District Human Development Report - 2017

Cuddalore District

State Planning Commission
Tamil Nadu

CUDDALORE

DISTRICT HUMAN DEVELOPMENT REPORT 2017

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

Contents

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MESSAGE

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

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

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

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

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PREFACE

The State Planning Commission always considers the concept of Human Development Index as an indispensable part of its development and growth. Previously, the State Planning Commission has published Human Development Report for 8 districts in the past during the period 2003-2008, which was very unique of its kind. The report provided a comprehensive view of the development status of the district in terms of Health, Education, Income, Employment etc. The report would be a useful tool for adopting appropriate development strategies and to address the gaps to bring equitable development removing the disparities.

After the successful completion of the same, now the State Planning Commission has again initiated the process of preparation of Human Development Report based on the current status. The initiative of State Planning Commission is applaudable as this approach has enhanced the understanding of Human Development in a better spectrum.

As far as Cuddalore District is concerned, the Annamalai University, Chidambaram has prepared the **DHDR** for Cuddalore District under the assistance of **UNDP** & **SPC**. This report has been prepared with a lot of statistical data, information from line departments especially Education, Health, Rural Development and Economics & Statistical Departments. It provides sub-district level disaggregated status on various parameters. It also provides lead for core development departments for their action in specific areas. The report reveals the ups and downs of Cuddalore District, which was worst affected by the natural disasters like **Thane** during the year 2011. This report not only serves as a summary of the human development scenario in Cuddalore district but also explores that why the district has fared well in certain areas and not in others.

"Execution without planning is like a building without foundation" says an old adage. "**Well Planned work is half done".** Perfect planning leads to successful completion of the project. In this context, the **SPC** has thus provided an opportunity for such a planning in Cuddalore district to highlight several challenges the district faces in improving **HDI** and to accelerate the process of development.

Last but not least, I thank all those concerned who have put their energy & efforts and personal attention in preparing this report which would be inclusive of all minute details of this district and pave the way for the equitable and sustainable growth of the district in the right direction.

S.SURESH KUMAR

ACKNOWLEDGEMENT

The preparation of the Cuddalore District Human Development Report (DHDR) has originated primarily from the initiative of the State Planning Commission, Government of Tamil Nadu, with the support received from the UNDP. The State Planning Commission took up the assignment as a constructive exercise towards strategizing the Government programmes to yield the intended results. The task of preparing this report has been assigned to Annamalai University by the State Planning Commission in collaboration with the District Administration. The District level core committee was constituted with the **District Collector as the Chairman** and myself **Dr. E. Selvarajan,** Professor, Department of Economics, Annamalai University as the Coordinator. This Human Development Report has been kept on track and been seen through to completion with the support and encouragement of numerous people. It is a pleasant task to express my thanks to all those who contributed in many ways to the formulation of the report.

First of all I would like to express my sincere thanks to **Tmt. Santha Sheela Nair, IAS (Retd),** FormerVice Chairperson , State Planning Commission, Government of Tamil Nadu for constantly reviewing the progress of this exercise and for supplementing with valuable suggestions. I am extremely indebted to **Thiru M. Balaji, IAS,** the then Member Secretary, State Planning Commission, who initiated this exercise and also my thanks are due to **Dr. Sugato Dutt, IFS,** former Member Secretary i/c, State Planning Commission and **Thiru Anil Meshram**, **IAS,** Member Secretary, State Planning Commission for providing all necessary administrative support and resources to accomplish the task.

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

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

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I am grateful to **Dr. N. Ramagopal,** Head of the Department of Economics, Annamalai University, for his interest in the preparation of this report. I thank him for his valuable suggestions and constant encouragement. The preparation of the DHDR was possible owing to the untiring efforts of the study team that gathered good deal of qualitative and quantitative information. I am thankful to my fellow study team members **Dr. K. Jothy,** Associate Professor in Population Studies, **Dr. K. Ramu,** Assistant Professor in Economics and **Dr. K. Asokan,** Assistant Professor in Economics (DDE), Annamalai University for spending their precious time with me travelling all the areas of the district to take part in several stakeholders meet and focus group discussions and providing critical inputs.

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

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

I thank **Mr. S. Velmurugan,** Project Assistant, Cuddalore DHDR who have shouldered the responsibility of executing various tasks of the project with involvement. He also deserves appreciation for his efforts behind the scene in organising several stakeholders meet and focus group discussions.

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

Dr. E. SELVARAJAN

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CHAPTER 1
CUDDALORE DISTRICT - A PROFILE

Chapter

1

Cuddalore District - A Profile

Topography

Cuddalore is one of the backward districts in the State of Tamil Nadu. The district is located along the eastern coastal region of the state. It is bordered by Villuppuram, Nagapattinam, and Perambalur districts. The district is also bordered by the Bay of Bengal in the eastern border. It lies in the Agro Climatic Zone II (East Coast plains and hills), and the geographic coordinates of the district are: latitude is 15^0 11' to $12^0$35', longitude is 78^0 38' to 80^0 0' and altitude is 4.6m MSL. The total geographical area of the district is 3,678 square kilometres with the coastal line of 68 kilometres stretching from Puducherry Union Territory in the North to the mouth of the river Coleroon in the South. The geomorphology of the Cuddalore coastal stretch includes the coastal plain with an average width of 6 kms. Its coastal landforms include strandlines, raised beaches, sand dunes, mangrove swamps and tidal flats with predominantly sandy beaches on the northern side and mangrove swamps on the South. The coastal towns of Cuddalore in the North and Porto Novo (Parangipettai) in the South are the most densely populated along this region. The district of Cuddalore has rich deposits of lignite that help the small factories that run in the area. The district is also one of the most robust fishing areas in the State and home to a large number of fisher populations. The district has links to the first century settlers in this region. The district also has some tourist attractions for the people of Tamil Nadu as well as the rest of the world.

Land

The entire district can be broadly divided into following 3 zones. Western Pedi plains are covered by Mangalore and Nallur blocks. This area is occupied by denudational landforms like shallow buried pediment, deep buried pediment, and pediments. The central part of the district is characterized by sedimentary high grounds, elevation >80m of Cuddalore sandstone of Tertiary Age. This zone occupies part of Virudhachalam, Kammapuram, Kurinjipadi, Cuddalore, and Kattumannarkoil taluks. The rest of the area in the district is covered by the eastern coastal plain, which is predominantly occupied by the flood plain of fluvial origin formed under the influence of Penniyar, Vellar, and Coleroon river systems. Marine sedimentary plain is noted all along the eastern coastal

region. Between the marine sedimentary plain and fluvial flood plains, fluvio marine deposits are noted, which consist of sand dunes and back swamp areas.

Box 1.1: Groping for Prawns: Livelihood of Irula tribe in Pichavaram Mangrove regions

The objective of the case is to highlight the traditional practice of Irula tribe and their livelihood. This case is generated from the studies carried out by the scholars of Economics, Sociology, and Marine Sciences of Annamalai University. Irular, a non-traditional fishing community living in the Pichavaram region, primarily tap the fishery resources of the mangroves for their livelihood. Historically, their ancestors migrated from Andhra Pradesh and engaged mainly in rat hunting and gathering of paddy from rat burrows. Later, some of them served in the casuarinas and coconut plantations of local farmers almost functioning as bonded labourers. They then gradually developed their own method of fishing which they now use to harvest fishery resources of the Pichavaram mangrove wetlands.

Most fishers from Irular's community suffer from very low income. Their main fishing methods are groping for prawns in the mangrove waters. Groping is the unique fishing method of Irular community and mostly women are involved in this kind of fishing method. Sitting on their knees in the mud in the shallow mangrove backwaters, they keep their head above the water level. The women stretch their hands in the water at right angles to their body, bring down to the floor, and slowly move their hands on the surface of the mud from the sides to the front. If they feel they have made contact with the prawn, they hold it tightly, bring it to the surface, wash it, and deposit in the pouch between their teeth.

Repeating this action steadily, the fishers move forward till they are in the deepest water. Thus sitting on their knees they grope for prawns for five to six hours till the end of the low tide period with a break in the middle. They cannot grope for prawn during the high tide period due to the high level of water. Almost the entire Irular population depending on the Pichavaram mangroves pursues this difficult and unconventional method of fishing.

This method of fishing is followed to catch shrimp in the shallow water during the low tide period when the water level is low. Previously, both men and women were involved in this method of fishing, but after the introduction of craft and gears, mostly men are engaged with fishing by using the craft and gears, and women follows the groping method of prawn picking. Catching prawns by groping gives them very low income, not enough to meet their daily food needs, so they either depend on other sources or money lenders to craft and gears for fishing in the mangrove waters.

Soil

The soils of the district are classified as the black, red, ferruginous, and ancious. They are again subdivided into clay, loam, and sand. Black soil is observed in the Chidambaram and Virudhachalam taluks. Sandy soil is seen along the coast in Cuddalore and Chidambaram taluks. The younger alluvial soil is found as small patches along the stream and river courses in the district. Red sandy soil is seen covering the Cuddalore sandstone, laterite, and lateritic gravels occur in parts of Virudhachalam, Panruti and Cuddalore taluks.

History

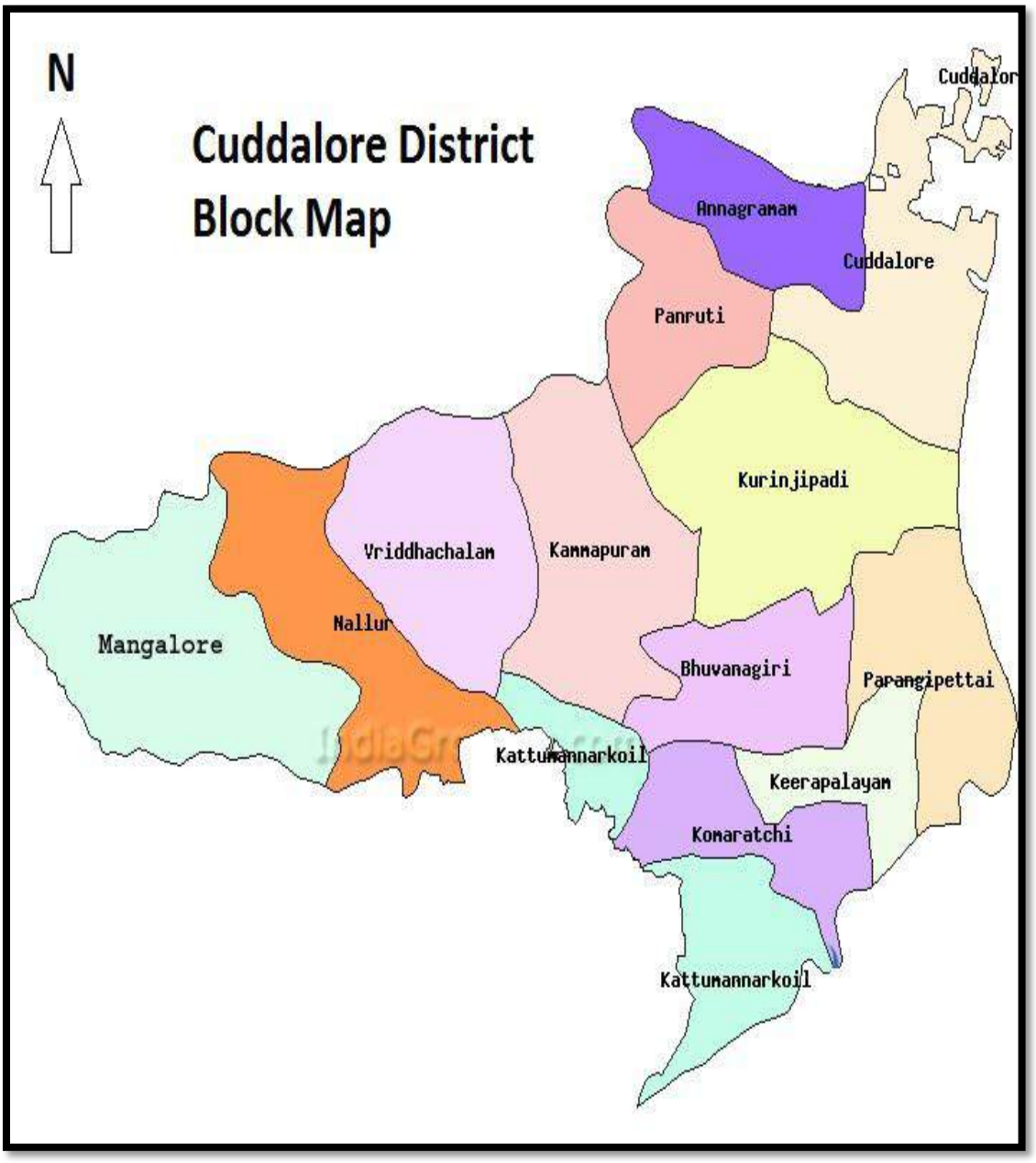
The name "Arcot" is derived from the Tamil word "Aarukadu", which means six forests, the abode of six rishis. This district was called 'Thondai Nadu' in olden days. It has a speciality "Saandrorudaithu", which means that great and elite personalities lived in this land. The history of the past shows that Cuddalore district held a proud position during the rule of Cholas, Pallavas, and the Pandyas. Cuddalore traded with the Roman Empire approximately 2000 years ago. Archaeological evidence of these ancient trade relationships can be found in the Cuddalore Government Museum in Manjakuppam. This district is the birthplace of Vallalar Ramalinga Adigalar and Ragavendraswamigal. The famous temple of Lord Nataraja is situated in this district and is regarded as one of the specialty of this district. The Dutch were the first to conquer Cuddalore, followed by Portugeese, Franch, and later British. The British bought Fort. St. David in Cuddalore near Devanampattinam from the Gingee rulers. In 1674, the district came under the control of the British. Cuddalore was the capital of the English Possessions on the Coromandal Coast from 1748 to 1752 A.D.

Language

This history of Cuddalore district dates back to Paleolithic Age. The official language spoken in the district is Tamil, one of the oldest languages greatly influenced by its rich and colorful past. Concerted efforts have been made over the last few decades or so to preserve the purity and identity of the Tamil language. More recently, there has been a steady stream of people migrating into the district from all parts of India, particularly to the district urban centres, making Cuddalore truly cosmopolitan in its composition. This has been notified specifically in the parts of Annamalai Nagar,

where Annamalai University is situated and the district headquarters of Cuddalore. Today, one can hear several languages such as Telugu, Malayalam, Kannada, Hindi and other Indian languages being spoken in the district. Above all, foreign visitors need have no fear of not being understood as English is spoken with considerable fluency in majority parts of the district. Two prominent English newspapers and a number of economic dailies, besides several newspapers in the local vernacular are brought out here.

District Map



Art, Architecture and Culture

Cuddalore district is well known for its temples. The most famous of these is the temple of Shiva where the main deity is Padaleeshwarar. It is located in Thiruppadirippuliyur. Chidambaram, known for dance and Lord Nataraja, is only 43 kms away from Cuddalore. Thiruvanthipuram temple, the Sacred Abode of Lord Devanatha, is one of the ancient Vaishnavite temples and also one of the 108 Vaishnavite shrines sanctified by the visit of the great Alwars and Acharyas. At Srimushnam, there is the famous Vaishnava temple of Bhuvaraha, representing the Varaha Avataar (an incarnation of the Hindu God Mahavishnu). Cuddalore has a legacy of ancient tradition and rich cultural heritage. Dance forms like Bharathanatyam and various forms of music, including carnatic music, have flourished here for centuries. Similar art forms and sculptures found in the district date as far back as the 7th Century A.D. Famous temples still stand in all their pristine glory in several parts of this land, speak for themselves of the rich heritage of the Tamil people. Besides, handicrafts include the most intricately carved designs in wood, stone and metal.

Demography

In 2011, Cuddalore had a population of 26,05,914 of which male and female were 13,11,697 and 12,94,217 respectively. This gives it a ranking of 158th out of 640 districts in India. The population density is 704 in 2011 and 617 in 2001 (people per squares kilometer). The proportion of urban population is more or less constant during 2001 (33.01) and 2011 (33.37).

Table 1.1: District Basic Demographic Indicators

S.No	Indicators	2001	2011
1	Population	22,85,395	26,05,914
2	Decennial Growth (%)	7.66	14.02
3	Density of population (per Sq.km)	617	704
4	Urban population (%)	33.01	33.37
5	Sex ratio	986	987
6	Percentage of 0-14 year old Children	23.75	24.86

Source: Census of India 2001 and 2011.

Table 1.1 reveals that there is no significant urbanization has taken place in the district. Cuddalore has a sex ratio of 987 females for 1000 males. In the 2001 census, Cuddalore had a population of 22,85,395 of which males were 11,50,908 and the remaining 11,34,487 were females. Its population growth rate over the decade 2001-2011 was 14.02, and it is twofold high compared to the previous decadal growth rate of 7.66 (1991-2001). The district's 0-14 year's population is 23.75 per cent during 2001 and 24.86 per cent during 2011. Table 1.1 shows the population trend of the district.

Economy

In Cuddalore district, agriculture continues to be the dominant sector in the economic development sustaining 80 per cent of population. Agricultural sector plays a key role in fulfilling the food requirement, meeting the raw material requirements of agro based industries and providing employment opportunities to rural population.

Agriculture

About 75 per cent of the total geographical area of this district is under cultivation, and 60 percent of total cropped area is under irrigated condition, and the balance of 40 percent is under rain fed condition. Paddy, Sugarcane, Groundnut, Millets, Pulses are the major crops grown in the district.

Apart from the above crops, horticultural crops like Cashew, Banana, Tapioca, Guava, Jack fruit, Mango, etc. are grown in various parts of the district. The district is famous for cashew grown in red soils in the areas around Panruti, Vadalur, Neyveli, and Virudhachalam and 60% of the State's production of cashew is accounted for by the district. The Cashew Research Station is located in Virudhachalam. Vegetables like brinjal, Okra, onion, tomato etc., are also grown in this district. The Vegetable Research Station is located at Palur.

Box 1.2: Sustainable Cashew Production

The objective of the case study is to summarize the facts of the study carried out by a scholar in TNAU. It shows that by adopting proven management technologies along with planting of grafts of high yielding varieties, the production and productivity of cashew can be enhanced, thereby boosting the cottage and export oriented units through Agri Export Zone in Panruti with the scope of attaining self-sufficiency in the near future. Cashew nuts, with its unique combination of fats, carbohydrates, proteins, and a variety of minerals and vitamins, have great demand in the world market. Panruti cashews have unique demand in the world market for its nut quality. Cashew processing facilities vary largely in size. Basically, they can be divided into three categories: cottage processors, semi-industrial processors, and industrial processors. Cottage Industry has grown up in an increasing manner in the last five years in Cuddalore district. In the district, there are around 250-300 household cashew processing units 25-30 medium sized export oriented units, and 5 major large scale export oriented units by 2012. Even though machines were in use for roasting, shelling, and Cashew Nut Shell Liquid (CNSL) extraction since 1960s, the process of shelling, removal of testa and kernel grading by size are still being carried out by manual operations only. About 95 % of the employees in the cashew industry are rural women. Marketing of cashew nut is not properly organized. The channel consists of the producer, village merchant, wholesalers or agents, and exporters. Without value addition, the nuts are being sold as raw nuts to the local traders. Often, there are intermediaries or wholesalers between the traders and manufactures that has resulted in middleman playing an important role in marketing the nuts, thereby reducing the margin or dividends due to the cashew farmers. Further, majority of cashew kernel and CNSL processing units in Cuddalore district relies by and large on imported raw nuts to continue their units in operation for at least 200 days a year. Thane cyclone (December, 2011) occurrence in the district has worsened the cashew grower's situation affecting their livelihood and thereby cashew production is in peril. Krishi Vigyan Kendra's technological intervention is commendable and the essential technological package consisting replacing the old senile and thane cyclone damaged cashew plantations with grafts of 3 months to 1 year old, laser guided land leveler for levelling the undulated lands after tree clearing, use of post-hole diggers for planting new cashew grafts, adopting high density planting method in drip-fertigation system, practicing training and pruning techniques in determining the tree's frame work, encouraging cultivation of intercrops for income generation during the juvenile period, and plant protection aspects to be carried out in the new cashew plantations.

Industry

In the past, Cuddalore main industry was fishing. Although Cuddalore was once a port town, the shipping trade has now moved to larger centres. Tamil Nadu's development plans for the area include a heavily subsidized industrial park, SIPCOT Industrial Complex, under the auspices of the state-owned corporation, State Industries Promotion Corporation of Tamil Nadu (SIPCOT) Limited. SIPCOT was formed in 1975 to promote small, medium, and large scale industries in "backward" areas by providing a host of incentives and infrastructure for industries to locate in certain areas. The Cuddalore Industrial complex is home to a number of chemical, biotech, pharmaceutical, and fertilizer companies. A new harbour for ship building industry is under construction. Further, Cuddalore district hosts energy industries and has strong base of handicrafts industries. Traditional handicrafts units are spread over across the district. Cashew kernel, organic chemicals, marine products, ceramics, and jewellery are exported to other countries.

Sectoral Distribution of Gross District Domestic Product

Table 1.2 highlights the sectoral distribution of Gross District Domestic Product in Cuddalore district during 2009-2012. During 2009-10, the district's GDDP was Rs.11,02,203 lakh at constant prices of 2004-05.

Table 1.2: Sectoral Distribution of Gross District Domestic Product

Sector	GDDP - At Constant (2004-05) Prices (Rs. in lakh)		
	Cuddalore		
	2009-10	2010-11	2011-12
Primary	2,20,913 (20.04)	2,28,944 (18.41)	2,16,927 (16.29)
Secondary	1,89,012 (17.15)	2,25,872 (18.17)	2,43,559 (18.29)
Tertiary	6,92,278 (62.81)	7,88,575 (63.42)	8,71,068 (65.42)
Total	11,02,203 (100)	12,43,391 (100)	13,31,554 (100)

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

It has grown continuously and reaches Rs.13,31,554 lakh during 2011-12. The computed growth rate is 20.81 during the last three years. Of this, the contribution of tertiary sector is very high (65.42) followed by secondary (18.29) and primary (16.29). The sectoral contribution of secondary and tertiary has marginally increased during the last three years. It reveals that the quantum of primary sector activities has been reduced from 20.04% to 16.29% in the district.

Income

The per capita income of the State was Rs.33,998 during 2004-05 and it increased to Rs.63,996 during 2011-12. The district's performance is relatively low in all the eight years. During 2004-05, the district per capita income was Rs.31,064 and it increased to Rs.56,315 during 2011-12. It reveals that the per capita income of district is lower than that of the State.

Table 1.3: Per Capita Income

At Constant Prices (2004-2005)		In Rupees
Year	Cuddalore	Tamil Nadu
2004-05	31,064	33,998
2005-06	33,085	38,435
2006-07	38,684	43,941
2007-08	40,787	46,293
2008-09	42,394	48,473
2009-10	46,803	53,359
2010-11	52,686	59,967
2011-12	56,315	63,996

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

The district has received huge financial assistance from the Central and State Governments, apart from the international agencies for disaster relief and rehabilitation works in the district. A significant difference of Rs.7,681 in per capita income could be seen between the State and District during 2011-12. The district performance can also be enhanced by way of scaling up all the sectoral activities on par with the State activities.

Box 1.3: Biometric ATM for MGNREGS workers

The objective of the case is to solve the problem of wage disbursal and elimination of corrupt practices in the execution of MGNREGS. The study team of Annamalai University had an interaction with the stakeholders of Periyakanganankuppam Village and recorded their voices. Biometric ATM for MGNREGS workers is one of the ventures of Government of India for implementing the programme in an effective way. Majority of the rural households do not have bank accounts mainly because of less family earnings. To reach the rural masses and to boost micro financing initiatives, Biometric ATMs with secure finger print readers are hitting the rural villages in Cuddalore district. Now a pilot programme is set in 5 villages and successfully installed in Periyakanganankuppam Village and is made functional.

Advantages

This Biometric ATM is equipped with Biometric sensor which has finger print authentication as a standard feature, and it is possible for the illiterate or semi-literate folks to use just thumb impression on a touch screen which will allow the beneficiaries to withdraw their week's wages. The ATM accepts finger prints as the means of authentication instead of PIN numbers only as used by other ATMs. This ensures that the Bio-Metric ATM is very easy to use. It rules out the possibility of leakages in the payment as the entire wages are disbursed through the bank. This project demonstrates the significant reduction of cash delivery time, prevention of leakages, and pilferages, and promotion of transparency in the system. In case of payment through the bank branches, the workers have to wait in queue. It is expected that these practices will encourage more savings as the amount goes directly to the bank and the workers can withdraw a minimum amount of (Rs.100)/- or whatever they require rather than the entire amount.

People's Voice

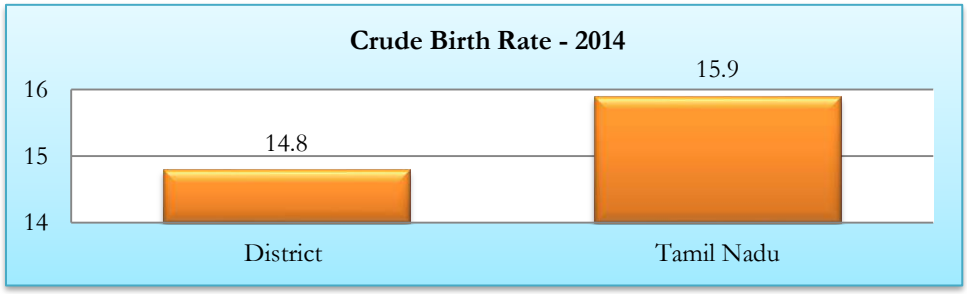
I am Lakshmi. I belong to Periyakankanankuppam village at Cuddalore block in Cuddalore district. I am very poor and illiterate. I did not have any Bank Account before entering into MGNREGS work. I am ignorant of banking procedures, and moreover my paltry earning is insufficient to make both ends meet. After joining the MGNREG scheme, I have been motivated, and now I have opened a Bank Account with ATM Card. It is very useful for the poor illiterates like me to draw money easily for my needs. It helps me to save money after spending for my needs. Uma is a poor and illiterate woman and she is a resident of Periyakankanankuppam village of Cuddalore Block in Cuddalore district. She is very poor and illiterate. Her family consists of five members. Her husband works in a private company as a clerk. Hence they found it very difficult to run the family. Luckily, through the MGNREGS, they are able to get employment and a minimum amount of money too. She did not have any Bank Account before entering in to MGNREGS work. Later, when a Savings Account was started, she used to save money and only in unavoidable situations, she used the rural ATM to withdraw the minimum amount of money. She found both the savings account creation and the ATM facility as a great encouragement for her to have some savings.

Social Sector

Health

Medical and healthcare services are provided under several programmes. There are 9 allopathic hospitals and 1260 beds in those hospitals. One Ayurvedic Hospital and one Unani hospital are functioning in the district. The numbers of primary health centers in the district are 61 and sub health centers are 319. Apart from these, several other private hospitals are functioning in the district. Figure 1.1 shows the Crude Birth Rate of the district and the State. There is significant difference of Crude Birth Rate between State (15.9) and district (14.8). The performance of the district could be appreciated.

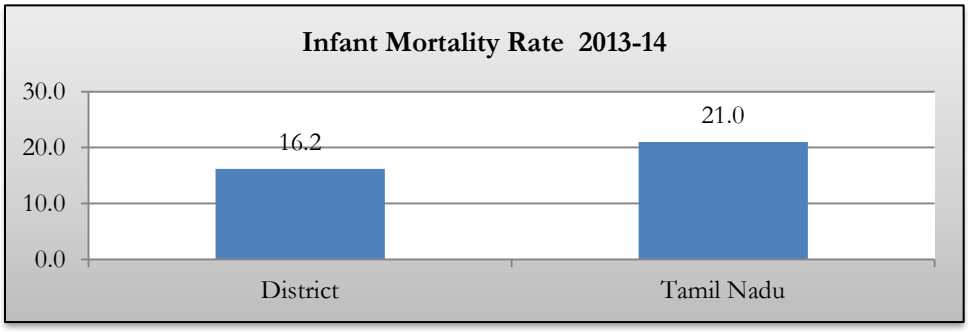
Figure 1.1: Crude Birth Rate – District vs State



Source: Health Department, Cuddalore, 2014.

The Infant Mortality Rate of the District (16.2) is significantly below the level of the State (21.0). The services of village and community health nurses are appreciable in tracking all pregnant mothers and providing all types of essential services in reduction of IMR.

Figure 1.2: Infant Mortality Rate – District vs State



Source: Health Department, Cuddalore, 2014.

Literacy and Education

The total number of literates in the district during 2011 is 18.1 lakhs, out of which 10 lakhs are male and 8.1 lakhs are female. The overall decadal growth rate of the district is 27.82. It is interesting to see that the decadal rural female growth rate of the district is as high as 40.29. This shows that, the importance of girl child education has been felt by the rural population which is a good indicator of human development. When compared with the State's overall literacy rate, Cuddalore is on par with the State. Taking into consideration that Cuddalore district is lagging in literacy rate with respect to other districts of the State, there is a lot more to be done to achieve the desirable targets.

In total, 1818 schools are functioning in Cuddalore district. It comprises 902 Elementary Schools, 515 Middle Schools, 219 Secondary Schools and 182 Higher Secondary Schools. Seven Engineering Colleges, one Medical/Dental College, fifteen Polytechnics and Industrial Training Institutes, 53 Teacher Training Institutes, thirteen Arts and Science Colleges, and one University, namely Annamalai University, are functioning in the district apart from other small educational institutions.

Conclusion

This chapter highlights topography as well as the socio-economic and demographic profile of the district, which has paved way for making an in-depth analysis for measuring human development with various dimensions. The setting of this chapter brings focus of the core issues as well as some incidental developments that occurred over the years through various Central and State Government sponsored programmes in the district. A delineated analysis is presented in the following chapters.

