	241	349
6	Thirumayam	198	145
7	Viralimalai	328	189
8	Aranthangi	366	350
9	Avudayarkovil	235	303
10	Gandarvakkottai	83	61
11	Karambakkudi	333	240
12	Manamelkudi	247	251
13	Thiruvankulam	626	100
	District	3791	2999

Source: Social Welfare Department, Pudukkottai

---

## TECHNICAL NOTES

---

### Construction of Human Development Index (HDI)

#### 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 –

$$\text{Index Value} = (\text{Actual Value} - \text{Min. Value}) / (\text{Max. Value} - \text{Min. Value})$$

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 –

$$\text{Index Value} = (\text{Max. Value} - \text{Actual Value}) / (\text{Max. Value} - \text{Min. Value})$$

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

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
<b>Health</b>	Maternal Mortality Rate (MMR)
	Share of Institutional deliveries (ID)
	Ante-natal coverage
<b>Empowerment</b>	Share of female and male elected representatives in Urban and Rural Local Bodies (PR <sub>F</sub> and PR <sub>M</sub> )
	Share of female and male literacy (LIT <sub>F</sub> , LIT <sub>M</sub> )
	Share of Female and Male Children (0-6) years
<b>Labour market</b>	Share of female and male Work Participation Rate (WPR <sub>F</sub> , WPR <sub>M</sub> )
	Share of female and male workers in the non agricultural sector (NAG <sub>F</sub> , NAG <sub>M</sub> )
	Female and male Agricultural wage rate (WAGE <sub>F</sub> , WAGE <sub>M</sub> )

### Method

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

For females

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

For Males

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

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

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

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

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

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

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

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

---

## 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
<b>Health</b>	U5MR
	Child Sex Ratio(0-6)
<b>Nutrition</b>	Percentage of Malnourished Children
	Enrollment in Primary and Secondary
<b>Education</b>	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 –

$$\text{Index Value} = (\text{Actual Value} - \text{Min. Value}) / (\text{Max.Value} - \text{Min.Value})$$

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 –

$$\text{Index Value} = (\text{Max. Value} - \text{Actual Value}) / (\text{Max.Value} - \text{Min.Value})$$

- 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
<b>Health</b>	IMR
	Higher order Birth
	Malnourished Children
<b>Education</b>	Drop out in primary and secondary
<b>Living Standards</b>	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 –  
$$\text{Index Value} = (\text{Actual Value} - \text{Min. Value}) / (\text{Max. Value} - \text{Min. Value})$$

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 –  
$$\text{Index Value} = (\text{Max. Value} - \text{Actual Value}) / (\text{Max. Value} - \text{Min. Value})$$
- 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