CHAPTER 2

STATUS OF HUMAN DEVELOPMENT

Chapter
2
Status of Human Development in Cuddalore District

Introduction

This chapter portrays the status of human development registered in thirteen blocks of the district. Human Development is formally defined as the process of enlarging people's freedoms and opportunities and improving their well-being. Human Development is about the real freedom of ordinary people having to decide who to be, what to do, and how to live. It also gives a theoretical and conceptual framework for measuring human development at the levels of block incorporating available data both at the district and sub-district levels.

People Centric Model

The concept of human development focuses on the ends rather than the means of development and progress. The real objective of development should be to create an enabling environment for people to enjoy long, healthy, and creative lives. Though this may appear to be a simple truth, it is often overlooked as more immediate concerns are given precedence.

Human Development denotes both the process of widening people's choices and improving their well-being. The most critical dimensions of human development are a long and healthy life, knowledge, and a decent standard of living. Additional concerns include social and political freedoms. The concept distinguishes between two sides of human development. One is the formation of human capabilities, such as improved health or knowledge. The other is the enjoyment of these acquired capabilities, for work or for leisure. Thus, human development is ultimately best measured by its impact on individual lives.

The Human Development model emphasizes the experiences of people, including the economic, social, legal, physiological, cultural, environmental and political process that define the range of options available to them. It encompasses numerous factors that shape people's opportunities and enable them to live lives of meaning, choice, and value. These factors include the capability to participate in the decisions that affect one's life, to earn a decent living, to have access to quality

education and affordable healthcare, to practise one's religious beliefs, to enjoy cultural liberty, to live free from fear and violence, and many more. Human Development Report / Index are an integrated intellectual framework for a human centered approach to economic and social development.

Human Development Report

The human development concept is the brainchild of the late economist Mahbub-ul-Haq. At the World Bank in the 1970s, and later as Minister of Finance in Pakistan, Dr. Haq argued that existing measures of human progress failed to account for the true purpose of development to improve people's lives. In particular, he believed that the commonly used measure of Gross Domestic Product (GDP) was an inadequate measure of well-being. Working with the Harvard economist and Nobel Laureate Amartya Sen and other economists, in 1990, Dr. Haq published the first Global Human Development Report. In addition to the Global Human Development Report that comes out annually, more than 500 National and Regional Human Development Reports have been produced in around 160 countries, with an impressive record of spurring public debate and political engagement.

Human Development Index

The HDI was created to emphasize that people and their capabilities should be the ultimate criteria for assessing the development of a nation, not economic growth alone. In this context, an attempt has been made to measure the Human Development Index of the blocks using the available data. In total 11 indicators are used covering the area of living standard, education and health. These indicators are conceptually valid indicators and would help in ascertaining the level of human development at the block level. After making a data validation exercises at different levels, various block wise sectoral indices namely health, education and living standards are computed. There are three indicators for measuring health, three for education and five for standard of living. All these indicators reflect human development. The details are given below.

Dimensions	Indicators
Standard of living	Access to Cooking fuel Access to Toilet facilities Access to Drinking water Access to Pucca houses Access to Electricity Access to
Health	Infant Mortality Rate Maternal Mortality Rate Under 5 Mortality Rate
Education	Literacy Rate Gross enrollment in primary Gross enrollment in secondary

On comparing the block performances, it was found that the Cuddalore block (0.877) is at higher level and Mangalore block (0.481) is at the lower level. It reveals that the overall performance differs significantly among the thirteen blocks of the district. These values help in identifying the gap between the current level of development in the district and the immense possibilities that the district can realize with respect to human development.

Human Development Index—Inter-Block Variations

Table 2.1 shows top three blocks and bottom three blocks in human development index. The top three blocks are Cuddalore, Kumaratchi and Parangipettai. Of the chosen indicators, these blocks have scored well in all parameters. The population of Cuddalore block is 3,95,437 during 2011 and the sex ratio is 1007. The proportion of SC population is 20.47, which is lower than that of district population. The district human development index is 0.877 and the highest in the block has reached to the position of 1st rank. Among the three sectoral indices of HDI, this block has scored fairly well in all the three sectoral indices such as, standard of living, education, and health (Appendix: Table 9.1 and 9.2). In the context of standard of living, the block has scored very well in the provision of drinking water and electricity.

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

Top 3	Bottom 3
Cuddalore – (0.877)	Kattumannarkoil – (0.555)
Kumaratchi – (0.731)	Virudhachalam – (0.542)
Parangipettai – (0.725)	Mangalore – (0.481)
Source: Computed.	

At the next level, 74.70 per cent of the households live in pucca houses. The toilet facilities are available only 60.88 per cent of the households. The modern cooking fuel like LPG is used only in 51.15 per cent of the households. Special interventions are needed to control open defecation to enhance the health status. In the context of HDI health index, the block has scored 0.819. The rates of IMR (13.30) and U5MR (14.40) are marginally below the level of district's performance. The ongoing healthcare services may be implemented in an effective way with a due care for reaching the targets. The literacy rate of block is 81.77. It shows that there is a scope to achieve 100 per cent literacy through informal education to the illiterate adults. The primary and secondary enrolment rate are up to the mark. However, the situation arises to concentrate on quality of education.

The population of Kumaratchi block is 1,52,950 during 2011 and the sex ratio is 979. The proportion of SC population is 34.54, which is higher than that of district population (29.32). The worked out human development index value is 0.731 and the block has reached to the position of 2nd rank. Among the three sectoral indices of HDI, this block has scored well in all the three sectoral indices such as, standard of living, education, and health (Appendix : Table 9.1 and 9.2). In the context of standard of living, the block has scored well in the provision of drinking water and electricity. At the next level, 68.33 per cent of the households live in pucca houses. Toilet facilities are available only 49.17 per cent of the households. The modern cooking fuel like LPG is used only in 32.24 per cent of the households. Special interventions are needed to control open defecation. It is noticed that locally available fire wood as cooking fuel generates negative impacts on health of women folk. In the context of HDI health index, the block has scored the value of 0.754. The rates of IMR (15.70), MMR (10) and U5MR (16.50) are relatively low in the block. The ongoing healthcare services may be strengthened for reaching the targets. The literacy rate of block is 84.13.

It shows that there is scope to achieve hundred per cent literacy through informal education. The primary and secondary enrolment ratios are up to the mark. However, the district administration may concentrate in enhancing the quality of education by way of building and making provision of additional infrastructure.

The population of Parangipettai block is 1,49,222 during 2011 and the sex ratio is 993. The proportion of SC population is 26.48, which is equal to that of district population (29.32). The worked out human development index value is 0.725 and the block has reached to the position of 3rd rank. Among the three sectoral indices of HDI, this block has scored well in all the three sectoral indices, such as standard of living, education, and health (Appendix : Table 9.1 and 9.2). In the context of standard of living, the block has scored very well in the provision of drinking water and electricity. At the next level, 63.64 per cent of the households live in pucca houses. It is rather surprising to see around 50 per cent of the households use toilet facilities (51.51 %) in the block. However, there is good scope to increase the toilet facilities and making use of the same. Further it is noticed that locally available fire wood as cooking fuel generates negative impact on health of women folk. The modern cooking fuel like LPG is used only in 41.53 per cent of the households. In the context of HDI health index, the block has scored the value of 0.761. The rates of IMR (15.60), MMR (10) and U5MR (16.50) are marginally low as compared to the district's performance. The ongoing healthcare services may be implemented in an effective way with due care for reaching the targets. The literacy rate of block is 82.23. It shows that there is a scope to achieve hundred per cent literacy. The primary and secondary enrolment rates are up to the mark.

The bottom three blocks in HDI are Kattumannarkoil, Virudhachalam and Mangalore. The population of Kattumannarkoil block is 1,45,020 during 2011 and the sex ratio is 990. The proportion of SC population is 36.94, which is higher than that of district population (29.32). Often tension prevails between two major communities and it stands as a stumbling block in executing the developmental activities. The human development index value is 0.555 and the block has reached to the position of 11th rank. This block is one of the backward blocks of the district. Among the three sectoral indices of HDI, this block has scored very poor in all the three sectoral indices such as, standard of living, education and health (Appendix : Table 9.1 and 9.2). In the context of standard of living, the block has scored very well only in the provision of drinking water and electricity. At the next level, 39.93 per cent of the households live in pucca houses. Most of the houses are built

through various housing schemes introduced both by central and state Governments. The toilet facilities are used only 51.87 per cent of the households.

The modern cooking fuel like LPG is used only in 24.67 per cent of the households. Special interventions are needed to control open defecation and the people have not realized the importance of using toilets. Using locally available fire wood as cooking fuel generates negative impact on health of womenfolk. In the context of HDI health index, the block has scored the value of 0.628. The rate of U5MR (17.30) is relatively high. The IMR is 16.10 and MMR is 40 in the block. The ongoing healthcare services may be implemented with full participation of stakeholders for reaching the targets. The literacy rate of block is 77.68. It shows that there is scope to achieve hundred per cent literacy through informal education. The primary and secondary enrolment rates are up to the mark. However, there is scope for enhancing the quality of education at all levels.

The population of Virudhachalam block is 2,02,307 during 2011 and the sex ratio is 977. The proportion of SC population is 27.01, which is very close to the proportion of SC population in the district (29.32). This is one of the backward blocks of the district, wherein the concentration of SC population is very high. The human development index value is 0.542 and the block has reached to the position of 12th rank. Among the three sectoral indices of HDI, this block has not scored well in all the three sectoral indices such as, standard of living, education, and health (Appendix : Table 9.1 and 9.2). In the context of standard of living, the block has scored well only in the access of drinking water and electricity. At the next level, 78.95 per cent of the households live in pucca houses. The toilet facilities are available only in 45.52 per cent of the households. Since the existing programmes have not reached to the targeted groups, special interventions are needed to control open defecation.

The modern cooking fuel like LPG is used only in 32.45 per cent of the households. Using locally available fire wood as cooking fuel generates negative impacts on health of womenfolk, specifically socially deprived population of scheduled castes. In the context of HDI health index, the block has scored the value of 0.273. The rates of IMR (16.90), U5MR (17.90) and MMR (130) are relatively high in the block. Since the block is situated far away from the district headquarters, the ongoing healthcare services may be implemented in an effective way with due care for reaching the targets. The literacy rate of block is 78.10. The primary and secondary enrolment ratios are up to the mark. The Government may concentrate on quality of education on par with rest of the urban areas.

The population of Mangalore block is 1,71,618 during 2011 and the sex ratio is 976. The proportion of SC population is 40.47, which is higher than that of other blocks and proportion of SC in district population (29.32). The human development index value is 0.481 and the block is at the bottom position of 13th rank. This block is one of the backward blocks of the district. Among the three sectoral indices of HDI, this block has scored very poorly in all the three sectoral indices such as, standard of living, education, and health (Appendix : Table 9.1 and 9.2). In the context of standard of living, the block has scored well only in the access to drinking water and electricity. At the next level, 71.78 per cent of the households live in pucca houses. The toilet facilities are there make in 38.65 per cent of the households. It reveals that the population follows the practice of open defecation. The modern cooking fuel like LPG is used only by 26.51 per cent of the households. Using locally available firewood as cooking fuel generates negative impact on the health of womenfolk and sizably reduces employment and income. In the context of HDI health index, the block has scored the value of 0.428. The rates of IMR (17.90) and U5MR (18.90) are relatively high except MMR (30) in the block. The ongoing healthcare services may be streamlined for reaching the targets. The literacy rate of the block is 68.47. The primary and secondary enrolment rates are up to the mark. Since most of the population is first generation literates, the importance and quality of education have not been realized. The quality of education has to be scaled up at all levels.

Standard of living has been assessed through certain proxy variables. They are: type of cooking fuel, availability of toilet facilities, water supply, provision, and accessibility of electricity, and pucca house. Appendix : Table 9.1 portrays the block wise standard of living index. Among the thirteen blocks of the district, only three blocks such as Cuddalore (0.947), Keerapalayam (0.785) and Parangipettai (0.740), scored well.

These blocks are relatively well endowed with natural and manmade resources. Hence, it gives a better picture compared to other blocks. Through a close scrutiny of the sectoral index values, one can easily identify the poor performance blocks. In this district, there are ten blocks which come under the poor category. They are: Melbhuvanagiri (0.688), Panruti (0.684), Virudhachalam (0.678), Kumaratchi (0.667), Annagramam (0.657), Nallur (0.572), Kammapuram (0.524), Mangalore (0.510), Kurinjipadi (0.440) and Kattumannarkoil (0.349). The performance of Kattumannarkoil block is very poor in respect of access to cooking fuel (0.083). Since these indices are reflecting the relative performances of the blocks considering the minimum and maximum values, the performance by

some of the blocks seems to be very poor. However, the services of water supply and making provision of pucca houses to the marginalized population are the role of the Government. Hence the district administration can prioritize the blocks and make provision of the basic needs. Since the standard of living is poor in ten blocks of the district, adequate attention may be given to those blocks.

On comparison, only four blocks have performed well in terms of access to cooking fuel. They are Kurinjipadi (1.000), Cuddalore (0.978), Melbhuvanagiri (0.653) and Parangipettai (0.653). Among the thirteen blocks of the district, poor performance is registered in nine blocks, such as Kattumannarkoil (0.083), Mangalore (0.145), Nallur (0.228), Kumaratchi (0.339), Kammapuram (0.347), Virudhachalam (0.346) Panruti (0.413), Annagramam (0.413) and Keerapalayam (0.495). The indicator on cooking fuel accommodates the modern fuels like LPG, Electricity, Gas, etc. Hence the performance is very poor in the eight blocks of the district. It could be construed that the fuel supplies have not been distributed equitably based either on their income level or any other factor in this matter.

Among the thirteen blocks of the district, performance of five blocks in the use of toilet is very poor. They are Kurinjipadi (0.037), Kammapuram (0.231), Nallur (0.374), Mangalore (0.514), and Annagramam (0.526). The Central and State Governments have introduced various programmes in controlling open defecation and created community as well as individual household toilets. But these benefits have not trickled down to the blocks of Kurinjipadi, Kammapuram, Nallur, Mangalore and Annagramam. However, performances of the rest of the blocks are at the level of satisfaction. The accessibility of potable water has been taken into account as one of the indicators for measuring the standard of living.

As per the records of the year 2014, block wise analysis is carried out and presented in the Appendix : Table 9.2. Among the thirteen blocks of the district, the performance in provision of safe drinking water is very poor in Annagramam block (0.706). The performance differed among the thirteen blocks of the district. It varies around less than two times between the minimum and maximum score values. Two major problems reported in this district, ground water depletion and sea water intrusion. In realising the importance, the State Government introduced Integrated Drinking Water Supply Programme in this district. However, the benefits have not reached to all the

villages of the district. There are certain stumbling blocks in execution of the programme. These stumbling blocks have to be removed in a fast phase. The Government has given top priority in making provision of electricity to all households inclusive of free electricity to all huts. Around 95 per cent of the households have access to electricity. However, steps may be taken to identify the left out households and making provision to all. Pucca house is another proxy indicator for measuring the standard of living.

The Governments has introduced various housing schemes to the socially and economically deprived population of the country. The district too has enjoyed the benefits of the schemes. The poor performance is recorded in Kattumannarkoil block (0.080) and only 40 per cent of households have live in pucca houses. At the next level, 62.22, 63.64 and 65.28 per cent of households possessing pucca houses in Kammapuram, Parangipettai and Melbhuvanagiri block and index value is (0.527), (0.556) and (0.589) respectively. These blocks may be prioritized and funds earmarked for construction of pucca houses on par with the performance of other blocks.

Better health is central to human happiness and well-being. It also makes an important contribution to economic progress, enabling the people more productive, and save more. In this context, health index has been evolved after taking stock of all available health data both at the district and block levels. Finally, there are three indicators identified for assessing health status of the population. Appendix : Table 9.2 shows the performance of health index and it comprises of IMR, MMR and U5MR. Of the 13 blocks in the district, ten blocks have performed poorly. Better performance is associated with the better healthcare services provided by the Government as well as the private hospitals and clinics. The minimum and maximum health index values differ around three times.

It shows that the requirement of healthcare needs differs across blocks and municipalities of the district. The performance of the following blocks have gradually comedown from the district's performance. They are: Kurinjipadi (0.598), Kammapuram (0.494), Keerapalayam (0.461), Annagramam (0.456), Nallur (0.454), Melbhuvanagiri (0.447), Mangalore (0.428) and Virudhachalam (0.273). Among the blocks, Virudhachalam has performed very poorly (0.273). The authorities have to bestow additional attention towards achieving the targets. The better IMR performance is registered in Cuddalore (1.000) and the worst performance is reported in Mangalore block (0.280). The difference between minimum and maximum index values is around eight times. The occurrence of IMR is not only due to health factors but also due to socio-economic and cultural factors.

Maternal Mortality Rate is worked out considering one lakh live births during a year. The Government has taken serious steps in tracking pregnant mothers and to provide all types of assistances. The role of VHNs is remarkable in reducing mortality rates, specifically MMR. The worst performance is recorded in Virudhachalam block (0.098). However, the performance is relatively better in the rest of the twelve blocks of the district. The role of NRHM is witnessed in all rural blocks of the district. However, there is scope in strengthening existing healthcare services and creating effective delivery mechanism. Recently, the State Government has provided anti-shock garments to all PHCs for protecting the health of the baby and mother through the scheme State Balanced Growth Fund (SBGF). It is expected that this venture definitely will reduce the MMR in near future. Under Five Mortality Rate is one of the indicators for measuring health status of the population. The performance is good in Cuddalore block (1.000) and the performance is poor in Nallur block (0.286). The difference between minimum and maximum index values is more than seven times. Even though the Government has created adequate health infrastructure in all areas of the district, the performance is not uniform both in rural and urban areas. It shows that the provision of medical services alone are not enough but proper counseling has to be provided to the parents in taking care of their kids.

Education is the only form of action that can transform potentials into competencies for life. Education has been accepted as the most powerful tool for empowerment. It should reach the doorsteps of the poor and needy, especially the economically deprived and socially depressed classes. In view of the same, the Government with a noble intention of imparting free and compulsory education to all children and to encourage them to complete their schooling with ease had announced 14 welfare schemes. Besides, the Government has announced other welfare schemes for enhancing the quality of education at all levels. An attempt has been made to assess the educational attainment of the population of the district, incorporating literacy rate, primary and secondary school enrollment (Appendix : Table 9.2). A close scrutiny of block wise education index values reveals that there is a significant difference among the thirteen blocks of the district. Better performance is registered in Cuddalore block (0.871) and poor performance is recorded in Mangalore block (0.508).

The educational services are provided by the Government as well as the private schools. The objective of the Government schools is promoting education and achieving overall welfare of the children. The performance of nine blocks is above the level of the district. They are: Kattumannarkoil (0.781), Kumaratchi (0.775), Annagramam (0.749), Kammapuram (0.720), Nallur (0.693), Panruti (0.680), Parangipettai (0.677), Melbhuvanagiri (0.632) and Mangalore (0.508).

The literacy rate is obtained from the Census of India 2011 data and they define that the total percentage of the population of an area at a particular time aged seven years or above who can read and write with understanding. The overall literacy rate of the district is 78.04. The performance of literacy rate differs significantly among the thirteen blocks of the district. Better performance is registered in Kumaratchi block (1.000), which is not only headquarters of the district and exclusively rural block. The poor performance is reported in the blocks of Nallur (0.435) and Mangalore (0.304). It shows that Government has scope for strengthening the educational system to achieve hundred per cent literacy both in rural and urban areas of the district.

The State Government has taken steps for promoting primary education and reducing dropout rates. It is interesting to note that there is not much difference in the performances of providing primary education. The same picture could not be seen in the enrollment of secondary education. The district secondary enrollment rate is 89.49. A similar picture is noticed in all blocks of the district. However, the index values differed around four times among the blocks of the district. Since, the index values portrayed the relative block wise performance, the index values differ significantly between minimum and maximum. The maximum score is recorded in Cuddalore block (1.000) and minimum score is reported in Mangalore block (0.542). In this context, actual rates may also be utilized for evolving policies and making specific block wise interventions.

Gender Inequality Index—Inter-Block Variations

Gender Inequality Index has been worked out and the details are given below.

Dimensions	Indicators
Health	MMR Share of institutional delivery Share of Antenatal coverage
Empowerment	Female literacy rate Male literacy rate Share of female children 0 – 6 years Share of male children 0 – 6 years Share of male elected representatives in RLBs and ULBs Share of female elected representatives in RLBs and ULBs
Labour market	Female work participation rate Male work participation rate Female work participation rate in non Agri. Sector Male work participation rate in non Agri. sector Female Agri. wage rate Male Agri. wage rate

Table 2.2 reveals top and bottom three blocks of gender inequality index. The top three gender development blocks are Nallur, Parangipettai and Panruti. And the bottom three blocks are Virudhachalam, Kammapuram and Kattumannarkoil.

Table 2.2: Top and Bottom three blocks in Gender inequality index, 2014

Top 3	**Bottom 3**
Nallur – (0.009)	Kattumannarkoil – (0.055)
Parangipettai – (0.015)	Kammapuram – (0.095)
Panruti – (0.028)	Virudhachalam – (0.129)
Source: Computed.	

The Nallur block scores 1st rank in GII and index values is 0.009. Among the three sectors of health, empowerment and labour market, this block has performed well (Appendix : Table 9.3, 9.4 and 9.5). The performance of literacy rate differs significantly between male (81.59) and female (61.13). In the case of 0-6 years population, the differences between girls (46.73) and boys (53.27) have come close together. A better performance is recorded in male (57.99) and female (42.01) elected representatives. Since the index shows a relative performance of the blocks, the block performance is better than other blocks in terms of gender development. On the other hand, the same block has performed very poorly in human development. The gender differences in wages are very significant between male (Rs.157) and female (Rs.86). Since the opportunities are restricted for the female

population, the wage rates are lower than that of male. In the context of health, this block performs better and has reached the score value of 100 in terms of MMR, Institutional Deliveries and Antenatal Coverage.

The Parangipettai block scores 2nd rank in GII index values is 0.015. Among the three sectors of health, empowerment and labour market, this block has performed well (Appendix : Table 9.3, 9.4 and 9.5). The performance of literacy rate differs significantly between male (87.38) and female (74.00). The differences are around 13 percentiles. In the case of 0-6 year population, the differences between girls (47.43) and boys (52.57) have come close together. A better performance is recorded in male (62.94) and female (37.06) elected representatives. Since the index shows a relative performance of the blocks, the block performance is better than other blocks in terms of gender development. It is observed that gender development and human development move together in this block. The gender differences on wages are very significant between male (Rs.285) and female (Rs.150). Since the opportunities are restricted for the female population, their wage rates are lower than that of males. In the context of health, this block performs better and has reached the score value of 100 in terms of MMR, Institutional Deliveries and Antenatal Coverage.

The Panruti block scores 3rd rank in GII with an index value of 0.028. Among the three sectors of health, empowerment and labour market, this block has performed well (Appendix : Table 9.3, 9.4 and 9.5). The literacy rate differs significantly between male (84.28) and female (65.12). The difference is around 20 percentiles. In the case of 0-6 year population, the differences between girls (46.51) and boys (53.49) have come close together. A better performance is recorded in male (65.52) and female (34.48) elected representatives. Since the index shows a relative performance of the blocks, the block performance is better than other blocks in terms of gender development. The gender differences in wages are very significant between males (Rs.262) and female (Rs.169). Since the opportunities are restricted for the female population, the wage rates are lower than that of males. In the context of health, this block performs well in MMR, Institutional Deliveries and Antenatal Coverage.

The performance of the bottom three blocks such as Virudhachalam, Kammapuram and Kattumannarkoil, reveals that the Kattumannarkoil block scores 11th rank in GII is 0.055. Among the three sectoral indices of GII, this block has scored very poor in all the three sectoral indices such as, health, empowerment and labour market, (Appendix : Table 9.3, 9.4 and 9.5). The performance

of literacy rate differs significantly between male (85.10) and female (70.28). The differences are around 15 percentiles. In the case of 0-6 year population, the differences between girls (47.26) and boys (52.74) have come close together. A skewed performance is recorded in male (58.76) and female (41.24) elected representatives. Since the index shows a relative performance of the blocks, the block performance may not be construed as a better block in terms of gender development. On the other hand, the same block has performed very poorly in human development and reached the 11th rank. The gender differences in wages are very significant between male (Rs.258) and female (Rs.100). Since the opportunities are restricted for the female population, the wage rates are lower than that of males. Further as women work only in certain activities, the wage differences are very high. In the context of health, this block performs better and has reached the score value of 100 in terms of Institutional Deliveries and Antenatal Coverage. The MMR is 40 during 2014 and this rate is not constant over the years in this block.

The Kammapuram block scores 12th rank in GII is 0.095. Among the three sectoral indices of GII, this block has scored very poor in all the three sectoral indices such as, health, empowerment and labour market, (Appendix : Table 9.3, 9.4 and 9.5). Literacy rate differs significantly between male (84.64) and female (63.70). The differences are around 20 percentiles. In the case of 0-6 year population, the differences between girls (46.26) and boys (53.74) have come close together. A skewed performance is recorded in male (63.64) and female (36.36) elected representatives. It shows that the block has enjoyed the women reservation. Since the index shows a relative performance of the blocks, the block performance may not be construed as a better block in terms of gender development. The block has performed poorly in human development and reached 9th rank. The gender differences in wages are very significant between male (Rs.300) and female (Rs.91). Since the opportunities are restricted for the female population, the wage rates are lower than that of males. Further as the femalefolk use to restrict to involve only in certain activities, the wage differences are very high. In the context of health, this block performs better and has reached the score value of 100 in terms of Institutional Deliveries and Antenatal Coverage. The MMR is 40 during 2014 and this rate is not constant over the years in this block.

The Virudhachalam block scores 13th rank in GII is 0.129. Among the three sectoral indices of GII, this block has scored very poor in all the three sectoral indices such as, health, empowerment and labour market, (Appendix : Table 9.3, 9.4 and 9.5). The performance of literacy rate differs significantly between male (86.58) and female (69.55). The differences are around 17 percentiles. In

the case of 0-6 year population, the differences between girls (46.69) and boys (53.31) have come close together. A skewed performance is recorded in male (66.26) and female (33.74) elected representatives. Since the index shows a relative performance of the blocks, the block performance may not be construed as a better block in terms of gender development. On the other hand, the same block has performed poorly in human development and reached 12th rank. The gender differences in wages are very significant between male (Rs.273) and female (Rs.90). Since the opportunities are restricted for women, the wage rates are lower than that of males. Further, the femalefolk are restricted to involve only in certain activities, the wage differences are very high. In the context of health, this block performs better and has reached the score value of 100 in terms of Institutional Deliveries and Antenatal Coverage. The MMR is 130 during 2014 and this rate is not consistant over the years in this block.

The empowerment bar has been worked out incorporating three indicators such as proportion of male and female literacy, proportion of boys and girls 0-6 year population, and proportion of male and female elected representatives. In the case of literacy rate, the proportion of male (85.93) and female (70.14) shows higher. The differences between male and female are very high, and to the level of 16 percentage point. This trend could be seen in all the blocks of the district. It shows that the male and female discrimination still exists in the district in providing education. The proportion of boys (52.7) and girls (47.3) in the 0-6 year population is very close in achieving gender equality in the district (Appendix : Table 9.3 and 9.4). The marginal differences may also be avoided by way of giving equal importance to the girl children and wiping out the social evils of dowry. The same trend is observed in all the blocks of the district.

The proportion of male and female elected representatives is worked out to examine the participation of women members in the political activities. The Government has enacted the law and made special provisions in encouraging the femalefolk in participation in all public activities. The district's female participation is 38 and the male participation is 62. The minimum female participation is recorded in Mangalore block (33.51) and the maximum is reported in Melbhuvanagiri block (43.16). These differences may be reduced by way of encouraging and suggesting them to participate in all public and political activities.

In the context of health bar index, there are three indicators incorporated to assess the magnitude of gender inequality prevailing in the blocks of the district. They are: Maternal Mortality Rate,

Institutional Deliveries and Antenatal Coverage (Appendix : Table 9.3 and 9.4). The minimum value is recorded in Virudhachalam block (0.077). The maximum value is registered in Kumaratchi, Nallur and Parangipettai block (1.000). Even though the Government has tracked all the pregnant mothers through CHNs and VHNs, the performance differs significantly among the blocks of the district. It depends not only on healthcare services and also on other social, cultural and economic factors.

The index value of institutional deliveries is recorded as one in all the blocks of the district. This could be treated as significant achievement of the health department of the district. The services rendered by the village health nurses are remarkable and without their services this could not be achieved in all the blocks of the district. The antenatal coverage index has reached one in the blocks of Cuddalore, Kattumannarkoil, Kurinjipadi, Melbhuvanagiri, Mangalore, Nallur and Virudhachalam. There is marginal difference between minimum (0.880 Panruti) and maximum index values (1.000 in seven blocks). It shows the achievement of the health department of the district. However, there is scope to scale up the activities and reach hundred in all the blocks of the district. The female health index of the district is 0.481, which is well below half the mark of the scale values. The maximum value of one is reached in Nallur block and minimum value is recorded in Virudhachalam block (0.425). There is more than two times difference between these two ends. It reveals that the overall health of the female in the district is not upto the mark. Hence, the female health oriented activities may be scaled up to higher level.

The labour bar has been worked out integrating three indicators such as work participation rate for male and female, work participation rate for male and female in non-agricultural sector, and wage rate for male and female (Appendix : Table 9.3 and 9.4). The work participation rate female index is relatively higher in the blocks of Mangalore (0.520) and Nallur (0.468). The work participation rate of female in the district is 32.47. The minimum work participation rate is recorded in the block of Cuddalore (25.25) and the maximum work participation rate of female is 52.02 in the block of Mangalore. It is interesting to note that the work participation rate of both male and female is very high in Mangalore block. This block is a dry block and the population is involved agricultural and agricultural oriented activities.

The female work participation rate in non-agricultural sector in the district is 26.40 and male is 47.27. It shows that the male participation is more or less double than the female participation. A similar picture could be seen in all the blocks of the district. However, the differences in work

participation in non–agricultural sector are more than fourfold in both the categories of male and female. The highest female work participation rate in non-agriculture is registered in Cuddalore block (48.92), which has good access to the urban area as well as growth centre. The lowest work participation rate is recorded in Mangalore block (10.78). This block performance is relatively better in the agricultural sector. Similarly the male work participation rate is very high in Cuddalore block (70.86), and it is low in Mangalore block (19.90). It is observed that the blocks, with had good access to the urban and semi-urban area have been able to take up opportunities both in agricultural and non-agricultural activities. These performances are reflected in the index values.

Block-wise wage rate has been assessed for both male and female. The female wage rate of the district is Rs.116 and male is Rs.244. The wage differences between male and female are around two times. A similar picture is noticed in all the thirteen blocks of the district. The higher female wage rate of Rs.169 is recorded in Panruti block. At the next level, the female wage rate of Rs.150 is reported in the blocks of Cuddalore, Keerapalayam, Melbhuvanagiri and Parangipettai. The lower female wage of Rs.86 is registered in Nallur block. The wage differences are attributed to the crops grown in the blocks and involvement in the SHGs activities.

Gender discrimination in terms of wages is found in all the blocks of the district. The Government introduced equal wages for both male and female through MGNREGS. This will take a long time to achieve and establish equal wages in all the activities. As the labourer use to migrate to nearby areas and involve themselves both in agricultural and non-agricultural activities, there is no clear picture about the blocks and their endowment of resources.

Child Development Index—Inter-Block Variations

Child Development Index has been worked out using the details below.

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

Table 2.3 portrays the performance of Child Development and has identified as top and bottom three blocks in each category. The differences between minimum and maximum values are around two times.

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

Top Three blocks with higher CDI value	Bottom Three blocks with lower CDI value
Cuddalore – (0.759)	Mangalore – (0.386)
Kumaratchi – (0.672)	Kammapuram – (0.381)
Annagramam – (0.621)	Melbhuvanagiri – (0.375)
Source: Computed.	

The top three child development blocks are Cuddalore, Kumaratchi and Annagramam. And the bottom three blocks are Mangalore, Kammapuram and Melbhuvanagiri.

In the context of child development index, the Cuddalore block has reached the first rank among the top performance blocks. The index value is 0.759 (Appendix : Table 9.7). Of the chosen indicators of CDI, the block has performed well in reduction of U5MR and malnourished children. The ongoing programmes may be scaled up for reducing the same. In the case of educational attainment, the block performance in primary (94.80) and secondary (93.61) enrolment is upto the mark and this also be scaled up to reach the level of 100. Since the index shows the relative

performance, Cuddalore block enjoys 1st rank. However, the activities may be scaled up to the level of hundred per cent.

Kumaratchi block has reached the 2nd rank in CDI and reflects as one of the top performer. The index value is 0.672 (Appendix : Table 9.7). The block has performed well in reduction of U5MR and malnourishment among children. The ongoing programmes may be executed for reducing the same. In the case of educational attainment, the block performance in primary (97.06) and secondary (86.42) enrolment is upto the mark and this also may be strengthened to reach the level of 100. The enrollment rate has gradually come down when the level of education goes up. This has to be viewed seriously and control the dropouts at the level of secondary education. Since the index shows the relative performance, this block enjoys 2nd rank. However, the activities may be monitored to reach the level of hundred per cent.

The 3rd rank holder in CDI is Annagramam block. It reveals as one of the top performance blocks. The index value is 0.621 (Appendix : Table 9.7). Of the identified indicators in CDI, the block has performance marginally below the level of district's performance in terms of U5MR (16.80) and malnourished children (24.56). The ongoing programmes may be evaluated to identify the loopholes in reaching the targets. In the case of educational attainment, the block performance in primary (99.10) and secondary (88.84) enrolment is upto the mark and steps may be taken to reach the target of 100. Keerapalayam block enjoys 3rd rank, which shows only relative performance. However, there is a scope for enhancing the activities at all dimensions.

Mangalore block has reached the 11th rank in CDI and shows it as one of the low performing blocks, which is also one of the backward blocks of the district. The index value is 0.386 (Appendix : Table 9.7). The block has not performed well in reduction of U5MR (18.90) and malnourishment among children (38.55). The ongoing programmes may be strengthened and periodically monitored to achieve the efficacy of the programmes. In the context of educational attainment, the block performance in primary (96.01) and secondary (86.31) enrolment is low and this also may be promoted to reach the level of 100. This has to be viewed seriously and control the dropouts both at the level of primary and secondary education are to be reduced. This block is placed at 11th rank, which highlights the relative performance. However, the activities needs to be executed effectively to reach the level of hundred per cent.

Kammapuram block has reached the 12th rank and that shows it as one of the poor performance blocks. The worked out index is 0.381(Appendix : Table 9.7). The block has not performed well in reduction of U5MR (18.20) and malnourished children (36.32). Juxtaposing the performance of the district, the block performs very poorly. Proper incentive mechanism may be introduced to execute the programs as well as to achieve the targets. The block performance in primary (100.10) and secondary (88.26) enrolment is not upto the mark at the secondary level and this may be scaled up to reach the level of 100.

Melbhuvanagiri block is at the 13th rank in CDI and it reflects as one of the bottom level blocks. The index is 0.375 (Appendix : Table 9.7). The block has not performed well in reduction of U5MR (19.00) and malnourished children (13.75). The relative performance along with the district is not uniform in all the selected indicators. The efficacy in execution of programmes may be strengthened for achieving the targets. The block performance in primary (89.07) and secondary (88.92) enrolment is low and has to be strengthened to reach the level of 100. This has to be viewed seriously and must be controlled the dropouts both at the level of primary and secondary education.

Health index is worked out as a component of CDI, incorporating U5MR, percentage of malnourished children and Juvenile Sex Ratio (Appendix : Table 9.6). Under-five mortality rate is the probability per 1,000 that a newborn baby will die before reaching age five, if subject to current age-specific mortality rates. As could be seen from the (Appendix : Table 9.6), the under 5 mortality index minimum and maximum values of the blocks vary around ten times. The district's U5MR is 17.20. The maximum rate of 19.20 is reported in Nallur block and minimum value of 14.40 is recorded in Cuddalore block. It is observed that the attention is not uniform in all the blocks of the district. Further, the people have to come forward in participating in all the healthcare activities of the Government to reduce under five mortality rate. These rates are not uniform over the years and they vary significantly.

The proportion of malnourished children in the district is 23.02, which is around one quarter of the children of the district. The proportion is very high in the block Nallur (41.39) and it is very low in Panruti block (9.13). The ongoing ICDS activities may be streamlined and implemented to reduce the malnourished children in the district. The lowest index is recorded in Nallur (0.000) and the

highest index is witnessed in Panruti block (1.000). In the case of malnourished children, the difference is also around nine times.

Juxtaposing the index values of U5MR and the malnourishment among children, there is no correlation between the two. However these variables are related to one another and the contribution of other factors also has to be identified in assessing the overall development of the children in the district. The juvenile sex ratio of the district is 896 (Appendix : Table 9.6), which is lower than the overall sex ratio of the state. The sex ratio is very high in Cuddalore block (935) and it is very low in Kammapuram block (861). It is observed that the people use to prefer male children rather than girl children. Since they have faced various hurdles in their life, they try to avoid the female children through various ways and means. Among the blocks, the index values differ around ten times. This has to be viewed very seriously and implement the ongoing social welfare and healthcare programs effectively to control all types of social evils.

Education index is one of the proxy indicators for assessing the child development (Appendix : Table 9.6). The education development is measured using three indicators namely enrollment and transition rate of primary, secondary level education and children never enrolled in schools. Irrespective of blocks, community and religion, all the people put their children in school for having good quality education. Besides, the Government as well as the private schools contribute to the development of education in the district. Hence a very high performance could be seen in all the blocks of the district. These are reflecting only relative performance of the blocks. However, all the blocks have performed well in terms of the three indicators chosen for the analysis. The chosen indicators only reflect the enrollment and transition rate, which is a mandatory one for achieving the targets of the Education Department. It requires further analysis for examining the quality of education provided by the public and private schools of the district.

Multi-Dimensional Poverty Index —Inter-Block Variations

Table 2.4 shows the MDPI values comprising of standard of living, health and education. The scores are classified as top and bottom three blocks each of the district. Worked out minimum and maximum values differed around four times. The top three blocks are Cuddalore, Parangipettai and Panruti. The Nallur block is reaching as the number one in the category of bottom block. Another two blocks are Kammapuram and Mangalore. The differences are around five times between these

two ends. Hence, the district administration can prioritize the blocks and make provision of the basic needs. The details of indicators in Multi Dimension Poverty Index are given below.

Dimensions	Indicators
Health	IMR
	Higher Order Birth Rate
	Malnourished Children
Education	Dropout in Primary
	Dropout in Secondary
Standard of living	Access to Cooking fuel
	Access to Toilet facilities
	Access to Drinking water
	Access to Pucca houses
	Access to Electricity

Cuddalore block has performed well in MDPI and earned the top score of one and the index value is 0.113 (Appendix : Table 9.9). Of the three sectoral indicators of health, education, and living standard, the performance of health is not up to the mark. However, this has to be viewed seriously and the government must try to reduce IMR (13.30), HOB (7), and Malnourished children (10). The proportion of households live below poverty is 13.46 during 2014, which is well below the level of district average (23.36). Still there is a scope to alleviate poverty in this block. It is understood that there are some issues in identifying BPL households. An alternative approach may be introduced to identify the BPL households. Health specific interventions may also be given by way of making temporal analyses to avoid sporadic incidences and outbreak.

Parangipettai block is in the 2nd rank and the computed MDPI is 0.366 (Appendix : Table 9.9). The proportion of poverty is 14.14, which is well below the mark of district level (23.36). Of the three sectoral indicators of health, education, and living standard, the performance of health is relatively

poor in this block. This has to be viewed seriously and attempts must be made to reduce IMR (15.60), HOB (7.0), and malnourished children (31.9).

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

Top Three blocks with Lower MDPI value	Bottom Three blocks with Higher MDPI value
Cuddalore – (0.113)	Nallur – (0.629)
Parangipettai – (0.366)	Kammapuram – (0.673)
Panruti – (0.470)	Mangalore – (0.693)
Source: Computed.	

Panruti block has performed well in MDPI (0.470) and earned the 3rd rank (Appendix : Table 9.9). The district administration under TNSRLM has enumerated the BPL people for the implementation of developmental programmes. This statistics has been worked out on the basis of participatory method. The current poverty level is 24.37 per cent. The ongoing income and asset creation programmes may be implemented with effective participation of the targeted groups. Of the three sectoral indicators of health, education, and living standard, the performance of health is poor in this block. This has to be viewed seriously and the government must try to reduce IMR (15.80), HOB (12.0), and malnourished children (9.1). All the health parameters have to be examined over the years for execution of all healthcare programmes.

Among the three low performing blocks in Cuddalore district, Nallur has not performed well in MDPI (0.629) and earned the 11th rank (Appendix : Table 9.9). Of the three sectoral indicators of health, education, and living standard, the performance of health is poor in this block. This has to be viewed seriously and attempts must be made to reduce IMR (17.60), HOB (13.0), and malnourished children (41.1). Further, these health parameters have to be examined not only for a specific period and have to be seen over the years for assessing the chronic ailments prevailing in the block. In the context of living standards, the performance is very poor in using cooking fuel (28.94%) and toilet facilities (32.22%). Specific interventions are needed to enhance the living standard of the people.

Kammapuram block has not performed well in MDPI (0.673) and earned the 12th rank. The level of poverty is 33.96 per cent (Table 3.6), which is worked out on the process social mapping. Of the

three sectoral indicators of health, education, and living standard, the performance of health is very poor in this block. This has to be examined and attempts must be made to reduce IMR (17.40), HOB (13.0), and malnourished children (36.3). The performance is well above the levels of district's performance. In the case of living standard, the performance is very poor in respect of cooking fuel (32.46%) and toilet facilities (25.71%). These issues have to be addressed to enhance the overall living standard.

Mangalore block has not performed well in MDPI (0.693) and earned the 13th rank. It is rather surprising to see very high level of poverty in the block 36.67% (Table 3.7). Efficacy of poverty alleviation programmes may be evaluated; provision may be made for exclusion of households above BPL and inclusion of households under BPL. Of the three sectoral indicators of health, education, and living standard, the performance of living standard is very poor in this block. The performance of consuming cooking fuel (26.51%) and using toilet facilities (38.65%) is not upto the mark. Further, the performance of health indicators IMR (17.90), HOB (13.0), and malnourished children (38.6%) are relatively high. These parameters have to be prioritized and funds are to be earmarked to enhance the overall development of the block.

Health is one of the indicators of MDPI. Health sector comprises of three indicators such as infant mortality rate, high order birth rate, and malnourished children. The gap between the minimum and maximum is very high, and specific intervention is needed to reach the targets. As far as high order birth rate is concerned, the minimum index value is reported in Kammapuram, Mangalore, Nallur, Annagramam, Keerapalayam, Panruti Kattumannarkoil, Virudhachalam, Melbhuvanagiri and Kumaratchi block and the maximum value is reported in Cuddalore and Parangipettai blocks (1.000).

Since the indicators are negative in nature, minimum value represents good performance and higher value shows poor performance. It could be concluded that the gap is very high among the blocks in terms of the three health indicators. It reveals that the households that have better access to the urban areas or growth centres of the region, have an upper edge in availing better health services. Besides, the health is determined by number of factors such as safe drinking water, surrounding environmental conditions and income of the households. On comparing with the performance of standard of living, there is no symbiotic relationship between health and standard of living. Further

the variations among the blocks in terms of three health indicators chosen in the district are significant. It reveals that the effectiveness in implementation of ongoing healthcare programs differ across the blocks of the district. It is observed that all the stakeholders have not par taken in all the Government endeavours and benefits from the programmes. They may be encouraged in enjoying the services by way of providing good quality healthcare services in time.

In the case of education, dropout indicator alone has been taken into account as a proxy measure for achieving educational attainment. The primary dropout rate is 0.4 for the district during 2013-14. Across the blocks, there is a marginal variation. It shows the achievement of the Education Department in controlling dropouts at the primary level. At the secondary level dropout, a significant increase can be seen in all the blocks as well as in the district. The rate of secondary dropout of the district is 6.75 during 2013-14.

Among the blocks, the highest dropout rate is recorded in Keerapalayam block (8.12). It is observed that in imparting education transition from primary to secondary has gradually come down. This can also be controlled by way of providing quality education at all levels. The Department of Education has taken strenuous efforts in tracking the dropout children and in bringing them to the main stream. Their efforts in bringing the number of actual dropout s could be highly appreciated.

Integrated Analysis: Human Development Index

The performance of all the blocks in Table 2.5. Of the thirteen blocks, three blocks scored above the level of the district's performance. The differences between minimum and maximum HDI values are around two times. On human development perspective, adequate attention may be given to the rest of ten blocks of the district. Among the ten blocks, Government can prioritize sectors and earmark the funds for achieving human development uniformly in all the areas of the district. Block-wise HDI has been worked out and classified in the form of top three blocks and bottom three blocks.

These classifications would help the policy makers to make an assessment. The performance of the blocks is very high compared to other blocks and it is highly skewed. It is interesting to note that Kumaratchi block has recorded 0.731. Among the thirteen blocks of the district, Cuddalore stands at the top (0.877) followed by Kumaratchi (0.731) and Parangipettai (0.725). On the other hand,

Mangalore block has scored only 0.481 HDI. It could be concluded that there is a wide disparity of human development among the blocks of the district. Of all the four indices, Cuddalore block has reached top score in three categories except GII (4th Rank).

Table 2.5: Consolidation of HDI, GII, CDI and MDPI indices, 2014

S.No	Block / District	Index Value / Ranking							
		HDI	Rank	GII	Rank	CDI	Rank	MDPI	Rank
1	Annagramam	0.608	6	0.055	10	0.621	3	0.581	10
2	Cuddalore	0.877	1	0.032	4	0.759	1	0.113	1
3	Kammapuram	0.571	9	0.095	12	0.381	12	0.673	12
4	Kattumannarkoil	0.555	11	0.055	11	0.564	7	0.554	9
5	Keerapalayam	0.661	5	0.035	6	0.616	4	0.518	7
6	Kumaratchi	0.731	2	0.035	5	0.672	2	0.481	4
7	Kurinjipadi	0.607	7	0.049	9	0.562	8	0.552	8
8	Mangalore	0.481	13	0.037	7	0.386	11	0.693	13
9	Melbhuvanagiri	0.579	8	0.037	8	0.375	13	0.512	6
10	Nallur	0.565	10	0.009	1	0.399	10	0.629	11
11	Panruti	0.693	4	0.028	3	0.598	5	0.470	3
12	Parangipettai	0.725	3	0.015	2	0.477	9	0.366	2
13	Virudhachalam	0.542	12	0.129	13	0.591	6	0.502	5

Source: Computed.

Integrated Analysis: Gender Inequality Index

The Gender Inequality Index (GII) reflects women's disadvantage in three dimensions-reproductive health, empowerment and the labour market. The index shows the loss in human development due to inequality between female and male achievements in these dimensions. It ranges from 0, which indicates that women and men fare equally, to 1, which indicates that women fare as poorly as possible in all measured dimensions. Table 2.5 gives an outline of Gender Inequality Index. This index comprises of health, empowerment and laborurer market.

Among the thirteen blocks of the district, the minimum value of the GII index is recorded in Nallur block (0.009) and the highest value is registered in Virudhachalam block (0.129), but the space between the high score of one and the maximum score reached by the district, viz., Virudhachalam (0.129) is large. It shows that all the blocks of the district's GII score is close to zero and it reveals that there is not much gender inequality in the district. However, relative performances differed among the blocks. Table 2.5 shows the blocks of the district ranked according to the GII. Since the index is depicting the level of gender inequality that prevails in the district, the worked out index

value ranges between 0.009 of Nallur to 0.129 of Virudhachalam. It shows that the values are well below the mark in the scale zero to one. In general, the level of inequality is very low in all the blocks. However, the differences among the blocks are significant. In corroboration with the HDI and GII score values, it could be said that there is no symbiotic relationship. For instance, Cuddalore ranks first in HDI, but the same block has scored fourth rank in GII. Similarly, Kumaratchi block has scored second rank in HDI, but the same block has reached the level of fifth rank in GII. It could be said that there is a lot of scope in bringing down the level of inequality in the bottom three blocks of the district.

Integrated Analysis: Child Development Index

Assessing and measuring the levels of child development is one of the indicators of human development. Table 2.5 shows the blocks of the district ranked according to the CDI. The health and education sectoral indices are taken into account in arriving at the Child Development Index. The space between the minimum and maximum values is around two times. The minimum value is recorded in Melbhuvanagiri block (0.375) and the maximum value is recorded in Cuddalore block (0.759). Overall, the performance of the district with respect to the health indicator could be seen from Appendix : Table 9.7.

The Melbhuvanagiri block has ranked last in the district of Cuddalore. Table 2.5 also reveals that the health sector is faring poorly in the district irrespective of the blocks, and there is much to be done to reach the expected targets in health development of certain blocks. But the picture is entirely different in the education sector. This shows that the state and the district administration are playing a major role in imparting education to the children. Besides, by tracking the children at different levels during their schooling period, the children are also promoted compulsorily up to ninth standard to reduce the dropout rate. Sometimes, this might have an adverse effect when the students opt for higher studies and competitive exams. The differences between lower and higher values are around two times. The Cuddalore block has scored 0.759 CDI and reached the top in the category of top 3 blocks and the Melbhuvanagiri block is at the bottom level of 0.375. The differences across the blocks are very high. The activities relating to child development may be scaled up to high level in the blocks of Kammapuram, Mangalore and Melbhuvanagiri.

Integrated Analysis: Multidimensional Poverty Index

Multidimensional Poverty Index is computed for the thirteen blocks of the district. This index comprises health, education, and standard of living. The health index comprises of IMR, high order birth, and malnourished children and the education index includes primary and secondary school dropout ratios. The standard of living index accommodates access to cooking fuel, toilet, drinking water, electricity and pucca house. It uses micro data from household surveys, and all the indicators needed to construct the measure must come from the same survey. Each person in a given household is classified as poor or non-poor depending on the number of deprivations his or her household experiences. These data are then aggregated into the national measure of poverty. The overall MDPI is worked out with a simple average of all indices subtracting with one. It is expected that the worked out index will reflect the true picture of the population. According to this index, the performance of only three blocks is better compared to other blocks. They are: Cuddalore (0.113), Parangipettai (0.366) and Panruti (0.470). In general, the performances of Cuddalore block is relatively high compared to the district level performance. As the local problems and needs of different blocks show substantial differences among themselves, they warrant specific policies to address them individually. The minimum and maximum values of the block wise index differ around six times. It reveals that the level of poverty differs significantly among the thirteen blocks of the district.

Conclusion

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

The performance of HDI varied significantly across thirteen blocks of the district. The differences between minimum and maximum HDI values are around two times. On human development perspective, adequate attention may be given to the rest of ten blocks, which have performed well below the level of district such as Mangalore (0.481), Virudhachalam (0.542), Kattumannarkoil (0.555), Nallur (0.565), Kammapuram (0.571), Melbhuvanagiri (0.579), Virudhachalam (0.592), Kurinjipadi (0.607), Annagramam (0.608), Keerapalayam (0.661), and Panruti (0.693). Among the ten blocks, Government can prioritize sectors and earmark the funds for achieving human development uniformly in all the areas of the district. The GII of the district is very close to zero level in all the blocks of the district. However, there is scope to reduce gender discrimination in the district. This index may also be conceptualized in addressing the issues of gender development accommodating ground realities. The performance of CDI is well below the mark in three blocks of the district such as Melbhuvanagiri (0.375), Kammapuram (0.381) and Mangalore (0.386). Adequate attention may be given to these three blocks in terms of education and health. The performance of MDPI is fairly well only in three blocks of the district. The rest of the ten blocks such as Mangalore (0.693), Kammapuram (0.673), Nallur (0.629), Annagramam (0.581), Kattumannarkoil (0.554), Kurinjipadi (0.552), Keerapalayam (0.518), Melbhuvanagiri (0.512), Virudhachalam (0.502) and Kumaratchi (0.481) may be prioritized and funds may be earmarked in alleviating poverty and establishing egalitarian society. Intra-district variations in terms of HDI, GII, CDI, and MDPI and their contributing factors are examined in the following chapters.

CHAPTER 3

EMPLOYMENT, INCOME AND POVERTY

Chapter
3
Employment, Income and Poverty

Introduction

This chapter focuses on the employment, income, and poverty of Cuddalore district. Unemployment and underemployment lie at the core of poverty. For the poor, labour is often the only factor they can use to improve their well-being. Hence the creation of productive employment opportunities is essential for achieving poverty reduction and sustainable economic and social development. It is crucial to provide decent jobs that secure both income and empowerment for the poor, especially women and younger people. Rapid economic growth can potentially bring a high rate of expansion of productive and remunerative employment which can lead to a reduction in poverty. Given the importance of employment for poverty reduction, job-creation should occupy a central place in national poverty reduction strategies. Many employment strategies are often related to agricultural and rural development, using labour-intensive agricultural technologies, developing small and medium-size enterprises and promoting micro projects in rural areas. Many strategies promote self-employment, non-farm employment in rural areas, targeted employment interventions, microfinance, and credit as a means of employment generation, skill formation, and training.

There should be a focus on creating better and more productive jobs, particularly those that can absorb the high concentrations of working poor. Among the necessary elements for creating such jobs are investing in labour-intensive industries, especially agriculture, encouraging a shift in the structure of employment to higher productivity occupations and sectors, and upgrading job quality in the informal economy. In addition, there should also be a focus on providing poor people with the necessary skills and assets that will enable them to take full advantage of any expansion in employment potential.

Employment

Table 3.1 reveals block-wise size of workforce and work participation rate of Cuddalore district during the period between 2001 and 2011. All the urban areas have been clubbed into the concerned rural blocks of the district. It is observed that the population has increased from 22.85 lakh to 26.05 lakh in the district, but there is no substantial increase in the worker participation. The total workers

of the district increased from 973 thousands to 1169 thousands between the year 2001 and 2011. The decadal growth rate of total workers is 20.23 in the district. The same performance could not be seen in all the blocks of the district. This may be attributed to endowment of natural and manmade resources. For instance, the total workers are very high in Kurinjipadi, Cuddalore and Panruti blocks compared to other blocks. In some of the blocks, the total workers are relatively low. The size and number of Panchayat villages differ significantly among the thirteen blocks of the district. Hence, there is a significant variation in terms of population and total workers. The main workers of the district has steadily increased from 7,29,764 (2001) to 8,37,271 (2011). The computed growth rate of the district is 14.73.

Table 3.1: Total Workers and Non-Workers during 2001 and 2011 in Cuddalore district

S. No	Block / District	Total workers		Main Workers		Marginal Workers		Non Worker		Total Population	
		2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
1	Annagramam	76205	86502	62479	69534	13726	16968	96593	104122	172798	190624
2	Cuddalore	125157	163509	102104	126258	23053	37251	219279	231928	344436	395437
3	Kammapuram	59842	73824	42359	51328	17483	22496	72370	85260	132212	159084
4	Kattumannarkoil	58732	63895	37890	41749	20842	22146	67902	81125	126634	145020
5	Keerapalayam	66330	78902	49488	44166	16842	34736	93776	101727	160106	180629
6	Kumaratchi	55415	63860	37586	38051	17829	25809	80261	89090	135676	152950
7	Kurinjipadi	128583	147904	98421	117889	30162	30015	202047	214880	330630	362784
8	Mangalore	70719	96296	56558	69465	14161	26831	67056	75322	137775	171618
9	Melbhuvanagiri	45793	55799	33575	37364	12218	18435	60173	61236	105966	117035
10	Nallur	77328	82927	56337	60013	20991	22914	71646	73262	148974	156189
11	Panruti	81457	100691	57899	70787	23558	29904	113575	122324	195032	223015
12	Parangipettai	52061	65438	35033	42413	17028	23025	73265	83784	125326	149222
13	Virudhachalam	75444	90333	60035	68254	15409	22079	94386	111974	169830	202307
	District	973066	1169880	729764	837271	243302	332609	1312329	1436034	2285395	2605914

Source: Census of India 2001 and 2011.

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

A similar trend could be seen in all blocks of the district. The government aims to improve by way of generating additional employment both in farm and non-farm sectors. However, the growth rate of marginal workers is very high to the level of 36.71 in the district. These marginal workers are very close in proportion to total population. In the case of non-workers, the growth rate of the district is 9.43.

Box 3.1: Employment and Asset Creation through MGNREGS: A Gender Analysis in Cuddalore District, Tamil Nadu

A study was carried out by Prof. E. Selvarajan and Dr. S. Chandraleka, Department of Economics, Annamalai University on the performance of MGNREGA in Cuddalore district during 2012. A part of the analysis highlights the gender issues. This study examines employment and asset creation through MGNREGS: an intra-district gender analysis in Cuddalore district, Tamil Nadu.

This district is one of the most backward districts in Tamil Nadu. On the basis of topography, the district has been classified into four agro-climatic regions, such as dry region, dry-cum-wet region, flood-plain region and coastal-region. The Cuddalore district consists of 13 blocks. Keeping in view of the topography of the region and overall performance of the scheme, one block has been identified in every region. The administrative regions of the block and composition of the villages are varied. The details of the village panchayats are Mangalore-66 gram-panchayats, Annagramam-42 gram-panchayats, Kumaratchi-57 gram-panchayats, and Parangipettai-41 gram-panchayats. At the next level, villages are identified on the basis of utilization of earmarked funds for the panchayats. These villages are grouped into three on the basis of utilization of fund, such as low, medium and high. Among these groups, one panchayat village has been randomly selected for the study. Totally 12 panchayat villages were selected for the present study, representing all the four agro-climatic regions. Finally, proportionate random sampling technique has been introduced to identify the beneficiaries' households. After assessing the ground realities, sample size has been fixed as 7 per cent, specifically to make intra-regional analysis. The total sample consists of 447 respondents. The field work was conducted during the months of May to July 2012.

The results of this study clearly indicate that the MGNREGS has the potential to transform rural economic and social relations at many levels. However, this potential is still incipient and requires substantial support in many different ways, since the very orientation of MGNREGS and the involvement in public works will take time to permeate, especially at the local levels. The scheme also creates vital physical assets of the region, wherein they renovate, build or rebuild the existing infrastructure in the rural areas aiming to enhance the agricultural productivity. Physical assets like pond silt removal, lake silt removal, canal silt removal and road maintenance have been created under this programme with a view to filling in the critical infrastructural gaps in rural areas and enhancing the quality of life of rural people. The Government provides 100 days of guaranteed employment to a family during the financial year. Overall, the performances in getting the employment opportunities differ significantly. It could be seen under the class interval of 31-45 days and very few of them get employment through this scheme above 90 days in dry and coastal regions. In general, majority of the beneficiaries have received the wage ranging from Rs. 2000-3000 per year. Specifically, the beneficiaries of dry and coastal regions have received high income through this scheme. Days of employment and wages earned differ significantly across the study villages of the four agro-climatic regions of the district Cuddalore. It could be seen that there is a proportional relationship between mean days of employment and wages earned by the surveyed households across the regions. The maximum mean value of income Rs.1625 commences from the dry-cum-wet region and ends with Rs.3698 in the flood-plain region. Similar relationships could be seen in the categories of male and female.