---

<b>AAY</b>	- <b>A</b> ntyodaya <b>A</b> nna <b>Y</b> ojana
<b>AIDS</b>	- <b>A</b> cquired <b>I</b> mmune <b>D</b> eficiency <b>S</b> yndrome
<b>AVG</b>	- <b>A</b> verage
<b>BPL</b>	- <b>B</b> elow <b>P</b> overty <b>L</b> ine
<b>BRTE</b>	- <b>B</b> lock <b>R</b> esource <b>T</b> eacher <b>E</b> ducator
<b>BT</b>	- <b>B</b> ituminous <b>R</b> oad
<b>CBR</b>	- <b>C</b> rude <b>B</b> irth <b>R</b> ate
<b>CC</b>	- <b>C</b> ement <b>C</b> oncrete <b>R</b> oad
<b>CDI</b>	- <b>C</b> hild <b>D</b> evelopment <b>I</b> ndex
<b>CDR</b>	- <b>C</b> rude <b>D</b> eath <b>R</b> ate
<b>DHDR</b>	- <b>D</b> istrict <b>H</b> uman <b>D</b> evelopment <b>R</b> eport
<b>EMP</b>	- <b>E</b> mployment
<b>GER</b>	- <b>G</b> ross <b>E</b> nrolment <b>R</b> atio
<b>GII</b>	- <b>G</b> ender <b>I</b> nequality <b>I</b> ndex
<b>HDI</b>	- <b>H</b> uman <b>D</b> evelopment <b>I</b> ndex
<b>HHs</b>	- <b>H</b> ouse <b>H</b> olds
<b>ICDS</b>	- <b>I</b> ntegrated <b>C</b> hild <b>D</b> evelopment <b>S</b> cheme
<b>IFA</b>	- <b>I</b> ron <b>F</b> olic <b>A</b> cid
<b>ILO</b>	- <b>I</b> nternational <b>L</b> abour <b>O</b> rganisation
<b>IMR</b>	- <b>I</b> nfant <b>M</b> ortality <b>R</b> ate
<b>LF</b>	- <b>L</b> abour <b>F</b> orce
<b>MGNERGP</b>	- <b>M</b> ahatma <b>G</b> andhi <b>N</b> ational <b>R</b> ural <b>E</b> mployment <b>G</b> uarantee <b>P</b> rogramme
<b>MGNREGA</b>	- <b>M</b> ahatma <b>G</b> andhi <b>N</b> ational <b>R</b> ural <b>E</b> mployment <b>G</b> uarantee <b>A</b> ct
<b>MMR</b>	- <b>M</b> aternal <b>M</b> ortality <b>R</b> atio
<b>MPI</b>	- <b>M</b> ultidimensional <b>P</b> overty <b>I</b> ndex
<b>NBA</b>	- <b>N</b> irmal <b>B</b> harath <b>A</b> bhiyan
<b>NDDP</b>	- <b>N</b> et <b>D</b> istrict <b>D</b> omestic <b>P</b> roduct

<b>OAP</b>	- <b>Old Age Pension</b>
<b>OBC</b>	- <b>Other Backward Castes</b>
<b>PB</b>	- <b>Panchayat Board</b>
<b>PCI</b>	- <b>Per Capita Income</b>
<b>PCO</b>	- <b>Public Call Office</b>
<b>PDS</b>	- <b>Public Distribution System</b>
<b>PSR</b>	- <b>Pupil School Ratio</b>
<b>PTR</b>	- <b>Pupil Teacher Ratio</b>
<b>RLB</b>	- <b>Rural Local Bodies</b>
<b>SC</b>	- <b>Schedule Caste</b>
<b>SHSs</b>	- <b>Self Help Group</b>
<b>SSA</b>	- <b>Sarva Siksha Abiyan</b>
<b>ST</b>	- <b>Schedule Tribes</b>
<b>TB</b>	- <b>Tuberculosis</b>
<b>TNEB</b>	- <b>Tamil Nadu Electricity Board</b>
<b>ULB</b>	- <b>Urban Local Bodies</b>
<b>UNDP</b>	- <b>United Nations Development Programme</b>
<b>UNFPA</b>	- <b>United Nations Population Fund</b>
<b>UNICEF</b>	- <b>United Nations Children's Fund</b>
<b>WBM</b>	- <b>Water Bounded Mud Roads</b>
<b>WHO</b>	- <b>World Health Organisation</b>
<b>WPR</b>	- <b>Work Participation Rate</b>

## Select Reference

Amartya Sen <http://hdr.undp.org/en/humandev> accessed on 03.08.2014

Bina Agarwal, Jane Humphries and Ingrid Robeynes (2007), *capabilities, Freedom and Equality*, Oxford University Press, New Delhi.

Census (2001) <http://www.census.gov.in>

Census (2011) <http://www.census.gov.in>

District Industries Centre <http://dicpdk.in>

District Statistical Handbook 2012-13

Gerald M. Meier and James E. Ranch (2002), *Leading Issues in Economic Development*, Oxford University Press, New York.

Mahabub-ul-haq <http://hdr.undp.org/en/humandev> accessed on 03.08.2014

Statistical Handbook of Tamil Nadu

WHO <http://www.who.int/topics/tuberculosis/en/>

WHO <http://www.who.int/lep/leprosy/en/>