Work Participation Rate

Table 3.2 reveals gender and area wise Work Participation Rate of Cuddalore district between the period of 2001 and 2011. During 2001, the proportion of rural and urban workers of Cuddalore district was 47.66 percent and 32.26 percent respectively.

Table 3.2: Work Participation Rate during 2001 and 2011 in Cuddalore District

Rural/Urban	Worker	2001	2011
Rural	Male	60.26	59.38
	Female	39.74	40.62
	Persons	47.66	49.50
Urban	Male	81.03	76.67
	Female	18.97	23.33
	Persons	32.26	35.93
Total	Male	65.45	64.08
	Female	34.55	35.92
	Persons	42.58	44.89

Source: Census of India 2001 and 2011.

These proportions marginally changed as 49.50 percent in rural areas and 35.93 percent in urban areas during the year 2011. The percentage of the total workforce of the district has marginally increased during 2001 and 2011 and it stood as 42.58 and 44.89 respectively. However, there is a marginal decline in the male workforce from 65.45 (2001) to 64.08 (2011). This may be attributed to the migration of labourers from rural to urban area. It also shows that urban female workers and total urban workers rate significantly increased during 2001 and 2011. Among female workers in urban areas, the work participation rate is significant and it is calculated as 18.97 and 23.33 respectively during 2001 and 2011.

Sectoral Composition of Workers

Block wise sectoral composition workers of the district is presented in Table 3.3. The total workers are classified into four categories, such as cultivators, agricultural labourers, household industry workers, and other workers. The growth rate of cultivators during 2001 and 2011 is -11.14. The negative growth of cultivators shows that they have switched over to non-agricultural activities due to vagaries of monsoon and unstable farm income. The number of cultivators is less than 10,000 in seven blocks of the district. They are Annagramam (9,511), Cuddalore (9,983), Kattumannarkoil (9,145), Keerapalayam (8,137), Kumaratchi (7,253), Melbhuvanagiri (8,366), and Parangipettai (6,174). Of these seven blocks, number of cultivators has increased only in two blocks, viz Kumaratchi and Melbhuvanagiri. Apart from these two blocks, the number of cultivators of

Mangalore block increased from 27,085 to 32,274 during 2001-2011. This block is one of the backward blocks in the district and has limited opportunities to diversify their activities.

The growth rate of agricultural labourers in the district is 20.08 during 2001-2011. It increased from 4,49,204 to 5,39,412. The increase of agricultural labourers has been noticed in all the blocks except Kumaratchi. In Kumaratchi block, the numbers of agricultural labourers have come down from 32,802 to 31,946 during 2001-2011. This block is situated in the flood prone area of the district and the farmers have been forced to reduce the agricultural activities. Hence there is a marginal reduction in the number of agricultural labourers.

Table 3.3: Composition of Workers in Major Sectors

S. No	Block / District	Total workers		Cultivators		Agricultural Labourers		Household Industry		Other Worker	
		2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
1	Annagramam	76205	86502	9865	9511	44750	48355	1962	2034	19628	26602
2	Cuddalore	125157	163509	10792	9983	39346	48655	5335	5097	69684	99774
3	Kammapuram	59842	73824	14363	11458	30972	37688	1322	1533	13185	23145
4	Kattumannarkoil	58732	63895	10905	9145	33789	36168	1981	1616	12057	16966
5	Keerapalayam	66330	78902	10034	8137	31036	37092	2351	2070	22909	31603
6	Kumaratchi	55415	63860	6888	7253	32800	31946	1504	1771	14223	22890
7	Kurinjipadi	128583	147904	15891	13681	48678	56680	4431	4052	59583	73491
8	Mangalore	70719	96296	27085	32274	33306	48880	1066	1422	9262	13720
9	Melbhuvanagiri	45793	55799	8290	8366	24988	29139	2035	1830	10480	16464
10	Nallur	77328	82927	26117	19238	39317	49497	1632	2105	10262	12087
11	Panruti	81457	100691	18922	15672	32375	46024	3695	3906	26465	35089
12	Parangipettai	52061	65438	6882	6174	26760	29279	1324	2359	17095	27626
13	Virudhachalam	75444	90333	19841	14278	31087	40009	1819	2232	22697	33814
	District	973066	1169880	185875	165170	449204	539412	30457	32027	307530	433271

Source: Census of India 2001 and 2011.
Note: Population of Municipalities, CTs, and TPs are added in the respective rural blocks.

Household industrial activities have been encouraged by way of providing various financial and physical incentives to the eligible households by the government. However, the growth rate is 5.15 in the district, which is very low compared to other categories of workers except cultivators. Among the thirteen blocks, the number of household industry workers increased in eight blocks, such as Annagramam, Kammapuram, Kumaratchi, Mangalore, Nallur, Panruti, Parangipettai, and Virudhachalam. This may be attributed to SHG activities in the district. The growth rate of other workers is 40.89, which is relatively high compared to other categories of workers in the district. The number of workers increased from 3,07,530 to 4,33,271 during 2001-2011. We find that the growth

rate differs among the blocks. It is observed that the skills of the workers, accessibility, communication facilities, and other infrastructure facilitate to diversify their activities help in getting employment opportunities in the district.

Box 3.2: TNAU - KVK - Cuddalore - Successful Entrepreneur: Vermicompost Unit

The objective of the case study is to highlight the practice of organic farming and production of organic manure with the locally available waste and residues. This case study is one of the activities of Krishi Vigyan Kendra of Tamil Nadu Agricultural University. The KVK center of Virudhachalam started functioning from 03.06.1985 at Virudhachalam with financial assistance of ICAR and the KVK, has been serving the farming community of Cuddalore district for over 25 years.

V. Sekar, Kodukkur village, Virudhachalam taluk was an ordinary farmer cultivating sugarcane and paddy. One day he approached KVK for using the technology for composting sugarcane trashes and preparing vermicompost. During the year 2010, he attended the vocational training on vermicomposting. By the end of the year, he started producing vermicompost and initially produced 500 kg during the first harvest. Now his production unit is producing approximately about 35t of vermicompost, and he earns additional income by selling both verms and compost in and around Cuddalore district. Before training, he was an ordinary farmer, and after KVK intervention, he is producing and supplying vermicompost to Cuddalore farmers and now he is an entrepreneur earning approximately Rs.3 lakhs/annum. He is a role model for other farmers in producing vermi compost and motivating other farmers moving for sustainable organic farming practices in the district.

Registration and placement

Table 3.4 shows the number of registrations and placement provided by the employment office in Cuddalore district during the period 2007-14. It could be seen that the percentage of placement is not more than 2% during this entire period.

Table 3.4: Registration and placement provided by Employment office

S.No	Year	Registration	Placement	% of Placement
1	2007	37,266	306	0.82
2	2008	37,694	202	0.54
3	2009	41,928	420	1.00
4	2010	40,116	300	0.75
5	2011	23,478	302	1.29
6	2012	54,288	832	1.53
7	2013	20,613	287	1.39
8	2014	21,308	310	1.45
	Total	2,76,691	2,959	1.07

Source: District Employment office, Cuddalore, 2014.

The opportunities in government services are restricted and the eligible registrants have to opt for employment in the private sector. All the eligible graduates use to register in employment exchange after completion of their degrees. However, the number has decreased steadily from 37,266 (2007) to 21,308 (2014).

Sectoral Distribution of Gross District Domestic Product

Table 3.5 highlights the sectoral distribution of Gross District Domestic Product in Cuddalore District during 2009-2012. During 2009-10, the district's GDDP is Rs.11,02,203 lakh at constant prices of 2004-05.

Table 3.5: Sectoral Distribution of Gross District Domestic Product

Sector	GDDP - At Constant (2004-05) Price (Rs. in lakh)					
	Cuddalore			Tamil Nadu		
	2009-10	2010-11	2011-12	2009-10	2010-11	2011-12
Primary	2,20,913 (20.04)	2,28,944 (18.41)	2,16,927 (16.29)	32,79,727 (9.20)	35,16,987 (8.72)	38,72,767 (8.94)
Secondary	1,89,012 (17.15)	2,25,872 (18.17)	2,43,559 (18.29)	108,57,492 (30.44)	1,25,42,302 (31.09)	1,30,39,248 (30.10)
Tertiary	6,92,278 (62.81)	7,88,575 (63.42)	8,71,068 (65.42)	21,5,25,966 (60.36)	2,42,82,284 (60.19)	2,64,11,788 (60.96)
Total	11,02,203 (100)	12,43,391 (100)	13,31,554 (100)	3,56,63,185 (100)	4,03,41,573 (100)	4,33,23,803 (100)

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

The GDDP of Cuddalore district has grown continuously and reached to Rs.13,31,554 lakh during 2011-12. The computed growth rate is 20.81 during the three years (2009-10 to 2011-12). During the same period, the state GSDP growth rate is 21.48, which is marginally high. Of the district GDDP, the contribution of tertiary sector is very high (65.42) followed by secondary (18.29) and primary (16.29). The contribution of secondary and tertiary sectors marginally increased during the last three years. It reveals that the quantum of primary sector activities has been reduced from 20.04% to 16.29% in the district.

Box 3.3: Status of Child Labour in Cuddalore District

Childhood is an important and impressionable stage in human life as it holds the potential to the future development of any society. Children who are brought up in an environment, which is conducive to their intellectual, physical and social health, grow up to be responsible and productive members of society. Every nation links its future with the present status of its children. By performing work when they are too young for the task, children unduly reduce their present welfare or their future income earning capabilities, either by shrinking their future external choice sets or by reducing their own future individual productive capabilities. Under extreme economic distress, children are forced to forego educational opportunities and take up jobs which are mostly exploitative as they are usually underpaid and engaged in hazardous conditions. Parents decide to send their child for engaging in a job as a desperate measure due to poor economic conditions. It is, therefore, no wonder that the poor households predominantly send their children to work in early ages of their life. One of the disconcerting aspects of child labour is that children are sent to work at the expense of education. There is a strong effect of child labour on school attendance rates and the length of a child's work day is negatively associated with his or her capacity to attend school. Child labour restricts the right of children to access and benefit from education and denies the fundamental opportunity to attend school. Child labour, thus, prejudices children's education and adversely affects their health and safety.

The Government of Tamil Nadu has taken a proactive stand on eradication of child labour and has initiated measures to tackle the problem of child labour in a systematic and effective manner. State Action Plan for Eradication of Child Labour, which aims at eradicating child labour in all employments, is being implemented. State Action Plan envisages identification / survey, rescue, rehabilitation and mainstreaming of child labour. Important components of the Action Plan include awareness generation, education component, and enforcement of Child Labour Laws and convergence of various welfare / anti-poverty schemes.

Enforcement is one of the strategies of the Action Plan for Eradication of Child Labour. The provisions prohibiting employment of children under the following labour enactments are implemented in the State by the Inspectors of Labour Department and Inspectorate of Factories.

- The Child Labour (Prohibition & Regulation) Act, 1986
- The Factories Act, 1948
- The Motor Transport Workers Act, 1961
- The Beedi and Cigar Workers (Conditions of Employment) Act, 1966
- The Tamil Nadu Shops and Establishments Act, 1947

The district administration has accordingly been taking proactive steps to tackle this problem through strict enforcement of legislative provisions along with simultaneous rehabilitative measures. District Collectors, who are the appropriate implementing authorities, have been conducting regular inspections and raids to detect cases of violations. Since, poverty is the root cause of this problem, and enforcement alone cannot help solve it, Government has been laying a lot of emphasis on the rehabilitation of these children and on improving the economic conditions of their families. During 2013, the district administration has identified only two cases and they are taking steps to put them back to the schools. Overall, the child labour has been eradicated and the district is one of the child labour free districts in the state. Only some sporadic cases have been identified and the problem has been noticed immediately.

Per capita Income

The per capita income of the state is Rs.33,998 during 2004-05 and it increased to Rs.63,996 during 2011-12. The district's performance is relatively low in all the eight years. During 2004-05, the district per capita income is Rs.31,064 and it increased to Rs.56,315 during 2011-12. The district Compound Annual Growth Rate is 7.72, which is lower than State growth rate (8.23). It reveals that the performance of the district economy is lower than that of the state. It is understood that the district faced severe natural disasters of Tsunami-(2004), Cyclone Nisha-(2008), and Thane-(2011). The same trend could not be seen in the state. The sectoral contributions have marginally changed and it could be construed that there is no change at the state level. However, the State Domestic Product has increased from Rs.3,56,63,185 lakhs to Rs.4,33,23,803 lakhs during the period of 2009-12.

Table 3.6: Per Capita Income

At Constant Prices (2004-2005)		In Rupees
Year	Cuddalore	Tamil Nadu
2004-05	31,064	33,998
2005-06	33,085	38,435
2006-07	38,684	43,941
2007-08	40,787	46,293
2008-09	42,394	48,473
2009-10	46,803	53,359
2010-11	52,686	59,967
2011-12	56,315	63,996
CAGR	7.72	8.23

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

However, the district has received huge financial assistance from the Central and State Governments, apart from the international agencies for disaster relief and rehabilitation works in the district. Around Rs.7,000 difference could be seen in the per capita income of the state and the district during 2011-12. The district's performance can also be enhanced by way of scaling up all the sectoral activities on par with the State activities.

Poverty and Inequality

Table 3.7 highlights the block wise BPL households in the district. These statistics are computed by the district administartion for delivering financial and physical assistance to BPL population with the

aim to lift them from the BPL level. In total, 23.36% of the households are categorized as BPL. Among the blocks, Mangalore is ranked at the top with 36.67 % of the households categorized as BPL households. These statistics were worked out through the process of participatory identification.

Table 3.7: Below Poverty Line during 2013-14

S. No	Block / District	Total No. of Households	Total No. of BPL Households	% of BPL Households
1	Annagramam	44,994	11,665	25.93
2	Cuddalore	95,986	12,924	13.46
3	Kammapuram	39,700	13,483	33.96
4	Kattumannarkoil	35,634	12,844	36.04
5	Keerapalayam	45,014	11,054	24.56
6	Kumaratchi	35,675	12,457	34.92
7	Kurinjipadi	89,237	11,591	12.99
8	Mangalore	42,531	15,596	36.67
9	Melbhuvanagiri	29,455	7,416	25.18
10	Nallur	38,423	11,219	29.20
11	Panruti	53,177	12,957	24.37
12	Parangipettai	36,048	5,096	14.14
13	Virudhachalam	49,704	10,183	20.49
	District	6,35,578	1,48,485	23.36

Source: Project Director, DRDA, Cuddalore, 2014.

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

Public Distribution System

The Public Distribution System in Tamil Nadu is unique, since it is based on the choice of the people and covers all families either economically backward or forward without any discrimination between urban and rural population. Under Targeted Public Distribution System (TPDS), food grains supply is restricted to 75% of the rural population and 50% of the urban population. The National Food Security Act which emphasizes TPDS will lead to deprivation of benefit to the larger section of the public. The Tamil Nadu State Food Policy follows a Universal Public Distribution

System (PDS) to ensure non-excludability, easy access and adequate availability of food grains at affordable prices. Family Cards are issued to the people of the State based on their needs and preferences. The essential commodities supplied through the PDS include rice, wheat, sugar and kerosene. The Special PDS which was initiated to protect people from steep increase in prices of essential commodities includes pulses like Toor dhal and Urud dhal, Palmolein oil and fortified flour. Table 3.8 shows the family card holders in the district of Cuddalore during 2014. In total, 1,397 PDS outlets are functioning in 896 revenue villages in the district; it covers all the rural and urban population.

Table 3.8: Family Card Holders

S.No	Block / District	Households Provided Family cards
1	Annagramam	45,598
2	Cuddalore	1,00,958
3	Kammapuram	41,894
4	Kattumannarkoil	42,148
5	Keerapalayam	50,431
6	Kumaratchi	42,133
7	Kurinjipadi	97,791
8	Mangalore	48,819
9	Melbhuvanagiri	33,678
10	Nallur	45,071
11	Panruti	55,478
12	Parangipettai	41,012
13	Vriddhachalam	56,708
	District	7,01,719

Source: Department of Statistics, Cuddalore district, 2014.

The district supply office maintains data at the block level. Hence analysis has been made on the same line. It is interesting to note that 7,01,719 family card holders have benefitted in the district. Across thirteen blocks, the number of family card holders varies around three times between Melbhuvanagiri 33,678 and Cuddalore 1,00,958.

Conclusion

In the light of above analysis, it could be concluded that the district's work participation rate has marginally increased between 2001 and 2011. A similar picture is obtained both in rural and urban areas of the district. In the context of composition of workers, the number of cultivators has drastically come down in the district. This has been offset in agricultural labourers, household industry workers, and other workers. It reveals that there is a transition from agriculture to non-agriculture activities due to vagaries of monsoon and to avoid risk in agriculture. Further avenues opened up in the district to switch over for earning high profit. Besides, the government has executed MGNREGS in all the blocks of the district for providing sustainable employment. The secondary objective of the scheme is building and strengthening the existing infrastructure in the villages in expectation of enhancing productivity in agriculture. This has been witnessed in all the blocks of the district. The role of district employment exchange in providing employment is very marginal and the opportunities are very limited in government sector. The district per capita income is low compared to state income. It is reflected in the number of below poverty line households. The level of poverty varied more than three times among the blocks. There is a scope for addressing poverty and alleviating the same specifically of the vulnerable population who live in the blocks of the district. This government is providing a lot of freebies to the targeted population expecting to fill the income gap at the household level. This chapter leads to make further analysis on demography, health, and nutrition, which follows in the next chapter.

CHAPTER 4

DEMOGRAPHY, HEALTH AND NUTRITION

Chapter
4
Demography, Health and Nutrition

Introduction

This chapter focuses on the demographic, health sanitation, and nutritional status of Cuddalore district. It documents the trend of population, the vital health indicators such as CBR, CDR, IMR, MMR, SBR, sex ratio, institutional delivery, immunization, toilets, drinking water supply, and prevalence of TB and leprosy in the district. WHO has defined health as a state of complete physical, mental, and social well-being, and nearly absence of diseases and infirmity (WHO, 1947). Life expectancy is the prime macro indicator used for calculating HDI, as it is expected to capture the overall health status of the population. It is a major outcome of nutrition, health, sanitation, and morbidity and mortality. In this context, the health status of the district is analysed. The district status is compared with State health indicators.

Demographic Trends and Health Indicators

Demography is the study of human population dynamics. It encompasses the study of the size, structure, and distribution of population, and how population changes over time due to births, deaths, migration, and aging. Demographic analysis can relate to whole societies or to smaller groups defined by criteria such as education, religion, or ethnicity.

Population and Demographic Transition

Table 4.1 shows that the population of the district has increased by 3 lakhs between 2001 and 2011. Among the blocks, Cuddalore and Kurinjipadi have the highest population (3.95 lakh) and (3.62 lakh) in the district and Melbhuvanagiri (1.17 lakh) has recorded the lowest during 2011. Its population growth rate over the decade 2001-2011 was 14 and it is marginally low as compared to the state growth rate of 15.6. The growth rate varies marginally among blocks of the district. The net growth can be seen in the form of in-migration, out-migration and births recorded in the concerned blocks. The population density of the district is 702 persons per sq.km in 2011, when compared to 621 during 2001. The density of population has increased in all the blocks and the district as a whole. Specifically the density is very high in the blocks of Annagramam (1155), and Cuddalore (1601). These blocks had good access to the other parts of the district and neighbouring districts.

The density is very low in the blocks of Kammapuram (457), Nallur (429) and Mangalore (377). Of these three blocks, the Mangalore and Nallur blocks are dry blocks and have limited potential for further development. Kammapuram block is situated in the clusters of Virudhachalam, Kurinjipadi, and Melbhuvanagiri. It has lot of agricultural lands and there is a little scope for industrial development. Hence the density of population is very close to dry blocks.

The proportion of SC population has marginally increased in the district from 27.76 to 29.32 during 2001 and 2011 respectively. The total SC population of Tamil Nadu is 118.5 million in 2001 and 144.3 million in 2011. The decadal growth rate is 21.8. The total SC population in rural parts of the State is 83 million in 2001 and 94.7 million in 2011, registering a decadal growth rate of 14. The urban SC population was 35.4 million in 2001 and 49.6 million in 2011. The decadal growth rates reveal that the male and female have equal growth rates during the decade. The total SC population of Cuddalore district is 6.3 million in 2001 and 7.6 million in 2011 registering a decadal growth rate of 20.4. The male and female ratio is almost same in 2001 and 2011. The concentration of SC rural population is high in both Cuddalore district and the State.

Table 4.1: Demographic Profiles during 2001 and 2011

S.No	Block / District	Population		Density		% of SC Pop	
		2001	2011	2001	2011	2001	2011
1	Annagramam	1,72,798	1,90,624	1047	1155	31.70	33.72
2	Cuddalore	3,44,436	3,95,437	1394	1601	20.00	20.47
3	Kammapuram	1,32,212	1,59,084	380	457	25.10	28.30
4	Kattumannarkoil	1,26,634	1,45,020	545	624	34.49	36.94
5	Keerapalayam	1,60,106	1,80,629	726	819	28.54	29.30
6	Kumaratchi	1,35,676	1,52,950	726	819	34.37	34.54
7	Kurinjipadi	3,30,630	3,62,784	734	805	24.77	26.99
8	Mangalore	1,37,775	1,71,618	303	377	38.36	40.47
9	Melbhuvanagiri	1,05,966	1,17,035	587	648	31.67	33.98
10	Nallur	1,48,974	1,56,189	409	429	41.79	44.29
11	Panruti	1,95,032	2,23,015	599	685	18.53	19.69
12	Parangipettai	1,25,326	1,49,222	553	658	26.16	26.48
13	Virudhachalam	1,69,830	2,02,307	559	666	24.81	27.01
	District	22,85,395	26,05,914	621	702	27.76	29.32

Source: Census of India 2001 and 2011.
Note: Municipalities, CTs and TPs are added in the respective rural blocks.

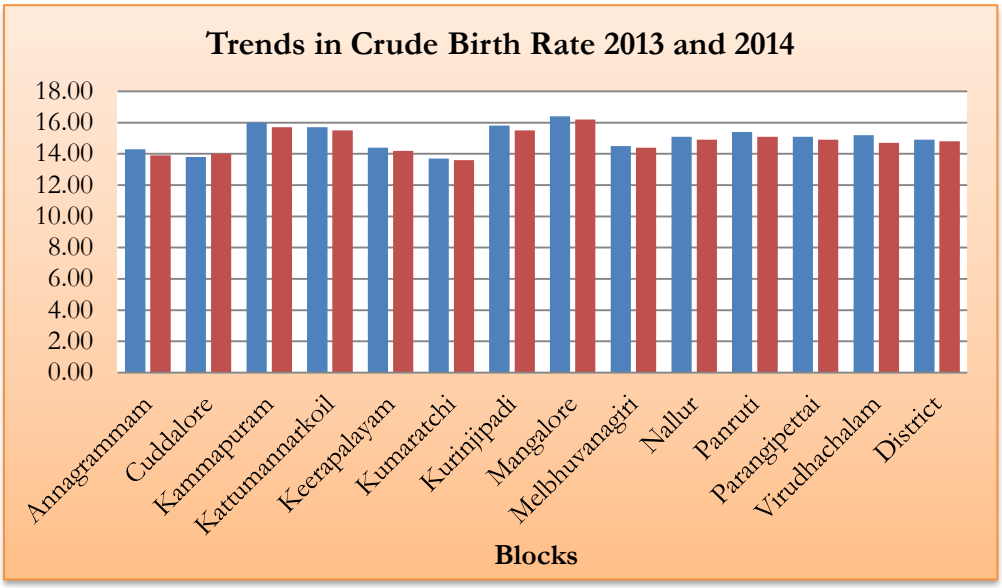
The proportion is very high in Nallur (44.29), and Mangalore (40.47) blocks. These two blocks are already categorized as backward blocks due to high concentration of SC population and less amount of fertile lands. The percentage of SC population is relatively low in Panruti (19.69), and Cuddalore (20.47). It is observed that the SC population still follow the native practice in living with their

community members. This district has witnessed communal disharmony and has been forced to follow the practice to safeguard themselves and their resources.

The total ST population in Cuddalore district is 11,773 in 2001 and 15,702 in 2011. The decadal growth rate of the district is 33.37. Comparing the rural and urban scenarios, the urban ST population has higher growth rate (44.4) than the rural growth rate of 24.04. It reveals that the ST population is migrating to urban areas as they have good public sector employment opportunities there. The proportion of ST population is less than one per cent in the district. A similar trend could be seen in all the blocks of the district except Parangipettai block (2 %). In this block, the Irula tribes live and involve themselves in marine fishing and in backwater fishing.

Crude Birth Rate and Crude Death Rate

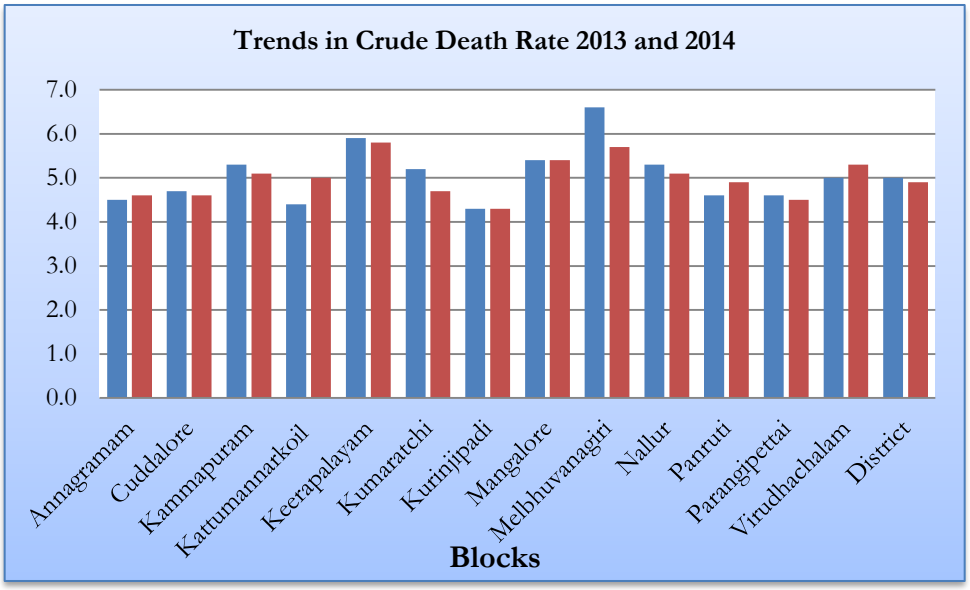
Figure 4.1: Trends in Crude Birth Rate



Source: Health Department, Cuddalore, 2014.

Birth and death rates are the important indicators of population growth. The crude birth rate of the Cuddalore District is given in the Figure 4.1 (Appendix : Table: 9.10). The average CBR is 14.90 in 2013 and 14.80 in 2014. The progress during 2013 and 2014 is only 0.10 per cent. Across the blocks, the crude birth rate varies marginally. For instance, 16.20 registered in Mangalore block. The declining trend can be seen in twelve blocks of the district. It shows the achievement of the government in controlling population growth in all the blocks.

Figure 4.2: Trends in Crude Death Rate



Source: Health Department, Cuddalore, 2014.

The average CDR of the district is 5.0 in 2013 and 4.9 in 2014 (Appendix : Table: 9.10). The declining trend is noticed in all the blocks. It is noticed that natural death and prematured deaths are reported in all the blocks of the district. This has been attributed to socio-economic, cultural and environmental factors of the district.

Sex Ratio

Sex Ratio is a sensitive indicator that portrays the status of women. Low sex ratio affects various aspects of social life, including the availability of potential marriage partners and the composition of the labour force. The sex ratio of Cuddalore district during 2001 and 2011 is given in Table 4.2. Overall, sex ratio of Cuddalore district is 986 and 987 between 2001 and 2011. Scheduled Caste sex ratio is marginally better as compared to overall sex ratio of the district. Among the blocks, in five blocks sex ratio has increased marginally and in the rest eight blocks sex ratio has declined. Of these thirteen blocks of the district, Kattumannarkoil and Cuddalore blocks sex ratio has increased significantly. The blocks, Mangalore, Parangipettai, Nallur, Keerapalayam and Kumaratchi have registered low sex-ratio in the year 2011. Among SC Population in the district, the sex ratio has marginally decreased from 991 to 990 between 2001 and 2011. However, sex ratio has significantly increased in Cuddalore, Kammapuram, Kattumannarkoil, Kurinjipadi, Nallur, and Panruti blocks. It

could be seen that the sex-ratio has declined significantly in Mangalore, Keerapalayam, and Parangipettai blocks.

Table 4.2: Sex Ratio during 2001 and 2011

S. No	Block / District	Overall Sex Ratio		Increase or Decrease	SC Sex Ratio		Increase or Decrease
		2001	2011		2001	2011	
1	Annagramam	992	1001	9	999	1010	11
2	Cuddalore	978	1007	29	1010	1012	2
3	Kammapuram	967	966	-1	975	984	9
4	Kattumannarkoil	978	990	12	981	989	8
5	Keerapalayam	1002	1004	2	1022	1018	-4
6	Kumaratchi	999	979	-20	983	972	-11
7	Kurinjipadi	967	980	13	974	982	8
8	Mangalore	1025	976	-49	1011	969	-42
9	Melbhuvanagiri	983	978	-5	989	987	-2
10	Nallur	987	977	-10	958	963	5
11	Panruti	977	979	2	995	1005	10
12	Parangipettai	1013	993	-20	1007	1000	-7
13	Virudhachalam	987	977	-10	988	986	-2
	District	986	987	1	991	990	-1
	State	987	995	8	999	1004	5

Source: Census of India 2001 and 2011.
Note: Municipalities, CTs and TPs are added in the respective rural blocks.

Child Sex Ratio

The balance in the sex ratio of human beings seems to be distorted by the artificial manipulation of the sex ratio at birth through developments in medical technology. The main means altering the sex structure of births include sex selective induced abortion, and female infanticide. Concerted efforts are needed to create equal regard and affection for the girl child. The sex ratio among children (0 to 6 years) is showing a marginal decline. Many families willfully decide to remove the female foetus in a quest for sons. Unfortunately this happens in the more educated and affluent localities. The motivation is primarily to protect property, family business and to avoid giving dowry. If there has to be a change in mindset, leaders in society have to show the way. Otherwise the population will

become skewed leading to a host of societal problems like increased crime against women. Child sex ratio is another vital indicator of population dynamics.

Table 4.3: Child Sex Ratio during 2011

S. No	Block / District /State	Population in the age group of (0-6)		Sex-ratio
		Male	Female	
1	Annagramam	11,333	10,581	934
2	Cuddalore	21,476	20,080	935
3	Kammapuram	9,641	8,300	861
4	Kattumannarkoil	7,889	7,069	896
5	Keerapalayam	9,403	8,702	925
6	Kumaratchi	8,007	7,405	925
7	Kurinjipadi	19,151	16,914	883
8	Mangalore	9,952	8,675	872
9	Melbhuvanagiri	6,707	5,804	865
10	Nallur	9,183	8,057	877
11	Panruti	13,934	12,117	870
12	Parangipettai	9,001	8,120	902
13	Virudhachalam	11,967	10,482	876
	District	1,47,644	1,32,306	896
	State	38,20,276	36,03,556	943

Source: Census of India, 2011.
Note: Municipalities, CTs and TPs are added in the respective rural blocks.

The child sex ratio of Cuddalore district is given in Table 4.3. The child sex ratio is relatively high in the blocks of Annagramam (934), Cuddalore (935), Keerapalayam (925), Kumaratchi (925), and Parangipettai (902). In the rest of the eight blocks, the child sex ratio is less than 900. The district average is 896 girls per 1000 boys. The State child sex ratio is also not up to the mark (943/1000). It will turn out to be a serious social problem in future. If the same trend would persist, it will create social disaster in the system. Therefore, the State as well as the district administration has to address the issues of illegal abortions, feticide and female infanticide very seriously.

Box 4.1: Drastic Decline in Child Sex Ratio in Cuddalore District

The objective of the case study is to ascertain the facts reported in the dailies about illegal detection of female baby and conducting abortions in select hospitals of the district. This study is carried out on assessing various complaints recorded and reported in dailies and magazines. On the basis of the documents, a cross-examination is carried out by the study team. Reduction of child sex ratio is viewed very seriously and efforts are taken to restore to achieve equity.

Child Sex Ratio of Cuddalore is 896 females for every 1,000 males, which is alarming when compared to the State Child Sex Ratio of 943 per 1,000 male children. Reports have been coming that some scanning centres in the district were carrying out the tests, which will adversely bring down the ratio further. It is really shocking news but the district administration categorically refuted and no illegal acts are reported. There is a challenge before us by looking at the above confronted statements. Female foeticide is an act aborting foetus because it is female.

Earlier, CASSA (Campaign Against Selective Sex Abortion) with support of local NGOs and Women's Federation conducted a comprehensive base line survey. The observations of the surveyors were quite interesting. They said that the pregnant woman was directly informed as to whether the baby is a male or female. Further the cost of abortion varies from stage to stage which depends on the fetus maturity. The minimum cost would be Rs.1000 as stated by Jeyabharathi, the coordinator, Join-Hands Women Federation, Parangipettai. The social and economic constraints are the underlining causes of this issue. However, the unregulated scan centers are the prime agents for this barbaric act. During May, 2014 a scanning centre at Mandharakuppam near Neyveli was sealed by a team of officials under the Pre-Conception and Pre-Natal Diagnostic Techniques Act (PCPNDT Act), 1994, following repeated complaints to the State and Central Governments about the centre's violation of the Act. It was found that the scanning centre had been engaged in sex determination tests.

Life Expectancy

Live Expectancy at Birth is the average number of years a new born baby can expect to live in the current mortality conditions. It is highly influenced by the Infant Mortality Rate. Differences between both sexes may be significant. Life expectancy at birth is indicator of health and socio-economic development. The life expectancy of the district and State is given in the Table 4.4. The

male life expectancy at birth is 70.9 years in 2013-14 in the district. The female life expectancy is 74.0 in 2013-14 and combined life expectancy is 72.4 years.

Table 4.4: Life Expectancy at Birth

S. No	District/State	2013 -14		
		Male	Female	Combined
1	Cuddalore	70.9	74.0	72.4
2	Tamil Nadu	71.8	75.2	73.4

Source: State Planning Commission, 2014.

At the State level, life expectancy for male is 71.8 years during 2013-14. However, the life expectancy of female is 75.2 years in 2013-14, which is marginally higher than the male life expectancy. Overall, the district's performance is below the mark of State's performance. It could be said that there is a good scope in enhancing the health status of people.

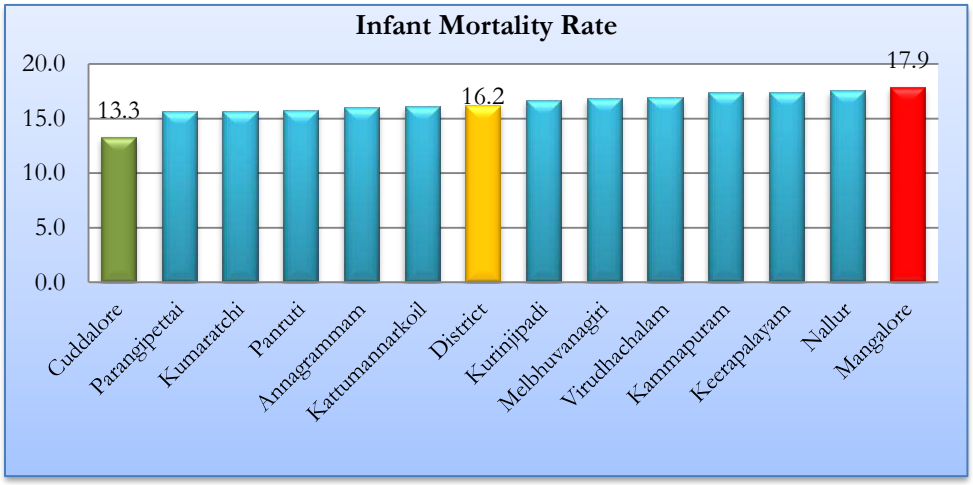
Infant Mortality Rate

Infant Mortality Rate (IMR) measures the number of infant (< 1 year) deaths per 1000 live births. It is a measure of the yearly rate of deaths in children less than or at exact age one year. It is the sum of the Neonatal Mortality Rate and the Post-Neonatal Mortality Rate.

Neonatal Mortality: children born alive but died before the age of 28 days.

- Post-Neonatal Mortality : children that were alive after 27 days but died before the age of one year

Figure 4.3: Infant Mortality Rate - 2013-14



Source: Health Department, Cuddalore, 2014.

Figure 4.3 shows the IMR status of the district (Appendix : Table: 9.11), which is an important indicator of health. The IMR of 13 blocks is presented. Out of the 13 blocks, Mangalore (17.9) have registered the highest IMR. The district's IMR is 16.2 in 2014, which is equal that of the State IMR. The IMR is low in Cuddalore block (13.3). Kurinjipadi, Melbhuvanagiri, Virudhachalam, Kammapuram, Keerapalayam, Nallur and Mangalore blocks are above the level of district's performance and the rest six blocks' performance are well below the level of the district and state. Overall, still there is a scope in scaling up the campaign activities in reducing IMR in the district.

Maternal Mortality Rate

Maternal Mortality Rate (MMR) measures number of women aged 15-49 years dying due to maternity causes per 1,00,000 live births. It refers to death of women, while pregnant or within 42 days of the termination of pregnancy, irrespective of the duration of the pregnancy, from any cause aggravated by the pregnancy and its management but not from accidental or incidental causes.

Table 4.5: Maternal Mortality Rate during 2014

S. No	Block /District	Actual Maternal Death	MMR - 2014
1	Annagramam	3	109
2	Cuddalore	4	70
3	Kammapuram	1	40
4	Kattumannarkoil	1	40
5	Keerapalayam	1	50
6	Kumaratchi	0	0
7	Kurinjipadi	1	30
8	Mangalore	1	30
9	Melbhuvanagiri	1	60
10	Nallur	0	0
11	Panruti	1	30
12	Parangipettai	0	0
13	Virudhachalam	4	130
	District	18	50

Source: Health Department, Cuddalore, 2014.

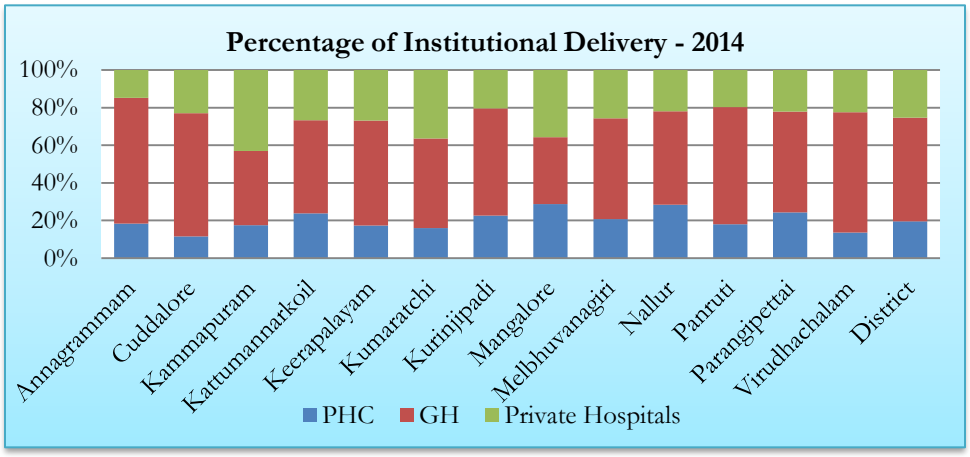
MMR is another vital health indicator of health status and it is presented in Table 4.5. The district MMR is 50 during 2014. Among the 13 blocks, higher MMR (130) is reported in Virudhachalam and lower MMR is reported in Kumaratchi, Nallur, and Parangipettai (0) during 2014. These rates are not constant over the years and it varies significantly. This has happened due to a number of social,

cultural, economic, and environmental factors. The existing pre and post-natal care and IEC on nutritional intake activities may be implemented in an effective way for achieving the targets and reducing the MMR to the level of zero. The existing hospital services and continuous tracking of pregnant mothers may be scaled up with the cooperation of the public in controlling MMR.

Place of Delivery

Place of delivery is a crucial factor which affects the health and wellbeing of the mother and new born. Institutional delivery helps the women to access skilled assistance, drugs, equipment, and referral transport. Policy makers, health service organizations, community leaders and other concerned bodies have to consider the predictors of institutional delivery like education, birth order, antenatal care utilization and residence to improve institutional delivery in the area. Delivery is an important event in the human reproduction. Figure 4.4 shows the statistics on the per cent of institutional deliveries that take place in different healthcare centres of the district during 2014 (Appendix : Table: 9.12). It is observed that 25 per cent of deliveries take place in the private hospitals. In total 19 per cent and 55 per cent of deliveries were carried out in PHCs and GHs respectively in the district. Since the PHCs have limited facilities and equipment, they refer the critical cases to the nearby government hospitals.

Figure 4.4: Percentage of Institutional Deliveries



Source: Health Department, Cuddalore, 2014.

However, the role of private hospitals is still high in the blocks of Kattumannarkoil (44.2 %), Kumaratchi (37.5 %), and Mangalore (37.2 %). The perception of people differs and they revealed that the government hospitals provided poor services and inadequate care. Hence they preferred private hospitals rather than government hospitals in critical conditions. It reveals that both public

and private institutions play a vital role in providing healthcare services, and the district has achieved 100 % in institutional delivery, which is a remarkable achievement.

Box 4.2: High order Birth at Athivarayanatham Colony

The objective of the case is to highlight the practice of high order birth prevailing in certain sections of the society in the district. This case has been developed through snow balling technique and made interaction with the selective households in Melbhuvanagiri block. An attempt has been made to control high order birth in the district. However, some of the Scheduled Caste groups still have more children ignoring the advice of the Health Department. Athivarayanatham Colony comes under the control of Boothavarayanpettai HSC in Melbhuvanagiri block. Most of them work in the brick kilns and some of them work as landless labourers. They treat children as their assets, as they generate income regularly after reaching the age of five. The details of some of the cases are given in the table below.

S. No	High order Family	No. of Children	
		Male	Female
1	Revathi w/o Soundarajan	1	3
2	Devi w/o Senthamaraikannan	3	2
3	Sudha w/o Balakrishnan	5	1
4	Kokila w/o Thillaigovinden	4	0
5	Jayasre w/o Chokkalingam	2	2
6	Pugazendhi w/o Vijayalatha	3	2

Family of Sudha w/o Balakrishnan Athivarayanatham

It is understood that the parents have not given much importance to education. However, children have been enrolled in schools.

Still Birth Rate

SBR gives a picture of the nutritional status of the female population. The district's rural SBR is given in Table 4.6. The district's average SBR in 2013 is 10.2 and 9.8 in 2014. It has decreased by nearly 0.4 per cent from 2013 to 2014. This trend can be seen in all the six blocks of the district.

Comparing the performance of SBR in 13 blocks in the district, it is found that during 2014, Keerapalayam (11.80), Annagramam (10.40), Melbhuvanagiri (10.50) and Nallur (14.10) have higher SBR. Even though the Nallur block has performed well in all other health parameters, the performance in SBR is very poor.

Table 4.6: Still Birth Rate

S. No	Block / District	Still Birth Rate	
		2013	2014
1	Annagramam	11.70	10.40
2	Cuddalore	8.80	8.30
3	Kammapuram	7.20	8.50
4	Kattumannarkoil	8.80	9.60
5	Keerapalayam	14.00	11.80
6	Kumaratchi	9.20	8.80
7	Kurinjipadi	7.80	8.00
8	Mangalore	8.70	9.70
9	Melbhuvanagiri	12.20	10.50
10	Nallur	14.00	14.10
11	Panruti	11.70	9.60
12	Parangipettai	9.30	9.30
13	Virudhachalam	12.30	9.90
	District	10.20	9.80

Source: Health Department, Cuddalore, 2014.

There is no uniform trend in reduction of still birth rate in all the blocks of the district except Annagramam, Cuddalore, Keerapalayam, Kumaratchi, Melbhuvanagiri, Panruti, Parangipettai and Virudhachalam. Across the blocks there is no uniform picture over the years. Therefore, all the medical and Para-medical staff of PHCs and NGOs should involve themselves in identifying the causes and rectifying the same by way of effectively delivering on-going rural healthcare services.

Box 4.3: Nutrition Programmes of Government

ICDS Scheme represents one of the unique programmes for early childhood development. The various services which are provided by the Nutrition related programs in Anganwadi Centres are: Supplementary Nutrition Food, Noon Meal Feeding: Egg, Green Gram / Channa dhal Immunization, Referral services, Services of MMU, and Supply of Sanitary Napkins.

Other ICDS Programs

The term "adolescence" literally means "to emerge", "to mature" or "achieve identity". A new comprehensive scheme, called Rajiv Gandhi Scheme for Empowerment of Adolescent girl or SABLA, aims at adolescent girls .The program creates awareness about various facts of life in order to promote a healthy way of living. It targets adolescent girls, on their nutritional status promotes life skills and vocational training. Awareness of health, nutrition, life style related behaviour and Adolescent Reproductive & Sexual Health (ARSH) improves the health of adolescent girls and facilitate an easier transition to woman hood. The objective of this scheme is to improve the nutrition and health status of girls in the age-group of 11 to18.

There are two aspects in SABLA program: Nutrition and non-nutrition components. Each Project has been sanctioned to the tune of Rs. 1.87 lakhs.

• **Nutritional Component:**

Nutritional supplement is provided for 6 days in a week. Adolescent girls are benefitted out of this scheme.

• **Non-nutritional Component:**

Vocational training is being provided to adolescent girls on Tailoring, Embroidery, Computer skills, Pharmacy Assistant etc., to improve their vocational skills. Life skills training gives knowledge on all ten essential life skills and also inculcate knowledge on opening of bank account, knowledge on their rights and age of marriage and laws for their protection. There are 420 Adolescent girls have been imparted training for their economic empowerment. They also imparted training on life skill in 14 projects.

140 Programmes have been conducted as Kishori Diwas, which analyzes health status of adolescent girls. With coordination from the health department, the HB level are studied and nutritional status is assessed by calculating BMI of all school going and out of school adolescent girls. 70 Programmes are Conducted on Nutrition & Health education to improve their knowledge on their personal hygiene, aneamia, balanced diet and their personal well-being. 112 Batches Training Programmes were Conducted for Sahe & Saheli's in SABLA promote & Create knowledge on health and nutrition. ARSH life skill & assessment to the public places and this in turn empower their social relationship, leadership qualities. Interaction with group mates helps sharing of ideas and discussions on basic knowledge that every girl should know.

Paramparia Unavu Thiruvizha

Paramparia Unavu Thiruvizha is celebrated to promote nutritional awareness and to encourage traditional food consumption. It is celebrated as a grand function with exhibits on the various traditional cereals, pulses and other food items along with their nutritional and health benefits. Demonstration on how to prepare and sell food products are exclusively organized during this event. The celebration of Paramparia Unavu Thiruvizha has brought in lot of awareness among public and the product promotion and demand for traditional food have increased.

Immunization

Immunization is one of preventive measures for health attainment. The block wise details of the total number of children immunized in the district during 2013-14 are given in Table 4.7. It is important to note that all blocks have nearly 100% coverage, which is a good sign for human development. It is expected that it will reduce IMR and under 5 mortality rates in the district.

Table 4.7: Immunization (Below 5 Years)

S. No	Block / District	Total No. of Children Below 5 Years	Target (Upto 18 months)	Total No. of Children Immunized (upto 18 months)	Per cent of Children Immunized
1	Annagramam	17559	2832	2867	101
2	Cuddalore	38129	5305	5375	101
3	Kammapuram	15408	2432	2781	114
4	Kattumannarkoil	13864	2191	2164	98.8
5	Keerapalayam	11207	1765	1724	97.7
6	Kumaratchi	20078	2611	2905	111
7	Kurinjipadi	22833	3544	3749	106
8	Mangalore	16861	2698	2870	106
9	Melbhuvanagiri	11441	1784	1953	110
10	Nallur	14716	2389	2470	103
11	Panruti	22782	3660	3377	92.3
12	Parangipettai	13918	2276	2307	101
13	Virudhachalam	20370	2787	3165	114
	District	239166	36274	37707	104

Source: Health Department, Cuddalore, 2014.

The district's average coverage is 104 per cent. The percentage of immunization coverage varies from 114 per cent in Kammapuram and Virudhachalam block, 92.3 per cent in Panruti block. Less than 100% achievement can be seen in the blocks of Kattumannarkoil, Keerapalayam, and Panruti. It is observed that the parents availed the services, wherever it is convenient. Hence the performance marginally differs among the blocks.

Female Infanticide

Female foeticide is an act aborting a female foetus because of non-preference. Child Sex Ratio in Cuddalore district drastically decreased from 957 during 2001 Census to 896 women per 1000 men

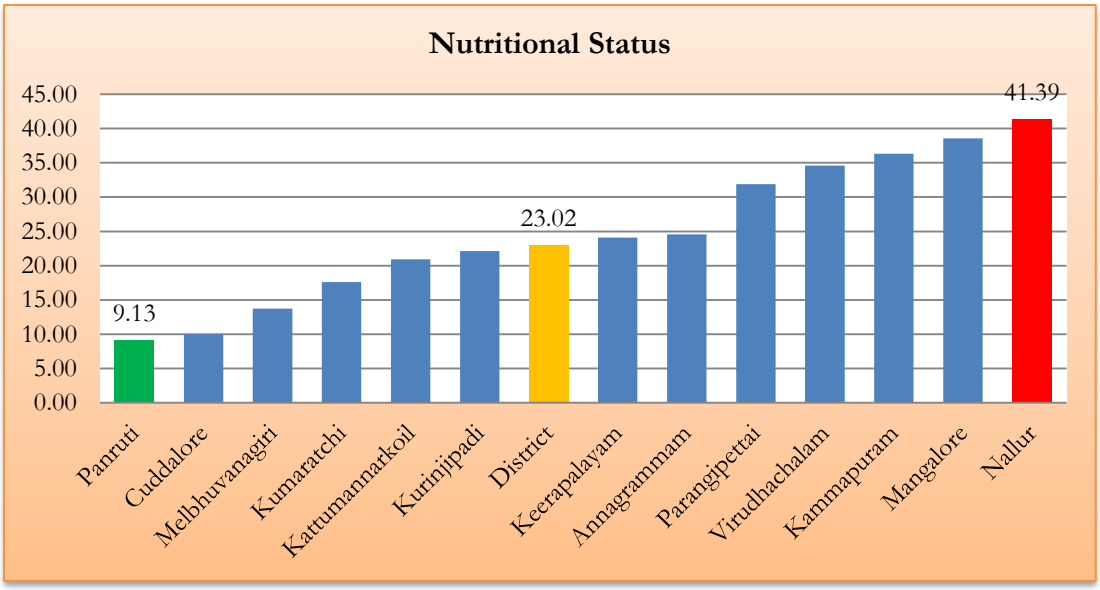
during 2011. Female foeticide practice spread from west (Salem/Dharmapuri districts) to east (Cuddalore, Ariyalur and Perambalur districts). Earlier, CASSA (Campaign Against Selective Sex Abortion) with the support of local NGOs and Women Federation conducted a comprehensive base line survey. It had been quite interesting to interact with these people. The surveyors said the pregnant woman was directly informed about the sex of the child. The cost of abortion varies from stage to stage and depends on the foetus maturity. Besides, the social and economic causes of this issue, the unregulated scan centres are the prime agents for this barbaric act. The voluntary organization is a district coordinating agency of CASSA. The district administration has conducted intensive surveillance over this issue in the three years and it had some impact. The village health nurses have moral responsibility to keep vigil on this matter.

Nutritional Status: Nutrition level and Trend

One of the major goals of the nutrition programme is to reduce the malnutrition among children. The State aims to eradicate severe malnutrition and also reduce the incidence of micro nutrient efficiencies, which are often not visible, but can severely impede the development of a child. 23.02 % of the total children of the district are treated as malnourished children. Out of these, 22.99% come under the category of Moderately Under Weight and only 0.04% is severely underweight children. It could be seen from Figure 4.5, that these proportions vary significantly across the blocks of the district and range from 9.13 (Panruti) to 41.39 (Nallur). Anganwadi Centres could take care of only one third of the nutritional requirement of a child for the day.

In general, women move out for fieldwork and so nutritional support from family or care given for children is inadequate. Since the nutrition of the children is very poor, special care is given by close monitoring and feeding of children by Anganwadi worker by providing them additional foods, house visit, counselling of parents/caregivers of those children & adopting such children by community and officials of ICDS. Due to continuous efforts, the nutritional status has improved and percentage of malnutrition has come down from 42% in 2012-13 to 23% during 2013-14 (Appendix : Table: 9.13).

Figure 4.5: Nutritional Status



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

The reason for high incidence of malnutrition is due to lack of participation and availing of benefits by the target population of various intervention programmes introduced by the governments. Even though the Central and State Governments have introduced various schemes, the data reveals that there is a lot of scope in strengthening the programmes and controlling the malnourishment in the district. Figure 4.5 portrays the status of malnourishment in the district.

Provision of IFA Tablets

To improve the availability and access to quality healthcare, especially for the poor, women, and children residing in rural areas, the government recently launched the National Rural Health Mission for the period 2005-2012. Nutritional deficiencies in women are often exacerbated during pregnancy because of the additional nutrient requirements of foetal growth. Iron deficiency anaemia is the most common micronutrient deficiency in the world. It is a major threat to safe motherhood and to the health and survival of infants because it contributes to low birth weight, lowered resistance to infection, impaired cognitive development, and decreased work capacity. The provision of Iron and Folic Acid (IFA) tablets to pregnant women to prevent nutritional anaemia forms an integral part of the safe motherhood services offered as part of the Reproductive and Child Health Programme in India. The recommendation of the programme is that women consume 100 tablets of iron and folic acid during pregnancy.

Table 4.8: Block wise provision of IFA Tablets during 2014 in Cuddalore District

S. No	Block / District	% of Women Received IFA Tablets	% of Children Received IFA Tablets	% of Adolescent Girls Received IFA Tablets
1	Annagramam	106.70	22.80	33.50
2	Cuddalore	103.20	8.20	39.50
3	Kammapuram	100.60	25.50	70.90
4	Kattumannarkoil	92.50	27.50	67.60
5	Keerapalayam	95.00	9.00	52.40
6	Kumaratchi	56.00	14.00	44.40
7	Kurinjipadi	96.30	13.10	61.20
8	Mangalore	91.70	15.30	76.00
9	Melbhuvanagiri	104.80	41.00	67.70
10	Nallur	87.00	24.90	66.40
11	Panruti	92.40	16.30	64.30
12	Parangipettai	86.80	15.70	72.50
13	Virudhachalam	129.60	23.40	30.80
	District	96.50	17.90	54.50

Source: Health Department, Cuddalore, 2014.

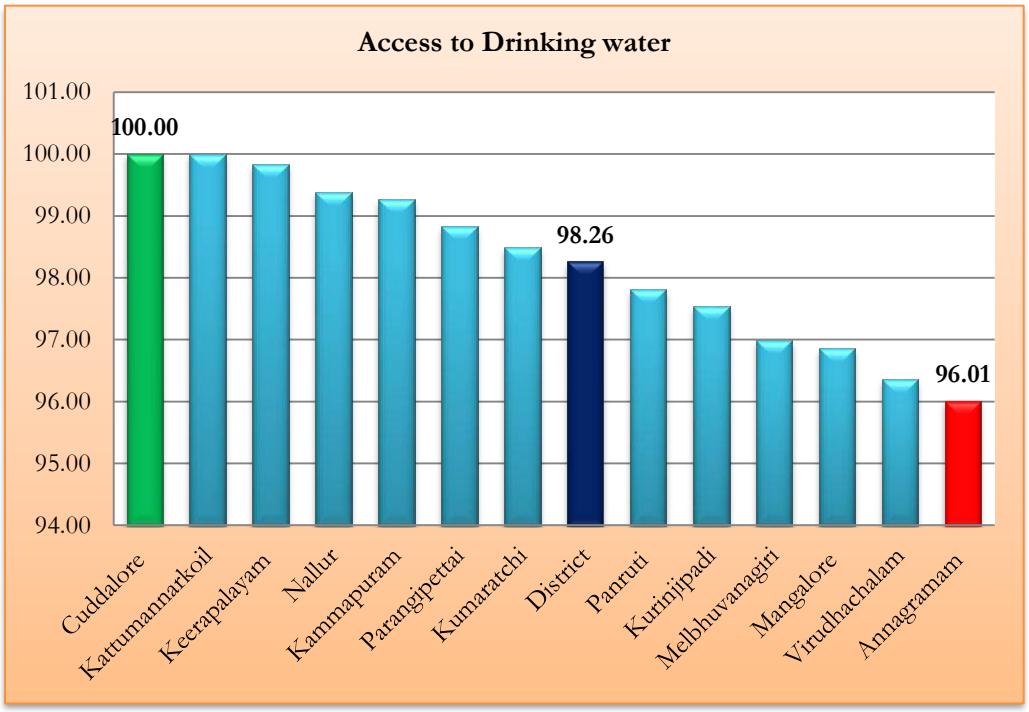
Anaemia, a manifestation of under-nutrition and poor dietary intake of iron is a serious public health problem, not only among pregnant women, infants and young children but also among adolescents. Over 55 per cent of both adolescent boys and girls in India are anaemic. Thus, it is critical to address this problem which has health implications for approximately 15 per cent of Indian population and is directly linked to new born, child and maternal morbidity and mortality. The Ministry of Health and Family Welfare, based on empirical evidence, which demonstrates that regular consumption of Iron and Folic Acid is effective in reducing prevalence and incidence of anaemia, has launched the Weekly Iron and Folic Acid Supplementation (WIFS) Programme which envisages covering adolescent boys and girls too. Table 4.8 shows the statistics of IFA tablet distribution in Cuddalore District during the year 2014. At the district level, 96.50 per cent of women have received IFA tablets and 17.90 per cent of children have also received IFA tablets. Among adolescent girls, 54.50 per cent have been provided with IFA tablets. Looking at the blocks of Virudhachalam, Melbhuvanagiri, Annagramam, Cuddalore and Kammapuram, the percentage of women who have

received IFA tablets is more than 100 %, which may be due to migration of people. Less percentage of women is covered in the blocks of Kumaratchi (56 %), and Parangipettai (86.80 %).

Non –Nutritional Factors and their Impact on Nutrition: Water Supply

Figure 4.6 explains households provided with safe drinking water during the year 2013-14 in Cuddalore District (Appendix : Table: 9.14). All households in Cuddalore district have been provided with safe drinking water supply. Each and every village has an overhead water tank and supply of piped drinking water.

Figure 4.6: Access to Drinking water



Source: MDWS and EO (TP) and Municipal Commissioner, Cuddalore, 2014.

The State Government and the District Administration efforts are highly commendable. Individual households water connection is also available through pay and use mode in Cuddalore district. Therefore, piped drinking water supply facility would reduce the water-borne diseases in the rural and urban areas of the district. The performance is nearing hundred per cent in seven blocks and only the performance of six blocks is marginally below the level of the district's performance. Steps may be taken to reach the target of hundred per cent in all the blocks.

Sanitation

Open defecation is a common practice still in rural areas. Provision of toilet facilities will improve the sanitary condition and reduce disease outbreaks. The availability of toilet facilities in rural areas is presented in Table 4.9.

Table 4.9: Provision of Toilet Facilities during 2014 in Cuddalore District

S.No	Block / District	No.of Households	No.of HHs with Toilet facilities	% of Toilet Facilities
1	Annagramam	44,994	17,627	39
2	Cuddalore	95,986	58,437	61
3	Kammapuram	39,700	10,207	26
4	Kattumannarkoil	35,634	18,485	52
5	Keerapalayam	45,014	22,968	51
6	Kumaratchi	35,675	17,543	49
7	Kurinjipadi	89,237	14,989	17
8	Mangalore	42,531	16,437	39
9	Melbhuvanagiri	29,455	12,713	43
10	Nallur	38,423	12,381	32
11	Panruti	53,177	24,318	46
12	Parangipettai	36,048	18,570	52
13	Virudhachalam	49,704	22,625	46
	District	6,35,578	2,67,300	42

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

The Cuddalore block has reached in high 61 per cent of toilet facilities and other blocks have lesser toilet facilities. The Kurinjipadi block is at the bottom with regard to availability of toilet facilities with just 17 per cent of the households being provided with such facility when compared with other blocks. The performance of five blocks such as Annagramam (39 %), Kammapuram (26%), Kurinjipadi (17), Mangalore (39%), and Nallur (32%) in provision of toilet facilities is well below the level of district's performance. These blocks have to be prioritized and funds be earmarked for provision of toilet facilities.

Box 4.4: Utilisation of Public Health Services and Health Programmes of State and Central Government

The State Rural Health Mission was launched in Tamil Nadu with a view to bring architectural correction of the health system to enable it to effectively handle increased allocation and promote policies that strengthen Public Health Management and service delivery as prescribed under NRHM of India. The programme period is 2005-2012. All the National and State Health Programmes are brought under one umbrella called State Health Society which was formed in 2006. Its aim is

(a) Prevention and control of communicable and non-communicable diseases.
(b) Population stabilisation –Gender and demographic factors.
(c) Access to integrated comprehensive primary healthcare
(d) Revitalizing local health traditions and main streaming ISM.
(e) Promotion of healthy life styles.

Other Programmes implemented in the district are: Nalamana Tamizagam, SBGF, School Health, Family Welfare, Immunisation, Vector Borne Diseases control, NPCB, NMHP, NPPC, NPPCD, IDSP, RNTCP, NLEP and NIDDCP. Besides the following Central Government Schemes are also implemented in the district. They are: National Control of Blindness, National Programme for Control of Cancer, National Leprosy Eradication Programme, National Medical Health Programme, National Vector Borne Diseases Control, National TB Control Programme, Tobacco Control Programme, National Mental Health Programme, Family Planning, Immunisation, and Deafness Control Programme.

Health Infrastructure of the District is presented in the Table.

S.No	Infrastructure	Numbers
1	No. of Primary Health Centres (PHC-43, UGPHC-8, CHC-3, UG CHC-9, UG CHC (MCH)-1)	64
2	No. of Urban PHCs	4
3	No. of HSCs	319
4	No. of Blood Storage Units	17
5	No. of Mobile Medical Units	13
6	No. of ISO Certified PHCs	4
7	No. O.T Sanctioned PHCs	22
8	Number of BEmONC PHCs	14
Source: Health Department, Cuddalore, 2014.		

Details of Achievements of Central /State government programmes 2013-2014

Name of the Scheme	No.of Beneficiaries	Amount (Rs in Crores.)
JSY (Central fund)	22,298	1.56
Dr. Muthulakshmi Reddy Maternity Benefits Scheme (State Govt.)	26,924	26.02

The District administration provides regular health services to the affected people. During 2013-14, 15,550 out-patients per day were treated and 7,125 in patients per month were also treated in the hospitals. Besides, 550 deliveries per month were performed in the government hospital.

Special Programmes

AIDS Control

The prevalence of HIV among adults in Tamil Nadu continues a steady declining trend. Tamil Nadu which is one of the states that had the highest rates in the country in the past has a current prevalence rate of 0.28 per cent (2011), marginally above the national rate of 0.27 per cent. The results to accrue from years of targeted intervention, focussing on high risk groups, including Female Sex Workers (FSW), Men having Sex with Men (MSM), Intravenous Drug Users (IDU), transgenders and HIV-positive pregnant women. The prevalence rate is the highest among the transgender group (3.82 per cent), FSW (2.69 per cent) and MSM at 2.4 per cent for 2011, according to official data.

Table 4.10: HIV Positive Cases during 2014

S.No	Block / District	HIV Positive Cases	
		2013	2014
1	Annagramam	14	2
2	Cuddalore	189	165
3	Kammapuram	20	21
4	Kattumannarkoil	10	4
5	Keerapalayam	29	14
6	Kumaratchi	3	2
7	Kurinjipadi	24	23
8	Mangalore	29	32
9	Melbhuvanagiri	25	23
10	Nallur	20	25
11	Panruti	39	40
12	Parangipettai	2	2
13	Virudhachalam	112	98
	District	506	451

Source: Health Department, Cuddalore, 2014.

In comparison, prevalence among ante natal mothers, who attend clinics, considered as proxy for the general population, is rather low at 0.38 per cent. In fact, it is the result of the Prevention of Mother to Child Transmission Programme, and its successes have come in for praise in the international arena. Preventing the transmission of infection from the positive mother to the new-born is seen as key in bringing down the number of cases to zero, say officials. In Tamil Nadu; it

declined from 0.63 per cent (mean) in 1994 to 0.35 per cent in 2008–2009. HIV is a communicable and killer disease and early detection of HIV may save human life. The HIV positive cases of Cuddalore district are given in Table 4.10. The total number of HIV cases in 2013 is 506 and reduced to 451 (2014). The number of cases is very high (165) in Cuddalore block, due to urban agglomeration.

Tuberculosis and Leprosy

TB and HIV are co-infected diseases. TB is another communicable disease. Leprosy is an ugly and permanent disability disease in the community. The statistics on TB and leprosy prevalence in the district is presented in Table 4.11. It is important to note that the prevalence of TB marginally increased from 1147 to 1192 during 2013 and 2014. Similarly, the number of leprosy cases too has increased from 123 to 143 respectively.

Table 4.11: Positive TB Cases/Leprosy during 2013 and 2014 in Cuddalore District

S. No	Block / District	Positive TB cases		Leprosy	
		2013	2014	2013	2014
1	Annagramam	100	94	14	14
2	Cuddalore	177	145	13	13
3	Kammapuram	102	103	16	11
4	Kattumannarkoil	65	72	6	10
5	Keerapalayam	59	58	6	9
6	Kumaratchi	98	74	5	11
7	Kurinjipadi	114	153	10	18
8	Mangalore	108	93	11	6
9	Melbhuvanagiri	39	58	5	9
10	Nallur	86	95	7	6
11	Panruti	102	145	16	15
12	Parangipettai	33	46	8	7
13	Virudhachalam	64	56	6	14
	District	1147	1192	123	143

Source: Health Department, Cuddalore, 2014.

The Vector Borne Disease Control Programmes like RNTCP and NLEP role are important to reduce and eradicate these diseases. It is important to note that the monitoring, evaluation, and mapping of diseases may be done effectively and intensive IEC programmes are to be carried out in an earnest manner.

In the light of the facts observed in the district, the following suggestions are made to improve the performance of the health sector.

- The overall infrastructure of the HSC and its functioning may be strengthened by way of enhancing the budget and providing adequate manpower work in the rural areas. The existing norm of coverage of population may be reduced depending on the area, density, and prevalence of diseases.
- Similarly, adequate infrastructure and manpower may be provided in all PHCs considering the fact in reporting various types of cases from the rural areas.
- The existing IEC programmes for nutritional intake of pregnant women may be fine-tuned and strengthened in promoting maternal and child health.
- The district coverage is very large and it involves sizeable travel time to travel from one place to another. Hence the district health administration may be bifurcated into two HUDs, such as Cuddalore and Virudhachalam for delivering the healthcare services effectively.
- Similarly, Mangalore rural block may be bifurcated into two blocks for making the system effective and people-friendly in delivering various healthcare services.
- Periodical health camps may be organized involving the Civil Society, NGOs, and other stakeholders for mapping of TB, Leprosy, and HIV in rural and urban areas.
- Collective Action Institution may be created involving BMO, SHG members, and PRI leaders for monitoring and conducting social audit of the primary healthcare services.
- Convergence of various programmes and making provision of various critical infrastructures such as Scan, Hi-Tech lab, and Blood bank facilities for all 24 hours PHCs.
- Periodic intensive monitoring of private scan and healthcare centres to arrest the illegal abortions and foeticide.
- Local bodies, specifically in the provision of clean drinking water, may be ensured to control water-borne diseases and they have to take steps in controlling sea water intrusion.

Conclusion

The demographic profile of the district highlights population, sex ratio, density, SC population, and juvenile sex ratio between 2001 and 2011. The district's decennial population growth rate is 14.02 (2011), which is twice compared to earlier decadal growth rate. This has been reflected in the density of population. There is a little change in sex ratio of SC population. In general, the sex ratio of SC

population is high compared to other classes. This segment of population does not make much gender discrimination and they treat every child as their income bearing asset. The Child Sex Ratio of the district is low compared to overall sex ratio. This reveals that the population tries to avoid girl children through illegal means. The life expectancy of the female in the district is low compared to the figure of the State. The district's Health Administration have provided all types of healthcare services and tracking each and every case through VHNs/CHNs and controlled IMR, MMR, and SBR in the district. The district has achieved 100 per cent institutional deliveries, which is a remarkable achievement. The Child development Index highlights that the performance differs only on health rather than education in the district. The poor health performance is noticed in certain blocks and these blocks have to be provided adequate attention in enhancing overall child health in the district. The Government has scaled up their activities in providing potable drinking water, good sanitation and controlling communicable and non-communicable diseases in the district. These factors are related to the levels of literacy of the population, which are analysed in the next chapter.

CHAPTER 5

LITERACY AND EDUCATION

Chapter
5
Literacy and Education

Introduction

This chapter gives a detailed analysis of literacy and education of the State as well as that of Cuddalore district. Educational attainment is one of the components of measuring human development. The biggest effect of illiteracy in India is poverty. Poverty also happens to be the single biggest cause of illiteracy in India and a precursor to all other effects. The inability to attain basic nutritious and potable water are the more popularly quoted effects of poverty in India, when it comes to effects that can fracture an individual remains illiteracy. The problem can be solved only by recognition of the fact that education must be the primary responsibility of the State. It must be given a high priority. In the census enumeration, a person, who can read and write with understanding in any language, is treated as literate.

The National Adult Education Programme (NAEP), the first countrywide programme in 1978, viewed literacy as a means to bring about fundamental changes in socio-economic development. It aimed at covering 100 million illiterate persons in the age group 15-35 in the adult education centres across the country. Based on the findings of the evaluation of the NAEP, the National Policy on Education (1986) suggested creation of a National Literacy Mission (NLM) to design and manage large-scale literacy programmes. Adopting a well-defined campaign approach, the NLM launched the total literacy campaigns in 1990.

Education

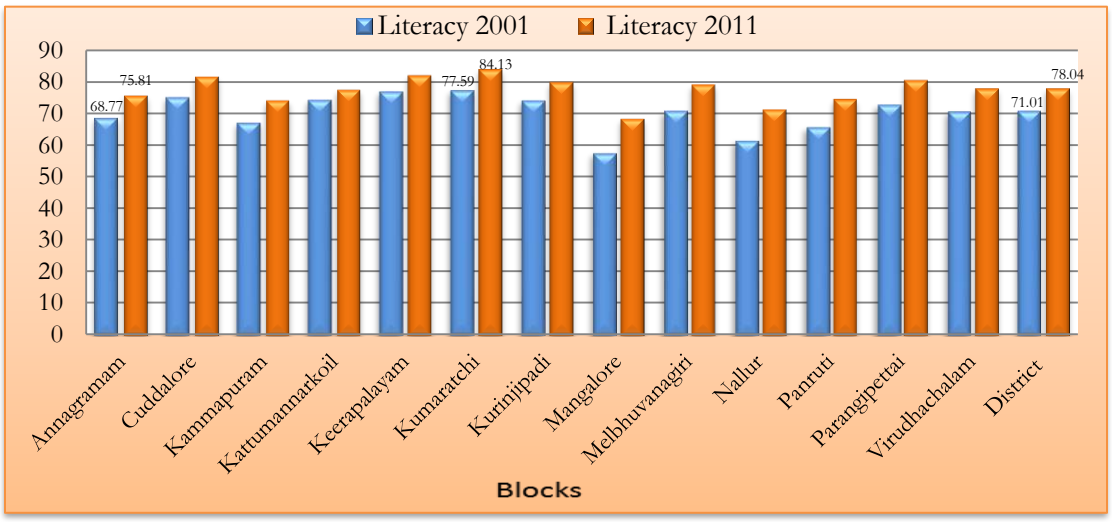
Education can increase the human capital inherent in the labor force, which increases labour productivity and thus transitional growth toward a higher equilibrium level of output. It can increase the innovative capacity of the economy, and the knowledge on new technologies, products, and processes promotes growth. It can facilitate the diffusion and transmission of knowledge needed to understand and process new information and to successfully implement new technologies devised by others, which again promotes economic growth. The importance of education as a promoter of social well-being is being felt by the government and the major stakeholders namely the people. The enrollment rate has improved gradually over the years since independence, and today cent percent

enrollment is registered by most of the districts of the State of Tamil Nadu. Many successes have been achieved in terms of quality of education, implementation of the Right of Children, Free and Compulsory Education, increased enrollment of children particularly girl children, out of school children, differently abled children, bridging of the social and gender gap, appointment of teachers, etc. Tamil Nadu is a pioneer in the introduction of the Continuous and Comprehensive Evaluation (CCE) System of education combined with the Trimester pattern. This has obtained appreciation at the National level and has become a role model for many States to emulate. This system has sought the appreciation of the three important stakeholders namely the students, the teachers, and the parents.

Literacy Performance of District

The percentage of literacy has increased from 71.01 % in 2001 to 78.04 % in 2011 (Figure 5.1 and Appendix I: Table: 5.1). The male literacy percentage has increased from 81.64 % in 2001 to 85.93 % in 2011. But the female literacy percentage has shown a remarkable increase from 60.27 % in 2001 to 70.14 % in 2011 (i.e.), almost 10 % increase.

Figure: 5.1: Literacy Rate



Source: Census of India 2001 and 2011.
Note: Municipalities, CTs, and TPs are added in the respective rural blocks.

This is a great achievement by the District Education Department and the role of private educational institutions functioning in the district. It is interesting to note that the gender gap in literacy has come down during the decade. Among the blocks, the literacy rate has increased significantly in rural areas from 68.60 % to 76.28% between 2001 and 2011, and however, in urban

areas, the literacy growth rate is moderate from 83.09 % to 87.23 %. Parangipettai, Melbhuvanagiri, Kurinjipadi, Kumaratchi, Keerapalayam, and Kattumannarkoil blocks recorded above the district average, both during 2001 and 2011. Of the total thirteen blocks, in nine blocks of the district, female literacy ratio is below the district average both during 2001 and in eight blocks in 2011 excluding Melbhuvanagiri.

Elementary Education

Primary Education

Table 5.1 reveals Primary Enrollment Ratio during the period between 2012 and 2014 in Cuddalore district. It is evident from the table that the enrollment ratio among the blocks is almost above 99 percent in Cuddalore district. The blocks Kammapuram, Kattumannarkoil, Keerapalayam and Kurinjipadi have reached the target almost to equal 100 % in Enrollment at the primary level.

Table 5.1: Enrollment in Primary Education

S. No	Block / District	Enrollment in Primary					
		Boys		Girls		Total	
		2012-13	2013-14	2012-13	2013-14	2012-13	2013-14
1	Annagramam	99.27	97.60	99.69	100.05	99.48	99.10
2	Cuddalore	98.89	91.00	99.89	98.07	99.39	94.80
3	Kammapuram	99.41	100.00	99.99	100.01	99.70	100.10
4	Kattumannarkoil	98.89	100.01	99.63	100.03	99.26	100.00
5	Keerapalayam	99.60	100.01	100.81	100.02	100.21	100.02
6	Kumaratchi	98.98	95.01	99.89	100.01	99.44	97.06
7	Kurinjipadi	98.97	99.09	99.98	100.01	99.48	100.04
8	Mangalore	99.14	94.01	99.88	98.20	99.51	96.01
9	Melbhuvanagiri	98.95	89.01	99.72	90.40	99.34	89.07
10	Nallur	100.28	99.08	100.23	100.60	100.26	99.90
11	Panruti	99.23	94.01	99.87	94.80	99.55	94.40
12	Parangipettai	99.25	87.05	99.97	90.20	99.61	88.80
13	Virudhachalam	99.78	99.07	99.86	100.08	99.82	99.90
District		99.92	102.03	99.53	102.06	99.73	98.50

Source: Education Department, Cuddalore, 2014.

This is due to the fact that children from neighbouring blocks and children of migrated families would have enrolled in the schools functioning in these blocks. The enrollment ratio at primary level is commendable and it is due to effective implementation of Government Programs in Cuddalore district. It is interesting to note that there is no gender difference in educating children in all the blocks of the district. This could be construed as an achievement in providing education through public and private institutions in the district.

Completion Rate and Dropout Rate in Primary Education

The picture on the proportion of students completing primary education during 2012-14 in Cuddalore district is depicted in Table 5.2. The completion rate with respect to primary level is recorded as 97.83 and 97.83 during 2012-13 and 2013-14 respectively. The completion rate of boys at primary level is 97.63 and 97.63 per cent and that of girls is 98.03 and 98.03 per cent respectively. It is very interesting to note that girls' completion rate is marginally higher than the boys' completion rate at the primary level during 2012-14 in Cuddalore district. However, this issue has to be seriously viewed, and efforts should be made to make learning fun and learner friendly.

Table 5.2: Completion and Dropout Rate

S. No	Block / District	Completion in Primary						Dropout in Primary					
		Boys		Girls		Total		Boys		Girls		Total	
		2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14
1	Annagramam	97.86	97.73	99.65	98.57	98.59	98.15	0.43	0.42	0.32	0.32	0.46	0.74
2	Cuddalore	99.51	97.5	98.88	98.02	99.36	97.76	0.41	0.46	0.43	0.43	0.44	0.89
3	Kammapuram	98.53	98.23	99.04	98.29	98.71	98.26	0.69	0.67	0.32	0.32	0.59	0.99
4	Kattumannarkoil	98.69	98.72	98.36	98.15	98.62	98.44	0.43	0.62	0.35	0.35	0.42	0.97
5	Keerapalayam	99.65	97.24	99.64	98.03	99.46	97.64	0.33	0.48	0.46	0.26	0.46	0.74
6	Kumaratchi	96.76	96.47	96.70	96.09	96.83	96.28	0.44	0.43	0.35	0.35	0.44	0.78
7	Kurinjipadi	97.88	97.49	97.69	97.17	97.68	97.33	0.32	0.36	0.25	0.25	0.30	0.61
8	Mangalore	99.38	98.38	98.91	98.27	99.23	98.33	0.52	0.51	0.31	0.31	0.51	0.82
9	Melbhuvanagiri	97.42	97.35	97.89	97.18	97.42	97.27	0.46	0.38	0.44	0.44	0.46	0.92
10	Nallur	99.64	97.65	99.89	98.1	99.83	97.88	0.33	0.48	0.26	0.26	0.30	0.64
11	Panruti	98.31	97.28	99.26	99.05	98.82	98.17	0.42	0.41	0.45	0.35	0.49	0.76
12	Parangipettai	99.42	98.39	99.60	99.09	99.65	98.74	0.23	0.21	0.15	0.15	0.20	0.36
13	Virudhachalam	98.38	97.23	99.50	98.19	98.96	97.71	0.33	0.32	0.31	0.31	0.38	0.63
District		97.63	97.63	98.03	98.03	97.83	97.83	0.44	0.45	0.32	0.35	0.38	0.40

Source: Education Department, Cuddalore, 2014.

Table 5.2 exhibits primary level dropout ratio during 2012-14 in Cuddalore district. At the primary level, the overall dropout ratio in Cuddalore district recorded very low figure and the ratio is less than 0.40. The dropout ratio with respect to boys (0.44) is marginally above than that of the girls (0.32) in the district during 2012-13. The boys' dropout ratio at the primary level is relatively high in the blocks of Kammapuram (0.67) and Kattumannarkoil (0.62). A similar picture could not be seen in the case of girls' dropout ratio. The higher dropout ratio is recorded in Melbhuvanagiri (0.44), and Cuddalore (0.43). It is observed that the dropout of both boys and girls depend of their parents

socio-economic and employment condition. Even though the Government has reduced the dropout to the level of less than one per cent, still there is a scope to bring it down to the level of zero. The overall dropout ratio has marginally increased from (0.38) in 2012-13 to (0.40) in the district in 2013-14. This rate of increase could be seen in all the blocks of the district. The reason for relatively high dropout in certain blocks may be due to seasonal migration of the marginal laborer to neighboring districts and the State of Kerala. The reason for moving to other states is due to higher wages.

Upper Primary/Middle School Education

Table 5.3 shows gender wise enrollment in Upper Primary Education in the district during 2012-2014. The upper primary enrollment is very close to the enrollment level of primary education in the district. Overall, the enrollment rate is 99.63 during 2012-13 and it marginally decreased to 99.41 during 2013-14.

Table 5.3: Enrollment in Upper Primary Education

S. No	Block / District	Upper Primary					
		Boys		Girls		Total	
		2012-13	2013-14	2012-13	2013-14	2012-13	2013-14
1	Annagramam	97.95	97.85	97.35	98.15	97.64	98.00
2	Cuddalore	99.74	99.12	99.64	99.42	99.69	99.27
3	Kammapuram	99.88	99.02	99.42	99.64	99.66	99.33
4	Kattumannarkoil	99.85	99.28	99.97	99.82	99.90	99.55
5	Keerapalayam	99.70	99.60	99.08	99.12	99.41	99.36
6	Kumaratchi	99.95	99.85	99.92	99.01	99.93	99.43
7	Kurinjipadi	99.59	99.12	99.93	99.62	99.76	99.37
8	Mangalore	99.65	99.50	99.72	99.80	99.68	99.65
9	Melbhuvanagiri	99.96	99.60	99.25	99.42	99.61	99.51
10	Nallur	99.91	99.92	99.71	99.54	99.81	99.73
11	Panruti	99.12	99.45	99.96	99.82	99.54	99.64
12	Parangipettai	99.57	99.62	99.58	99.62	99.57	99.62
13	Virudhachalam	99.98	99.76	99.92	99.92	99.95	99.84
District		99.64	99.36	99.62	99.45	99.63	99.41

Source: Education Department, Cuddalore, 2014.

The same picture could be seen in all the blocks of the district as well as in respect of boys and girls. This could be treated as an achievement of the district for tracking all the eligible children and bringing them to the mainstream of education.

Completion Rate and Dropout Rate in Upper Primary/Middle School

The depiction on the share of students completing Upper Primary Education during 2012-14 in Cuddalore district is portrayed in Table 5.4. The completion rate with respect to upper primary is recorded as 94.40 for the years 2012-13 and 2013-14. The completion rate of boys in upper primary level is 93.65 per cent and 95.15 for girls during 2012-13 and 2013-14. It shows that there is no change in the performance of providing upper primary education in the district. It is interesting to note that girls' completion rate is marginally higher than the boys' completion rate in upper primary education during 2012-14 in Cuddalore district.

Table 5.4: Completions and Dropout Rate in upper primary education

S.No	Block / District	Completion Rate in Upper Primary						Dropout in Upper Primary					
		Boys		Girls		Total		Boys		Girls		Total	
		2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14
1	Annagramam	90.21	86.99	92.24	91.74	91.23	89.37	1.29	1.30	0.83	0.84	1.06	1.07
2	Cuddalore	94.47	94.17	97.32	97.52	95.90	95.85	2.49	2.50	2.73	2.74	2.58	2.62
3	Kammapuram	92.79	93.69	94.48	94.37	93.64	94.03	1.38	1.40	1.12	1.14	1.25	1.26
4	Kattumannarkoil	92.58	92.08	94.92	94.87	93.75	93.48	1.29	1.30	1.23	1.24	1.26	1.27
5	Keerapalayam	94.64	94.88	98.37	98.67	96.51	96.78	0.49	0.50	1.33	1.34	0.91	0.92
6	Kumaratchi	94.96	94.56	95.72	95.62	95.34	95.09	1.29	1.30	2.23	1.24	1.76	1.27
7	Kurinjipadi	91.24	91.86	92.89	92.68	92.07	92.27	2.18	2.20	2.52	1.54	2.35	1.87
8	Mangalore	99.01	98.93	93.43	93.22	96.22	96.08	2.49	2.50	2.43	2.44	2.46	2.47
9	Melbhuvanagiri	95.21	94.80	93.12	92.70	94.16	93.75	0.69	0.70	1.53	1.54	1.11	1.12
10	Nallur	91.72	91.66	97.24	97.42	94.48	94.54	3.49	2.20	3.13	2.14	3.31	2.67
11	Panruti	93.12	93.80	95.12	94.85	94.12	94.33	1.59	1.60	0.83	0.84	1.21	1.22
12	Parangipettai	92.68	93.44	96.28	96.86	94.48	95.15	1.48	1.50	1.42	1.44	1.45	1.46
13	Virudhachalam	91.32	92.61	93.12	92.82	92.22	92.72	1.79	1.80	2.00	2.72	1.88	2.26
District		93.65	93.65	95.15	95.15	94.40	94.40	1.50	1.55	1.62	1.60	1.56	1.58

Source: Education Department, Cuddalore, 2014.

Among the blocks, the completion rate of boys is relatively low in the blocks of Annagramam (86.99), Kurinjipadi (91.86), Nallur (91.66), and Virudhachalam (92.61). Better performance can be seen only in the backward block of Mangalore (98.93). The completion rate of girls is relatively better than boys' completion rate in all the blocks of the district. Relative poor performance is

recorded in the blocks of Annagramam (91.74), Kurinjipadi (92.68), Melbhuvanagiri (92.70), Virudhachalam (92.82) and Mangalore (93.22). It is observed that the girls' education may be encouraged by way of providing better access to the schools and creating all facilities in the schools. Overall, the completion rate is poor in Annagramam block (89.37) during 2013-14.

There is a marginal change compared to 2012-13. However, priority may be given to Annagramam block to achieve hundred per cent completion rate along with other blocks of the district. The dropout at the upper primary level is relatively high compared to primary level education in the district. The dropout rate of girls' is marginally high compared to boys' during 2012-13 and 2013-14. During 2013-14, the dropout rate of boy is 1.55. Among the blocks, the dropout rate is very high in Nallur (2.67), Mangalore (2.47) and Cuddalore (2.62). Of these three blocks, two blocks are dry blocks and they are treated as backward blocks of the district.

However, the Cuddalore block is the headquarters of the district and there are avenues to absorb the children for some other activities. The dropout of girls' has come down from 1.62 to 1.60 during 2012-14. The girls' dropout is relatively high in the blocks of Nallur (2.14), Mangalore (2.43), Virudhachalam (2.72), and Cuddalore (2.74). Even though the differences are very marginal, adequate attention may be given to reduce the dropout rate to the level of zero in all the blocks of the district. Overall, the dropout rate at the upper primary level marginally increased from 1.56 in 2012-13 to 1.58 in 2013-14.

The dropout rate is high in the blocks of Nallur (2.67), Cuddalore (2.62), Mangalore (2.47), and Virudhachalam (2.26). It is noticed that the level of education as well as the rate of dropout is moving together for both boys and girls in the district. The interest in education is coming down in the category of dropout children while they are moving from primary to upper primary education. The existing education system may be fine-tuned in attracting the category of dropout children.

Box 5.1: Initiatives for Improving the Quality of Education

The Schools of Cuddalore district aim to improve the quality in all the ways. Not only scoring marks but also to improve the total personality of the students. The basic 3 (Reading, Writing and Arithmetic) are given much more importance. They give extra focus for reading. BRTEs from all blocks visit schools and check the reading skills of the individual students. Grades are given to the children. This sort of reading skill test is conducted very frequently. Students who perform well are appreciated then and there and the low performing children are given more practice. Reading cards are given to the children for happy reading.

Bridge Course Training

"Bridge Course" is conducted for class IX. This is a special course where separate teachers are appointed and they give special emphasis for the slow learners, 3 lettered words and 4 lettered words are given importance in the beginning. Later rhyming words and other words come in the structure. Library books are purchased for the easy access of the children.

Initiative Test

Initiative Test is conducted for English, Maths, and Tamil. This test is out and out beyond the syllabus. Only general questions are asked. The students write answers in the question paper itself. Objective type questions and essay type questions also find a place. Frequent visit of the officials and their interaction with the teachers are highly helpful for improving the quality of the education.

English Medium

After the introduction of the English Medium in Government School, we have seen a drastic improvement in the thoughts of the public. Parents who sent their children to Matric School earlier have started sending their children to government school which is their target.

Connecting Class

Programme like connecting classes is an innovative method. This is highly useful to identify efficient and talented teachers. After selection they take classes on-line efficiently. Arrangements are made to watch the programme to those who are interested.

In-Service Training

In service training for teachers is conducted periodically for reinforcement and refreshment. Teachers interact and get to know new ideas and methods, which they implement in their classes after the training.

CCE Method of Evaluation

Recent Continuous and Comprehensive Evaluation methodology has helped the teachers to bring out the talent in the children. Teachers conduct various activities like quiz, elocution, role play, and group discussion. Teachers use lap top and school computer as teaching tool for teaching the students. Computer Training is also conducted for the teachers to enable the teachers be computer literate

Thus the students are shaped in such a manner that they are able to speak on any topic anywhere and without any hesitation. Value oriented classes are conducted to shape their behaviour and lead a disciplined life.

Transition Rate

Transition rate means the percentage of students advancing from one level of schooling to the next, for example, Primary to Upper Primary, Upper Primary to Secondary School and so on. When Transition Rate from Primary to Upper Primary Schools is considered, all the blocks of the district recorded almost 99% irrespective of sex during 2013-14. These trends are depicted in Table 5.5. Combined transition rate from primary to upper primary is recorded as 99.83 per cent. It is clear from the above table that transition rate from primary to upper primary is more impressive in Cuddalore district. Further, there is no significant variation among the blocks regarding transition rate from primary to upper primary level. Table 5.5 gives information on the transition rate of the students from primary to upper primary and upper primary to secondary school during the year 2013-14 in Cuddalore district.

Table 5.5: Transition Rate

S.No	Block / District	Transition Rate (2013-14)					
		Primary to Upper primary			Upper primary to Secondary		
		Boys	Girls	Total	Boys	Girls	Total
1	Annagramam	98.48	99.96	99.22	98.75	99.66	99.21
2	Cuddalore	99.36	98.95	99.15	99.22	99.63	99.43
3	Kammapuram	98.67	98.77	98.72	99.11	99.82	99.47
4	Kattumannarkoil	99.34	98.97	99.15	98.91	99.82	99.37
5	Keerapalayam	99.57	100.17	99.87	98.90	99.81	99.36
6	Kumaratchi	99.27	99.15	99.61	100.00	99.91	99.96
7	Kurinjipadi	99.46	99.07	99.26	99.61	99.01	99.31
8	Mangalore	99.65	99.95	99.80	99.15	99.06	99.11
9	Melbhuvanagiri	99.42	99.54	99.48	100.41	100.61	100.51
10	Nallur	99.38	99.16	99.27	98.77	98.68	98.73
11	Panruti	99.37	100.15	99.76	99.24	99.01	99.13
12	Parangipettai	99.57	98.65	99.11	99.26	99.72	99.49
13	Virudhachalam	99.37	99.85	99.61	99.33	100.10	99.72
District		99.85	99.80	99.83	99.30	99.60	95.72

Source: Education Department, Cuddalore, 2014.

The trend similar to that of the transition rate from primary to upper primary is noticed in upper primary to secondary school. Overall, the transition rate of boys and girls has been computed as 99.30 and 99.60 respectively. As per the Government's policy, all the students have to be promoted compulsorily upto ninth standard. However, in certain blocks, the performance is less than hundred, due to socioeconomic reasons of the family. Further, the school administration at the district level

follows up continuously in tracking them through their parents in achieving the targets. These strategies and efforts would have helped in promoting education in all the blocks of the district.

Availability of Schools

It could be seen from the Table 5.6 that there are 1818 schools functioning in the district in various categories such as primary, upper primary, secondary and higher secondary schools during 2014. In this district, there are 902 primary schools, 515 upper primary schools, 219 secondary schools and 182 higher secondary schools. There is only one primary school in the entire district under GPS category and it is present in Nallur block. There are 3,911 habitations in the district. Of these, the number of habitations is high in Kurinjipadi block (487) and low in Melbhuvanagiri block (201). Juxtaposing the number of habitations and the number of schools functioning among the blocks of the district, there is a close relationship between the two. It is understood that these schools are functioning on the basis of demand.

Table 5.6: Availability of Schools

S. No	Block / District	Number of Habitation	Number of Schools				
			Primary	Upper Primary	Secondary	Higher Secondary	Total
1	Annagramam	273	61	29	11	11	112
2	Cuddalore	429	75	56	14	34	179
3	Kammapuram	298	57	35	15	7	114
4	Kattumannarkoil	338	76	29	14	14	133
5	Keerapalayam	258	53	32	12	6	103
6	Kumaratchi	351	69	37	20	16	142
7	Kurinjipadi	487	102	51	31	18	202
8	Mangalore	243	73	49	18	14	154
9	Melbhuvanagiri	201	47	31	10	10	98
10	Nallur	248	67	50	10	14	141
11	Panruti	304	78	42	34	19	173
12	Parangipettai	243	77	39	14	7	137
13	Virudhachalam	238	67	35	16	12	130
District		3,911	902	515	219	182	1,818

Source: Education Department, Cuddalore, 2014.

Box 5.2: Reading and writing skills among primary and upper primary school children - Sarva Shiksha Abhiyan

- As advised by Right to free and compulsory Education Act 2009, an awareness campaign is organized in every school in the month of June and July 2014, to promote enrollment and to eradicate dropouts. In this campaign, children emphasize the innovations of the government, by reciting slogans with regard to the government welfare schemes for school children. This rally certainly states as an epitome and proves that "Education for all-the certainty" prevails in and throughout the district.

- In the beginning of this academic year 2014-15, a slip test (In Tamil, English and Maths Basic Arithmetic skills) was conducted for the children of Std 1 to 8 in all the schools, in order to grade their achievement and help them accordingly. The children who pose their own pace in learning were identified. BRTEs conducted this test and sorted down the needed children's name list and sorted down the abstract as well to grade the school.

- In all the blocks, the Chief Educational Officer (SSA) and Assistant Program Officer (APO - SSA) conducted a statistical review to all the Head Masters and Teachers of all primary and middle schools with regard to the achievement of the children in the slip test conducted by the BRTEs. Achievement levels of the students in each subject, Tamil, English and Maths were discussed in this meeting. And the list of late bloomers the needed children special attentions in this respect were also issued to the school as immediate measure.

- The CEO (SSA) and APO (SSA) insisted and explained that special training and care has to be supplemented to these children along with the regular academic schedule. And with this reference, a special in service training to support Tamil Reading and Writing skill in the classroom has been imparted to the teachers. It has been informed in advance that a test will be conducted in 2 months. As an initiative to this venture, a district level achievement test has been conducted in all the middle School, using the tools (Question paper) prepared in the district on 01.08.2014. And at the next level, the same list has been carried out in High School and Higher Secondary School on 13.08.2014.

- A special Workshop to enrich English Reading Skill has been designed in our district in the name" Learning English with Sounds" and executed as planned. And we are planning to give this training to 6,7,8 handling teachers by the end of the month August 2014. A one day special workshop has been conducted to all the BRTEs regarding the Learning Indicators. And in that workshop common tools (Question paper) has been prepared by the BRTEs to assess the learning outcome of the children (1 to 8) uniformly throughout the district. And using this tools 50% of the schools in each block will be assessed in the month of August and the rest (50%) will be assessed and graded in September.

- To ensure the BRTEs school visit, their advance tour programme (TENTATIVE PLAN) is received from each block every 15 days once and using that as the parallel reference their visit is monitored by the district officials, which indeed strengthens their visit and helped respectively in strengthening the learning process. The District Coordinators (DCs) have been allotted with 2 blocks each in order to support, review and visit schools and also to overview all component data submitted by their respective blocks. This measure has been taken in order to ensure the best performance in all the schools in the block.

- The C grade schools are identified and frequently visited in teams by the AEEO and BRTEs in our district. This helps to promote the children's achievement. The learning atmosphere is ensured very often and the required building facilities are provided after several surveys conducted by the special team of the Chief Educational Officer, Additional Chief Educational officer (SSA), District Education Officer and Assistant Program Officer (SSA).

- To monitor and support the District's improvement in Education, a Regional Meeting was conducted on 18.08.2014 in Thanjavur. And in that meeting Cuddalore district schools received awards in best school category from the Honourable Education Minister, Tamil Nadu. All the schools were prescribed set rules and suggestions for the enlistment of the school. The advice gained in the meeting is taken into account and monitoring process is carried out throughout the district accordingly.

Pupil-Teacher Ratio in Primary and Upper Primary

Primary/Upper primary school pupil-teacher ratio is worked out on the basis of number of children enrolled and number of teachers working in the school (regardless of their teaching assignment). According to this definition, the pupil – teacher ratio is as good in all the blocks of the district.

Table 5.7: Pupil Teacher Ratio

S. No	Block / District	Primary School	Upper Primary
		Pupil Teacher Ratio	
1	Annagramam	29:1	31:1
2	Cuddalore	26:1	26:1
3	Kammapuram	28:1	30:1
4	Kattumannarkoil	23:1	30:1
5	Keerapalayam	26:1	25:1
6	Kumaratchi	28:1	32:1
7	Kurinjipadi	26:1	28:1
8	Mangalore	28:1	31:1
9	Melbhuvanagiri	27:1	26:1
10	Nallur	30:1	27:1
11	Panruti	27:1	30:1
12	Parangipettai	27:1	30:1
13	Virudhachalam	29:1	32:1
District		27:1	29:1

Source: Education Department, Cuddalore, 2014.

At the primary level, higher PTR was found in Nallur Block (30:1) and the lowest pupil – teacher ratio was noticed in the Kattumannarkoil block with 23:1 (Table 5.7). While looking at the Pupil – Teacher Ratio at the upper primary level, Kumaratchi and Virudhachalam block stood at top with 32:1, followed by the Annagramam and Manglore block (31:1). The lowest pupil-teacher ratio was noticed at the Keerapalayam block and it is 25:1 as of 2014.

Secondary Education

Secondary School Enrolment

Table 5.8 gives an idea about the enrollment of secondary schools in Cuddalore district during the year 2013-14. Across the blocks, there are some marginal variations between boys' and girls' enrolment. In Cuddalore district, overall girls' enrolment is 90.99% and boys' enrollment is recorded as 88.14%. There are some marginal variations in the overall enrolment of the blocks of Cuddalore (93.61 %), Virudhachalam (91.65%), Parangipettai (90.97%), and Nallur (90.00%). It reveals that the

pupil use to opt for the schools in terms of accessibility, security, better infrastructure, good teaching, etc. Government programmes drive the parents of girls to provide education at higher levels in Cuddalore district. The notable programmes include provision of bicycle, bus pass, uniform, books, notebooks, geometry box, and mid-day meal. The stakeholders have realized the benefits of educational programmes and utilized the same.

Table 5.8: Enrollment in Secondary Education

S.No	Block / District	Enrollment in Secondary Schools		
		2013-14		
		Boys	Girls	Total
1	Annagramam	87.30	90.50	88.84
2	Cuddalore	92.66	94.67	93.61
3	Kammapuram	85.97	90.87	88.26
4	Kattumannarkoil	87.60	89.21	88.35
5	Keerapalayam	84.70	88.54	86.51
6	Kumaratchi	83.75	89.32	86.42
7	Kurinjipadi	89.49	89.81	89.64
8	Mangalore	85.22	87.56	86.31
9	Melbhuvanagiri	86.44	91.61	88.92
10	Nallur	88.42	91.89	90.00
11	Panruti	87.99	91.54	89.67
12	Parangipettai	89.99	92.03	90.97
13	Virudhachalam	90.66	92.74	91.65
	District	88.14	90.99	89.49

Source: Education Department, Cuddalore, 2014.

Secondary School Dropouts

Table 5.9 highlights the dropouts of children at the level of secondary education in Cuddalore district. Overall, the dropout rate has decreased from 6.48 in 2012-13 to 4.63 in 2013-14. The dropout ratios are very high in the blocks of Keerapalayam (8.12), Kumaratchi (7.82), Kammapuram (6.68), Nallur (6.55), and Kattumannarkoil (5.86) during 2013-14. But the picture is somewhat different during 2012-13 the highest dropout rates are recorded in Kammapuram (9.99), Kumaratchi (9.28), Virudhachalam (7.98), Nallur (7.59), and Parangipettai (7.23). Due to continuous efforts taken by the department of education, the dropouts are reduced significantly in those blocks. The dropout rate of boys' in the district decreased from 8.34 in 2012-13 to 5.57 in 2013-14.

The dropout rate of boys is high in the Annagramam block. It increased from 6.00 in 2012-13 to 6.45 in 2013-14. Over the years, there is a decreasing trend in the dropout rates at district level. It shows that the dropouts occurred on withdrawing the student from the school not only for personal

reasons and also delivering poor quality of educational services by the schools. The girls' dropout ratio has come down in ten blocks from 2012-13 to 2013-14; Annagramam (5.31 to 3.35), Cuddalore (2.84 to 1.37), Kammapuram (6.53 to 5.50), Kumaratchi (6.06 to 4.78), Kurinjipadi (4.35 to 3.78), Mangalore (6.62 to 1.73), Melbhuvanagiri (4.82 to 2.46), Panruti (4.48 to 3.48), Parangipettai (5.19 to 2.73) and Virudhachalam (5.51 to 4.82).

Table 5.9: Dropouts in Secondary Education

S.No	Block / District	Dropout Rate					
		2012 - 13	2013-14	2012-13	2013-14	2012-13	2013-14
		Boys		Girls		Total	
1	Annagramam	6.00	6.45	5.31	3.35	5.64	5.02
2	Cuddalore	6.06	3.78	2.84	1.37	4.27	2.59
3	Kammapuram	12.24	7.63	6.53	5.50	9.99	6.68
4	Kattumannarkoil	6.94	5.98	3.56	5.71	5.25	5.86
5	Keerapalayam	9.70	8.35	3.83	7.83	7.25	8.12
6	Kumaratchi	12.25	10.76	6.06	4.78	9.28	7.82
7	Kurinjipadi	5.85	4.30	4.35	3.78	5.10	4.06
8	Mangalore	8.51	5.37	6.62	1.73	7.56	3.45
9	Melbhuvanagiri	8.57	5.59	4.82	2.46	6.68	4.06
10	Nallur	10.02	6.63	5.08	6.48	7.59	6.55
11	Panruti	8.51	4.11	4.48	3.48	6.59	3.79
12	Parangipettai	9.17	8.76	5.19	2.73	7.23	5.37
13	Virudhachalam	10.28	2.36	5.51	4.82	7.98	3.59
District		8.34	5.57	4.59	3.66	6.48	4.63

Source: Education Department, Cuddalore, 2014.

In the rest of the three blocks of the district, the dropout rate of the girls at the level of secondary education has increased. It is observed that the parents still discriminate against the girl children and they have not been prioritized to provide education beyond the secondary level. The secondary education is one of the critical stages for moving to higher education.

Basic School Infrastructure

The Government of Tamil Nadu has opened up new vistas for financing school infrastructure in Tamil Nadu through public-private partnerships with domestic and overseas institutions. Table 5.10 reveals the fact that of the total 1818 schools functioning in Cuddalore district about 58 per cent of the schools are equipped with more than three class rooms and 40 per cent of the schools are

equipped with three class rooms. However, 10 schools functioning both at rural blocks and municipalities do not have toilet facility in Cuddalore district. Likewise, 28 schools on the whole do not have electricity in the district. Out of the total number of 1818 schools in the district, 416 schools are functioning without proper compound walls. In general, immediate attention is necessary to ensure basic infrastructure such as toilets and electricity in all the schools.

Table 5.10: Block-wise overall School Infrastructure during 2014

S. No	Block / District	Total No. of Schools	With 3 Class Rooms	More than 3 Class Rooms	Without Toilet	Without Compound Wall	Electricity connection out of order
1	Annagramam	112	35	76	1	37	0
2	Cuddalore	179	65	112	1	29	2
3	Kammapuram	114	44	68	2	16	2
4	Kattumannarkoil	133	62	68	2	33	3
5	Keerapalayam	103	41	58	0	25	2
6	Kumaratchi	142	68	70	0	30	4
7	Kurinjipadi	202	94	101	0	61	2
8	Mangalore	154	51	95	0	24	3
9	Melbhuvanagiri	98	39	61	0	29	2
10	Nallur	141	53	81	0	32	4
11	Panruti	173	74	102	3	50	3
12	Parangipettai	137	55	82	0	24	0
13	Virudhachalam	130	50	79	1	26	1
District		1,818	731	1,053	10	416	28

Source: Education Department, Cuddalore, 2014.

Hostel Facilities

In order to encourage the children who reside in distant places, the government has created hostel facilities in the district. Besides, girl's hostels cater to the needs of girl children belonging to underprivileged, economically backward of the society. As can be seen from Table 5.11, there are 418 hostels functioning in the district. Of these, only 10 hostels are functioning in the urban areas and the rest of them are functioning in the rural areas. Among the blocks, Panruti, Kurinjipadi and Cuddalore blocks have more number of hostels, 60, 50 and 49 respectively. In total, 8,351 students are availing the services of the hostels. The stakeholders of the hostel services have perceived that these services would help them in availing of educational services and give good exposure in urban areas and other developments.

Table 5.11: Hostel Facilities during 2014

S. No	Block / District	No. of Schools with Hostels	Total No. of Students	No. of Students in Hostels
1	Annagramam	22	5,112	439
2	Cuddalore	49	14,318	819
3	Kammapuram	22	3,316	176
4	Kattumannarkoil	28	5,609	1,127
5	Keerapalayam	18	2,466	760
6	Kumaratchi	36	7,680	349
7	Kurinjipadi	50	8,676	673
8	Mangalore	34	4,337	513
9	Melbhuvanagiri	25	4,433	345
10	Nallur	21	4,788	512
11	Panruti	60	14,021	674
12	Parangipettai	22	4,226	208
13	Virudhachalam	31	7,365	1,756
	District	418	86,347	8,351

Source: Source: Education Department, Cuddalore, 2014.

Scholarship

Table 5.12 gives the details of scholarships provided to the students of various categories. In total, 418 schools have provided scholarships to 37,070 students in the district during 2014. Across the blocks, the large number of students (3,571) have availed scholarships from Cuddalore block and the minimum number of students (1,857) have received scholarships from Melbhuvanagiri block. Since the scholarships are disbursed on the basis of income and community, the number of scholarships awarded among the blocks differed significantly.

Table 5.12: Scholarship during 2014

S. No	Block /District	No. of schools	Total Number of students	No. of students availed scholarships
1	Annagramam	22	5,112	3,257
2	Cuddalore	49	14,318	3,571
3	Kammapuram	22	3,316	2,975
4	Kattumannarkoil	28	5,609	2,509
5	Keerapalayam	18	2,466	2,705
6	Kumaratchi	36	7,680	2,421
7	Kurinjipadi	50	8,676	3,491
8	Mangalore	34	4,337	2,663
9	Melbhuvanagiri	25	4,433	1,857
10	Nallur	21	4,788	2,494
11	Panruti	60	14,021	3,480
12	Parangipettai	22	4,226	2,399
13	Virudhachalam	31	7,365	3,248
	District	418	86,347	37,070

Source: Education Department, Cuddalore, 2014.

Box 5.3: Technology Initiatives in School Education

1. Trimester Pattern: This system ensures that the children need to carry only the books needed for the relevant term. This substantially reduces the book load of children physically and also helps to remove the psychological fear in the young minds.
2. Continuous and Comprehensive Evaluation (CCE): This evaluation helps to reduce the stress, improves solving and thinking skills, continuous assessment, summative, formative, scholastic, life skills, work experience co-curricular activities and grade instead of marks.
3. Simplified Activity Based Learning for Standards I to V : This facilitates CCE built, Textbook linked, Higher order thinking skills. This includes project activities, child friendly logos which are relevant activities and numbers of activities/cards are reduced.
4. ICT in Schools : This programme provides information and communication technology facility through BOOT model over a period of five years commencing from 2011-12. Under this scheme computers are provided to HS and HSS Schools
5. Smart Schools: In Smart schools, the emphasis would not only be on the use of information technology but also on the use of skills and values that will be imparted in the next millennium.
6. Education Content Server (ECS)
7. The EMIS server would have e-versions of various contents and resources that would help the teaching, learning process for both curricular and co–curricular activities.
8. Smart Class: It facilitates teaching-learning process, effectively using computer enabled techniques; teaching through multimedia projector smart board helps more visualization of lessons.
9. Chess Game: Chess clubs are formed in schools. Awards available in school, zonal, district and state level.

Higher Education

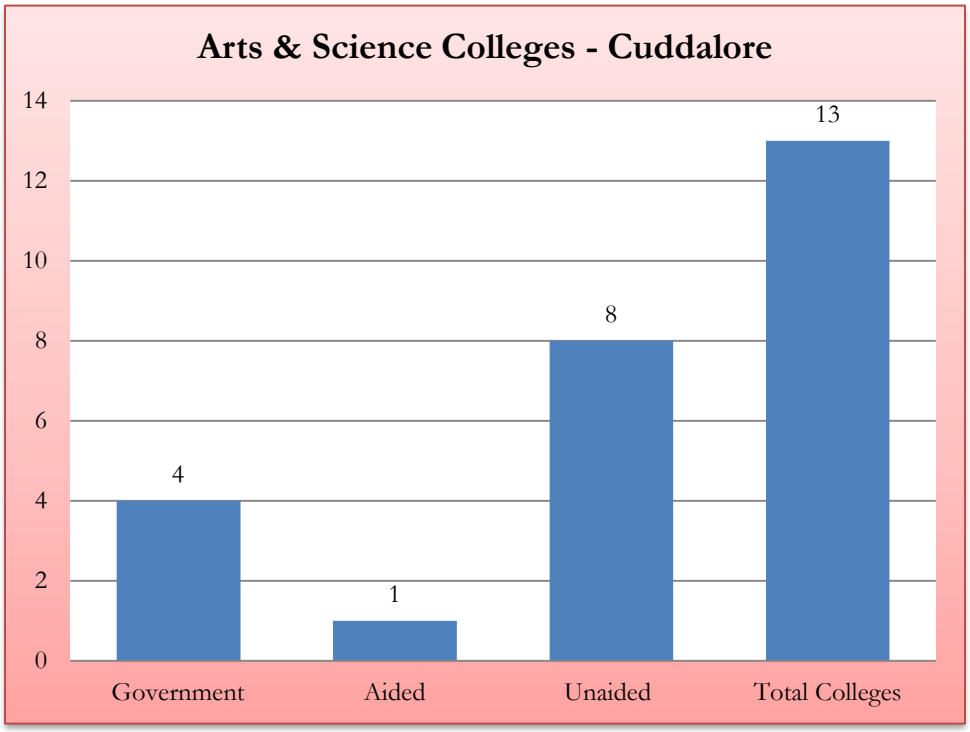
Higher education institutions not only act as centers of innovation and excellence but also provide the basis for a high quality of life. The government had taken many steps to increase student enrolment and quality improvement in higher education. The vision of the Government of Tamil Nadu with regard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

Arts and Science Colleges

Figure 5.2 clearly explaining the Arts and Science Colleges functioning in Cuddalore district in 2014. Totally 13 Arts and Science colleges are functioning in the district, out of which 4 are government colleges, one is aided college, 8 are unaided College. Higher education is a major driver of economic

development, and this role will increase as further changes in technology, globalization, and demography have impact on the district.

Figure 5.2: Arts and Science Colleges



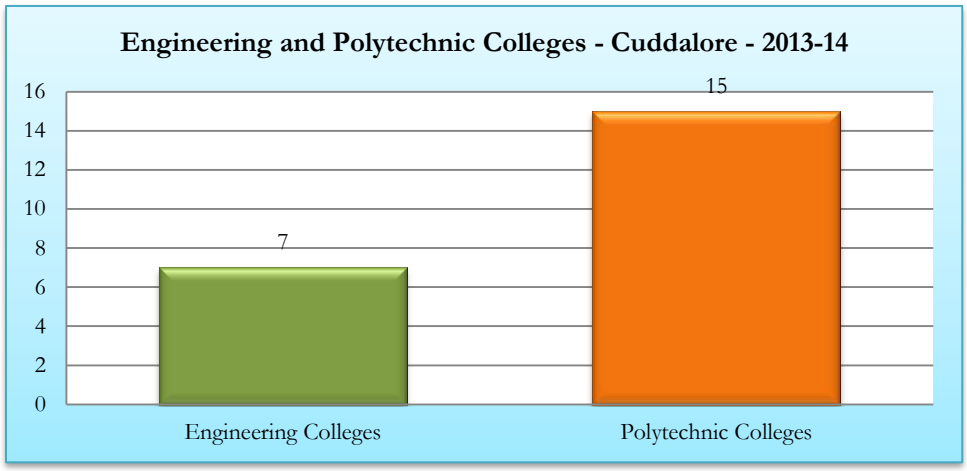
Source: www.colleges.in.tn.com/Dated:7.5.15.

The government is taking initiatives and developing policies to increase the enrollment rate, to provide equal access to groups with lower access to higher education, to improve the quality of education, etc. Of late, stakeholders have not prioritized arts and science programmes and they intend to join professional courses like engineering, agriculture and medicine. Hence there is no significant development in arts and science colleges as well as their enrollment.

Technical Education

Figure 5.3 portrays number of engineering colleges and polytechnic colleges functioning in Cuddalore district. As on 2014, totally 7 Engineering Colleges and 15 Polytechnic Colleges are functioning in the district, out of which one is government engineering college and 6 unaided colleges. Similarly, one aided and fourteen unaided polytechnics are functioning in the district. These institutions are producing significant number of skilled manpower in the society. Still there is scope for strengthening the physical infrastructure and for appointing highly qualified teachers for delivering educational services on par with advanced institutions functioning in the country.

Figure 5.3: Engineering and Polytechnic Colleges



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

Conclusion

In the light of above analysis, it could be concluded that the literacy rate increased significantly during the last one decade in the district. Even though the government has given equal importance to all the blocks of the district, their performance varied significantly. In the context of primary and upper primary education, the government has achieved the targets. However, the quality of education is still a questionable one in the district. Still, there is scope for enhancing the quality of education at all levels. The dropout rate has marginally increased from primary to upper primary and upper primary to secondary education. However, the numbers are insignificant and the Department of Education is tracking each and every case and brings them to mainstream. The government has created infrastructure through the schemes of SSA and RMSA. However, there is scope for enhancing the quality of school infrastructure at all levels. The freebies offered in the schools are encouraging students as well as parents to take part in all endeavours generated by both public and private institutions. The perception of the stakeholders differs and they expect the same in high quality and durability. In general, the gender discrimination still prevails in the district in providing education, which needs further analysis. This has been addressed in the following chapter.

CHAPTER 6

GENDER

Chapter
6
Gender

Introduction

This chapter portrays the issues of Gender and Development in the district of Cuddalore. Gender equality is a key factor contributing to the economic growth of a nation. The discrimination against women remains a common occurrence in today's society and serves to hinder economic prosperity. The empowerment of women through such things as the promotion of women's rights and an increase in the access of women to resources and education proves to be a key to the advancement of economic development. Gender equality in the workforce and in social relationships is the two primary factors that contribute economic growth.

The influential role of gender equality on economic growth is directly illustrated in the participation of women in the labour force. When women are not involved in the workforce, only part of the able workforce is being utilized and thus economic resources are wasted. Gender equality allows for an increase in women in the workforce, thereby leading to an expansion of the labour force and an increase in economic productivity. The participation of women in the labour force allows for changing social relationships that bring about economic progress. In addition to gender equality in the workforce, economic growth is also witnessed with the empowerment of women in familial roles that ultimately allows for advancement in the social sector.

A woman's decision to participate in the paid labour force, for example, enables mothers to alleviate their families from such harsh conditions as poverty that prove detrimental to economic growth. By assuming a role in the decision-making process, women are also able to influence human development. For example, children whose mothers have an equal voice in family decisions have been found to be more likely to receive proper nourishment, education, and healthcare services. Women create a beneficial environment where they improve the well-being of offspring so that the offspring can go on to survive and contribute to future economic growth. Thus, the ability to voice decisions allows gender equality to be crucial to economic progress and human development.

The 2011 Census data revealed that there are 919 girls for every 1000 boys in the 0-6 age group in India, highlighting the imbalance in child-sex ratio. Ideally, this ratio should be above 950. This imbalance is a result of the practice of gender biased sex selection - a manifestation of deep

patriarchal mindset leading to the preference for sons over daughters; aided by technological misuse. Some of the consequences of an imbalanced child sex ratio are an increase in violence against women and girls, trafficking for marriage, and restrictions on mobility and choices of young girls.

Status of Women Population

Table 6.1 shows the status of women population of the district as well as the State. According to the 2011 Census, the percentage of women population in the Cuddalore district is 49.66, which is marginally high as compared to State (49.90) and the Nation (48). This could be seen in the form of sex ratios at three levels. The district sex ratio is very high (987) as compared to the State and the Nation. The district's MMR is 89 during 2014. This is lower than the State MMR (68). However, the district health administration may view it seriously and bring down the MMR to zero.

Table 6.1: Comparative Status of Women during 2011 in Cuddalore District

S. No.	Status	District	State
1	Total Number of Women (million)	1.29	3.60
2	Percentage in Total Population	49.66	49.90
3	Sex-Ratio	987	995
4	Women Literacy Rate	70.14	73.86
5	Schedule Caste population	29.36	20.09
6	MMR (2013-14)	89	68
7	% of women workers in agriculture sector	61.91	41.61
8	% of women in non-agri. Sector	26.40	45.15

Source: Census of India, 2011.

A similar trend could not be seen in the literacy rate, wherein the district reached 70.14 literacy rate. Over all, the status of women of the district is moderately better when compared to the State and Nation. This is reflected in the literacy rate also. It is interesting to note that 61.91 per cent of women workers in the district are still participating in the agricultural activities. The remaining 26.40 per cent of the women workers are participating in the non-agricultural activities. It is understood that mere participation alone is not enough and they have to generate additional income and employment in the non-agricultural activities. As per the tradition, the womenfolk use to take care of household activities. Over the years in the course of development, gradually they have come forward to take up other assignments to meet their family requirements. This aspect exhibits the unique attitude of this district population valuing women and their significance in improving the social aspect of human development.

Box 6.1: Status of Self Help Groups

Financial inclusion is one of the areas where we observe a gender gap—women in developing economies are still relatively more excluded from the financial sector than men, even after controlling for income and education. We need to close this gender gap and increase the access of women to various resources including technologies for livestock breeding and animal feeds; extension services; improved seed varieties; credit facilities and market information. SHG is grown as an instrument in bringing the gender gap and gives women access to credit and resources.

Block wise Number of SHGs and credit availed during 2013-14

S.No	Block / District	No.of Self Help	No. of Members	Credit Availed (2013-14) (Rs. in Crore)
1	Annagramam	1,815	27,226	7.41
2	Cuddalore	3,749	56,235	15.53
3	Kammapuram	1,533	22,983	11.94
4	Kattumannarkoil	880	12,223	9.73
5	Keerapalayam	1,848	27,724	9.49
6	Kumaratchi	1,104	16,545	6.83
7	Kurinjipadi	2,154	32,212	10.94
8	Mangalore	779	11,685	7.41
9	Melbhuvanagiri	1,203	18,042	5.87
10	Nallur	680	10,202	6.72
11	Panruti	1,761	26,220	7.87
12	Parangipettai	1,267	18,674	6.43
13	Virudhachalam	946	14,151	14.34
	District	19,719	2,94,122	120.51

Source: Project Director DMMU, Cuddalore, 2014.

Box 6.1 brings out the access over resource and credit by SHG members in Cuddalore district during 2014. This movement is taking place at the grassroots level in organizing the rural poor and forming as a collective institution for availing the credit without any collateral security. Overall, 19,719 groups were formed and they availed the credit worth Rs.120.51 crores. Through this movement, all the group members availed the credit both for productive as well as to meet urgent social expenses. Across the blocks, higher level participation is witnessed in the blocks of Annagramam (27,226), Cuddalore (56,235), Kammapuram (22,983), Keerapalayam (27,724), and Panruti (26,220). More than 2000 groups are functioning in the two blocks. They are: Cuddalore (3,749) and Kurinjipadi (2,154). The question is how many of them involve themselves in the economic activities and avail the economic assistance and subsidy through banks. In this district, both Mahalir Thittam, and Puthu Vazhvu projects are going on, which play a major role in empowering the rural and urban women and in making them self-sufficient. The existing economic activities may be scaled up to higher level for generating sustainable income and employment.

Box 6.2: The Community Disaster Resilience Journey: Women Federation of Nochikadu

The objective of the case study is to show how disaster preparedness helps the local community protecting themselves from the natural hazards. This preparedness would help in protecting all economic activities as well as their health. The Women Federation of Nochikadu was formed in 2010 with 28 members. There were 32 active SHGs in the village, and women assembled in groups for saving and credit based activities. Two community members, who were trained by SSP in 2011, organized the vulnerability mapping exercise of Nochikadu with the help of SHGs, youth groups, and the ward and village panchayat members. The mapping identified key issues that posed a threat to the village and the community like water scarcity and pollution, soil degradation, a fall in agricultural production, the growing use of chemicals, and health and sanitation related issues. Initially, the biggest challenge to the Women's Federation was to motivate local women to come out of their homes for meetings.

Women leaders and the SSP facilitators literally went door-to-door to meet families and convince men of the gravity and urgency of the situation. They also coaxed them to encourage their wives to participate in the meetings. The women worked hard to build credibility and obtain the support of others in the community, panchayat, and other public institutions for support to organize health camps and meetings. Women groups shifted cultivation from cash crops to low input based organic farming, vegetable cultivation through shared labour, and vermi-compost production – witnessed a 25% rise in the income earned by women. The areas experienced regeneration of the environment and replenishment of exhausted water resources. The Women's Federation members met with the block-level agriculture and horticulture officers in Kurinchipadi, the Horticultural Department, and the Agricultural research centre in Cuddalore to create a network of support for the women. This network helped the women procure certified seeds, bio-fertilizers, saplings, and agriculture equipment at subsidized rates.

Another focus area for the women was the below-average quality of healthcare provided at their local PHC. They met with the district-level health functionaries and convinced them to organize two health camps and also orientation programs for the community. These were organized to help residents consult a general physician for a basic health check-up. A Village Health Nurse (VHN) was also arranged to visit Nochikadu regularly. Steps were also taken to develop the local infrastructure in partnership with the Gram Panchayat and the District Rural Development Authority (DRDA) for construction of toilets. This was the biggest step taken towards improving hygiene and sanitation in the village. They also lobbied for building a 100-metre-long cemented road in the village. Women's Federation organized six peer learning exchanges for the women from Nochikadu to model villages in Maharashtra and within Tamil Nadu. These visits helped build the group's confidence levels and elevated their standing in the eyes of their family members and the larger community.

Access over Resources and Credit

The Central and State governments have earmarked sizeable funds for the development of women and for specifically providing access to financial resources. The question is how many of them involve themselves in the economic activities and avail the economic assistance and subsidy through

banks. In this district, both Mahalir Thittam, and Puthu Vazhvu projects are going on, which play a major role in empowering the rural and urban women and in making them self-sufficient.

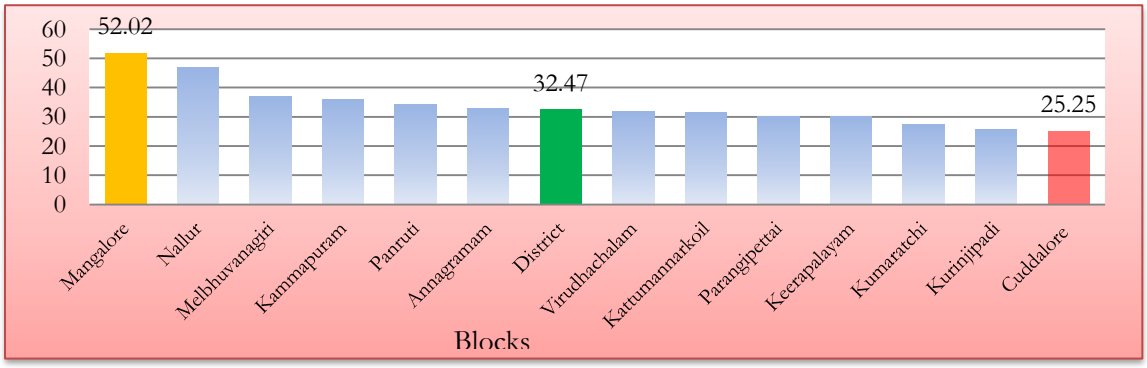
Female Literacy

The literacy rate of female is 70.1 during 2011 in the district, which is very low compared to male literacy rate of 85.9 (Appendix I - Table: 1.5). Block wise female literacy rate shows that there is no uniform picture. The lower female literacy rate is recorded in Mangalore block (58.2), and higher literacy rate is reported in Kumaratchi block (78.4). Mangalore block is one of the backward blocks of the district and a significant proportion (40.47) of SC population live in the block. In this block both male and female literacy rates are well below the literacy rates as to other blocks of the district. Adequate attention may be provided specifically to the SC womenfolk in providing education to the adults. The efforts taken by the government is witnessed in all the blocks of the district and can be seen in the form of literacy rate. The overall literacy rate of girls is 47.3 and boys are 52.7. Equity may be achieved by way of encouraging girl children and effectively implementing ongoing educational development programmes.

Employment: Female Work Participation

Despite very rapid economic growth in India in recent years, we're observing declining female labour force participation rates across all age groups, across all education levels, and in both urban and rural areas. Strengthening anti-discrimination legislation in employment across all occupations will be essential for expanding employment opportunities for women. In addition, reducing the large gaps in wages and working conditions, often observed between women and men, could help provide a boost to the number of women seeking employment.

Figure: 6.1: Female Work Participation Rate



Source: Census of India 2011.

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

Figure 6.1 shows female work participation during 2011(Appendix I: Table: 6.1). Female work participation of the district is 32.47%. Across the blocks, minimum level of participation is reported in the Cuddalore block (25.25%) and maximum participation could be seen in Mangalore block (52.02%). While the share of women in work participation in the district has increased, the types of works undertaken by women bring out clearly the subservient position of women working in the district.

Box 6.3: Training and Skill Development: Changes in Livelihood of Women

The objective of the case study is to highlight how training on skill development would reduce costs and time of the women folk and achieve sustainable income. This is one of the activities carried out by the Centre for Indian Knowledge System (CIKS). In 2011, the (CIKS) supported the training of 28 women in organic farming, vegetable cultivation, and vermi-composting. A three-day training program on mushroom cultivation and a day-long orientation to understand methods of pest control were also organized for the aspiring organic farmers. Subsequently, the SHG members in Nochikadu village approached the Women's Federation for the Community Resilience Fund for financial support to start vermi-composting. The local Federation provided INR 10,000 as their 50% contribution to the overall costs, while the remaining amount was pooled in by community. The vermi-compost unit started by the SHG members in Nochikadu now involves 25 women and is active in six villages. They also built a separate shed for compost production with a capacity of ten compost beds. Each week, they harvest about 20 kgs of vermi-compost from each compost pit, producing an impressive 800 kg from the ten compost pits in total in every cycle. They sell this compost to the Horticulture Department and at the local market at INR 4-6 per kg. They are now keen to explore markets in Cuddalore and Pondicherry. These vermi-compost units can provide each woman an income of INR 400 -600 per month.

Soon after, women in Nochikadu began to maintain two vermi-compost units and commenced vegetable cultivation using bio-fertilizers. The women's groups also leveraged credible relationships that the Women Federation had developed hitherto with banks and cooperative societies, aimed at accessing funds and other crucial support for varied infrastructure- and development-related activities in the village. One of the first initiatives taken up by the community was to replace cashew cultivation with less water-intensive crops like ground nut, sesame, pulses, vegetables, and a casuarina nursery. The people developed nearly 250 small ponds in and around their fields to save ground water during the rainy season. These water bodies helped increase water availability for cultivation by a minimum of six months. The women also started practicing crop rotation; for instance, after a harvest of groundnut or black gram, they would plant vegetables or start a casuarina nursery to ensure a minimum income to smoothen the family's consumption. The adoption of these environmental friendly practices along with the use of bio-fertilizers significantly reduced the cost of cultivation by 20-40%. To address labour issues, the women's groups worked collectively to optimize their time. They also decided to aggregate and market their produce together. "We started working together to reduce our costs and time; our vegetable products are sold in nearby villages and towns by our group members", said an SHG member.

Box 6.4: Paravet Training to Women : Improving Livelihoods

The objective of the case study is to realize the importance of Paravet training to women and changing their livelihood not only for trainers and also for breeders. This is one of the activities of CARE NGO of the district. The recorded facts have been ascertained through field visit and formed a case study.

Latha was born into a poor family in a small town, 'Kattumannarkoil', of 75 kilometres from 'Cuddalore', the district headquarters. Latha's husband was a mason and they had three daughters. It was not easy for Latha to manage the family with just the income of her husband, which was also not regular, but seasonal. Latha wanted to go out for some work such that her income could be support for the family. CARE motivated the women to come together as a group (commonly called as a Self Help Group - SHG) to initiate savings and through which gradually gain access to other financial services including credit, micro insurance and micro pension. Latha look the leadership role of the SHG and from then her life changed. Latha's group performed well and received the first credit linkage with a local bank barely six months after its formation. In 2012, CARE introduced the 'Dairy Value Chain' initiative in the federation with an aim to promote dairy enterprises for the women members of the federation to enhance their livelihood opportunities. The initiative attempted at working along all aspects of the value chain including enabling members to purchase of cows through credit from banks and financial institutions, training members on animal husbandry practices, establishing feed shops to facilitate access to feed, establishing fodder plots, setting up milk collection centres and linking them with organized milk processors and para-vet services to enable access to animal healthcare . Latha came forward to accept the offer to be trained as para-vet, stating, "It is not just for income that I take this opportunity.

I think I need to support the federation by being a role model". Latha's journey as a para-vet started since then. As Latha approached the village, she began to examine one of the calves, when a group of people sitting nearby began to laugh louder. Latha took these head on, "guys, I am coming here to support you, serve your people. If you continue like this, I may have to approach the police to book you under eve teasing. Also I am a leader of the federation. I have the backing of more than 3000 women". Upon hearing this, many other women members began to gather there. The men had to cut a sorry figure, beg pardon and leave the scene no sooner. Latha's daughters were happy to see their mother returning from work with all smiles. She said, "thank you girls, I have taken the first step in the right direction. There is no turning back".

Latha is seen as a role model even for other leaders of the federation. In one of their meetings she said, "There is no more sarcasm, no more bullying; people keep looking for me in all villages where I go. They treat me like a sister, value my services and pay for my services. It has been a long journey so far. But my dream is to make all our members as dairy entrepreneurs and make this initiative as a replica of 'AMUL', world's largest dairy cooperative. I realize I have miles to go".

Female Workers in Non-Agricultural Sector

Table 6.2 reveals the female worker participation in non-agricultural sector in Cuddalore district. According to 2011 Census, the proportion of total number of workers in this sector is reported as 26.40%. The participation of females in non-agricultural sector would give additional income to the

household and enhance the status of the women both in society as well as at home. It reveals that the participation rate has to be improved by means of block specific interventions.

Table 6.2: Female work Participation Rate in Non-agricultural Sector

S.No	Block / District	Female Workers in Non-Agricultural Sector		
		Total Female Workers	Main, Marginal (HH+OT) in Female Workers	% of Female Workers in Non-Agriculture
1	Annagramam	31,423	6,165	19.62
2	Cuddalore	50,091	24,507	48.92
3	Kammapuram	28,177	5,747	20.40
4	Kattumannarkoil	22,761	4,686	20.59
5	Keerapalayam	27,221	8,112	29.80
6	Kumaratchi	20,839	6,635	31.84
7	Kurinjipadi	46,276	15,903	34.37
8	Mangalore	44,090	4,754	10.78
9	Melbhuvanagiri	21,352	4,794	22.45
10	Nallur	36,116	4,253	11.78
11	Panruti	37,612	9684	25.75
12	Parangipettai	22,374	7,492	33.49
13	Virudhachalam	31,915	8,213	25.73
	District	4,20,247	1,10,945	26.40

Source: Census of India 2011.

Female Agricultural Wage Rates

Table 6.3 gives the picture of female agricultural wage rates in the district of Cuddalore. Among the blocks of the district, female agricultural wage rate ranges from Rs.90 to Rs.169. It is one of the indicators that gives an idea on gender discrimination. Gender based wage discrimination could be seen in the operation-wise activities in the agricultural sector. Further, they work as daily wage earners. On the basis of supply and demand, the market determines the wage rate even though the

minimum wage act is enforced in the State. Among the blocks, the higher wage is reported in Panruti (Rs.169) and the lowest wage is reported in Nallur (Rs.86). It shows the diversification of agricultural and horticultural crops and absorption of female labour. Nowadays, skilled laborers work on a contract basis. Introduction of modern technology in agricultural sector, specifically mechanization, has sizably reduced the absorption of female labour force in agriculture.

Table 6.3: Agricultural Wages Rate

S. No	Block / District	Female Agri. Wage rate in Rupees
1	Annagramam	142
2	Cuddalore	150
3	Kammapuram	91
4	Kattumannarkoil	100
5	Keerapalayam	150
6	Kumaratchi	100
7	Kurinjipadi	93
8	Mangalore	100
9	Melbhuvanagiri	150
10	Nallur	86
11	Panruti	169
12	Parangipettai	150
13	Virudhachalam	90
	District	116

Source: Department of Statistics, Cuddalore, 2014.

Women in Assembly and Local Bodies in 2011

Table 6.4 gives the details of gender wise participation of the people of Cuddalore district in democratic institutions namely Assembly and Local bodies. On an average, 38.38% of women are partaking in political activities as representatives of the people of the district. The highest level of participation is recorded in Melbhuvanagiri block (43.16%).

Table 6.4: Membership in State Assembly and Local Bodies

S. No	Block / District	Elected Representative in ULB/RLB				
		Total No. of Elected Representatives	No. of Elected Representative		% of Elected Representative	
			Male	Female	Male	Female
1	Annagramam	467	284	183	60.81	39.19
2	Cuddalore	569	345	224	60.63	39.37
3	Kammapuram	506	322	184	63.64	36.36
4	Kattumannarkoil	485	285	200	58.76	41.24
5	Keerapalayam	549	331	218	60.29	39.71
6	Kumaratchi	487	288	199	59.14	40.86
7	Kurinjipadi	543	333	210	61.33	38.67
8	Mangalore	567	377	190	66.49	33.51
9	Melbhuvanagiri	424	241	183	56.84	43.16
10	Nallur	538	312	226	57.99	42.01
11	Panruti	464	304	160	65.52	34.48
12	Parangipettai	402	253	149	62.94	37.06
13	Virudhachalam	486	322	164	66.26	33.74
	District	6,487	3,997	2,490	61.62	38.38

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

Conclusion

The gender analysis of the chapter gives an outline of gender development in the district. There is not much difference between the State and district in the proportion of female population and Female Literacy Rate. The district has unique feature of high concentration of SC population and high proportion of female workforce in the agricultural sector. The gender inequality index reveals that there is no significant difference in terms of health, empowerment, and labour market. Further, the State and district Administration have introduced various women centered development programmes for promoting women to participate in socio-economic and political life. Besides, both central and state governments have introduced various social security schemes aiming to avoid risks in their life.

CHAPTER 7

SOCIAL SECURITY

Chapter
7
Social Security

Introduction

This chapter gives protecting the vulnerability and preventing vulnerability. Social security is available only to those who are employed in the organized sector (less than 10 percent of India's workforce). However, with increasing migration, urbanization, and demographic changes, there has been a decrease in large family units. This is where the formal system of social security gains importance. The State bears the primary responsibility for developing appropriate system for providing protection and assistance to its workforce. Social security is increasingly viewed as an integral part of the development process. It helps in creating a more positive attitude to the challenges of globalization and the consequent structural and technological changes.

Available resources are used to meet daily consumption needs. Even at slightly higher income levels, there is likely to be little demand for savings and pension instruments that require a commitment of several decades. The absolute poor cannot be expected to participate in long term savings schemes for old age and they do not. The poverty in rural areas for older persons is increasing and needs attention.

The problems of women are exacerbated by a lifetime of gender based discrimination. It is compounded by other forms of discrimination based on class, caste, disability, illiteracy, unemployment, and marital status.

Demographic profile of the Aged

Table 7.1 gives the outline of the aged population living in the district. Of the total population of 26.05 lakhs, 9.38 percent of the population is aged (2,44,347). It is interesting to note that the sex ratio of the aged people more are less is equal. The number of aged males are 1,21,771 and aged females are 1,22,576. Age group of five years after sixty and their proportion show a diminishing one, starting from 3.49 (60-64 age group) to 0.88 in the 80+ category. It reveals that the life span of

the people of the district is gradually going down and it is attributed to economic and non-economic features.

Table 7.1: Demographic Profile of Aged

Age-group	Population in Age - Groups			Proportion of Population in Age - Group		
	Person	Male	Female	Person	Male	Female
60-64	90,878	45,076	45,802	3.49	1.85	1.64
65-69	59,705	28,921	30,784	2.29	1.21	1.08
70-74	45,873	23,314	22,559	1.76	0.93	0.83
75-79	21,817	11,508	10,309	0.84	0.44	0.4
80+	22,857	11,426	11,431	0.88	0.46	0.42
Age not stated	3,217	1,526	1,691	0.12	0.07	0.06
All	2,44,347	1,21,771	1,22,576	9.38	4.96	4.43
Total Population	26,05,914	13,11,697	12,94,217	100	50.33	49.67

Source: Census of India 2011.

Note: Proportions are worked out to the respective total population of the district.

Box 7.1: Dr. Muthulakshmi Reddy Maternity Benefit Scheme

The objective of the case study is to examine the ongoing scheme Dr. Muthulakshmi Reddy Maternity Benefit scheme implemented in the district and its impact on beneficiary households. This case has been developed by way of making an interaction by the study team with the beneficiary household. Divya is 23 year old, a resident of Thiruvetkalam of Kumaratchi Block in Cuddalore District. She is very poor, and she has two female children. Her husband works in a private company as a clerk with poor salary. They found it very difficult to run the family. She first delivered a female child on 10-6-2010 and a second child on 20-02-2014 in the Government Hospital. She received the benefit of Rs.12,000 for each child. They realized that the scheme was very much helpful in the needy hours. It is learnt that most of the deliveries registered in the Government Hospitals are due to the novel maternity scheme introduced by the Government of Tamil Nadu. Sometimes, the critical cases are transferred to the Raja Muthiah Medical College Hospital, Chidambaram from nearby PHCs. At RMMCH they are entitled to claim just Rs. 4000/- only, and the people consider that as a major drawback. Recently, the State Government has issued a new GO stating that the deliveries in RMMCH also are entitled to claim the maximum of Rs. 12,000/-, and now the beneficiaries are very happy about this order. The perception of VHN is that the women have to use this money compulsorily for their health instead of diverting for some other needs.

Box 7.2: CARE's Livelihood Programmes: Insuring Lives and Livelihoods

The objective of the programme is to provide insurances to the population who live in vulnerable areas of the district. This district has been witnessed with various types of natural disasters. This case has been formed from the activities of CARE non-government organization. In India, majority of the population employed in the informal economy has no formal social protection measures. In the absence of these, poor households remain exposed to both fatal and non-fatal shocks causing severe setbacks in their efforts to overcome poverty. Recognizing this vulnerable group posts 2004 Tsunami, CARE launched *Insure Lives and Livelihood*, a post disaster risk reduction initiative set up with the support of Allianz SE. The programme aims to transform poor households' attitude towards risks by helping them recognize insurance services as an effective risk management tool, thus preparing them to anticipate and cope with a variety of risk events.

Diverse risk needs of the poor, affordability of premiums and expensive distribution points keep insurers away from reaching out to the poor. On the other hand, insufficient product related information, complex product conditions, and elongated claim settlement periods make insurance unattractive to the poor. ILAL bridges this gap. It helps the insurer set up effective, low value and dependable distribution points for the poor. Simultaneously, it promotes acceptance of insurance services among them by increasing their understanding of basic insurance principles and practices. Challenging conventional insurance practices have been the hallmark of CARE's engagement in micro insurance space. CARE tested three ideas to make insurance services available: a life insurance scheme for persons living with HIV and AIDS, a health cover for pre-existing illness and index based weather insurance solution for salt pans. Products distributed through CARE's NGO partners address eight basic risks including death, total and partial disability, accident related treatment, accidental death, wage loss, funeral expenses, educational grant support for school going children, out of pocket expenses arising out of inpatient treatment, and cover for household property against natural disaster.

In 2008, when cyclone Nisha caused widespread damages to the dwelling units of poor people in Nagapattinam and Cuddalore districts, a participative damage assessment process was established to settle claims worth Rs. 4.3 crore to over 14,300 households. This was one of the largest single claim events in the history of micro insurance industry. CARE has been widely acknowledged for its efforts to make insurance practices more inclusive. The myth that insurance is only for the rich has now been exploded.

Financial Security

The Government of Tamil Nadu is implementing the following Pension schemes, through Revenue Department, to provide social security to the old aged / destitute persons in the State who neither have any means of subsistence nor any relative to support them.

i) Old Age Pension (Normal) Scheme

Under this scheme, pension in granted to all old aged persons who neither have any means of subsistence nor any relative to support them and is 65 years and above (60 years in case of destitute, who are incapacitated to earn their livelihood due to blindness, leprosy, insanity, paralysis or loss of limb).

ii) Destitute Physically Handicapped Pension Scheme

Physically handicapped destitute persons aged 45 years and above whose permanent disability is 50 per cent or more are eligible for this pension. Patients suffering from Leprosy are also covered by this scheme. Entire expenditure under this scheme is borne by the State Government.

iii) Destitute Widows Pension Scheme

Destitute widows of any age who have not remarried are benefitted under this scheme even if they have legal heirs aged 18 years and above. Other conditions applicable to Old Age Pension (Normal) scheme are applicable to this scheme also. An amount of Rs.400/- is paid as pension under this scheme. Entire expenditure under this scheme is borne by the State Government.

iv) Destitute Agricultural Labourers Pension Scheme

This scheme covers Destitute Agricultural Labourers aged 60 years and above. Conditions applicable to Old Age Pension (Normal) scheme are applicable to this scheme also. An amount of Rs.400/- per month is paid as pension under this scheme. Entire expenditure under this scheme is borne by the State Government.

v) Destitute/Deserted wives Pension Scheme

The scheme of Old Age Pension has been extended to benefit deserted wives / destitute women who are not less than 30 years of age and who are deserted by their husbands for a period of not less than five years / obtained legal separation certificate from competent court of law. Deserted wives having legal heirs who have completed 18 years of age are also eligible for pension under this scheme. Entire expenditure under this scheme is borne by the State Government.

Table 7.2 gives information about the coverage of the OAP, destitute widows, and disabled people by the various social security schemes. Around 68 % of this population has been covered by these

schemes. However, this scheme can be extended further to cover the uncovered eligible aged population to achieve 100 %.

Table 7.2: Financial Assistance to Old Age People

S. No	Category of Scheme	Number of people assisted 2013-14		
		OT	SC	Total
1	Old Age Pension	44,233	18,433	62,666
2	Widow Pension Scheme	17,759	8,030	25,789
3	Disability Pension Scheme	3,062	1,399	4,461
4	Differently Abled Pension	4,310	1,772	6,082
5	Destitute/Deserted Wives Pension	1,131	287	1,418
6	Destitute Widow Pension	7,256	2,541	9,797
7	Unmarried Women Pension	327	62	389
8	Chief Minister's Uzhavar Pathukappu Thittam-OAP	3,322	931	4,253
	Total	81,400	33,455	1,14,855

Source: Special Deputy Collector (SSS), Cuddalore, 2014.

Financial Assistance Provided to Destitute Widows

It can be said that there is no group more affected by the sin of omission than widows. They are painfully absent from the statistics of many developing countries, and they are rarely mentioned in the multitude of reports on women's poverty, development, health or human rights published in the last twenty-five years.

Table 7.3: Assistance to Destitute Widows and Destitute Deserted Wives

S. No	Block / District	No. of Destitute Widows		Total Financial Assistance Provided		No. of Destitute Deserted Wives		Total Financial Assistance Provided	
		2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14
1	Annagramam	2	11	6,620	3,25,000	1	17	3,310	85,170
2	Cuddalore	16	15	52,960	4,50,000	3	47	9,930	2,35,470
3	Kammapuram	2	5	6,620	1,25,000	1	0	3,310	0
4	Kattumannarkoil	7	7	23,170	1,75,000	0	15	0	75,150
5	Keerapalayam	6	9	19,860	2,25,000	3	33	9,930	1,65,330
6	Kumaratchi	2	5	6,620	1,25,000	0	0	0	0
7	Kurinjipadi	3	15	9,930	4,75,000	1	6	3,310	30,060
8	Mangalore	0	5	0	1,25,000	0	6	0	30,060
9	Melbhuvanagiri	7	9	23,170	2,25,000	2	16	6,620	80,160
10	Nallur	3	4	9,930	1,00,000	4	5	13,240	25,050
11	Panruti	3	11	9,930	2,75,000	2	10	6,620	50,100
12	Parangipettai	1	7	3,310	1,75,000	1	4	3,310	20,040
13	Virudhachalam	6	10	19,860	3,00,000	2	16	4,620	80,160
	District	58	113	1,91,980	31,00,000	20	175	64,200	8,76,750

Source: Department of Statistics, Cuddalore, 2014.

Table 7.3 gives an account of financial assistance provided to destitute widows and destitute deserted wives during 2012-14 in Cuddalore district. In the context of destitute widows, the number has increased from 58 in 2012-13 to 113 in 2-13-14 and there by the financial assistance too has increased from Rs. 1,91,980 to Rs. 31,00,000. In the case of destitute deserted wives, the number has increased from 20 to 175 during 2012-13 and 2013-14. And the government has provided assistance to them Rs.64,200 in 2012-13 and Rs.8,76,750 in 2013-14. Elderly women and their problems need special attention as their numbers are likely to increase in the future, and given the multiple disadvantages they face in life, they are likely to be grossly unprepared to tackle these issues. The district administration is making strenuous efforts to provide social security to the destitute widows, aged people, and disabled persons of the district.

Differently Abled Persons

Tamil Nadu has always been a pioneer in the implementation of welfare schemes for all sections of socially disadvantaged groups. In order to provide effective rehabilitation services, a comprehensive State policy for the welfare of the Differently Abled Persons has been formulated. Awareness is being created among the public to accept them as natural partners of growth and provide them access to various services and equal participation in social life to create an inclusive society.

Table 7.4: Assistance to Differently Abled (Rs. in lakh)

S. No	Name of the Scheme	Achievement	
		Physical	Financial
1	Early Intervention centre for Hearing impaired	20	2.74
2	Early Intervention centre for Visually impaired	20	3.14
3	Muscular Dystrophy Monthly Maintenance Grant	45	7.65
4	Self-Employment Subsidy (Bank Loan)	40	4.00
5	Feeding Grant(Special school for ortho handicapped)	24	1.56
6	Feeding Grant(Special school for hearing impaired)	119	7.73
7	Leprosy Cured Monthly Maintenance Grant	110	13.2
8	Free Bus pass	471	32.25
9	Scholarship for Students	576	21.65
10	Severely Disabled-Monthly Maintenance Grant	372	66.96
11	Early Intervention centre for Mentally Retarded	50	6.84
12	Mentally Retarded-Monthly maintenance grant	4312	77.61
13	Other schemes	3059	884.39
	Total	9218	1129.72

Source: District Differently Abled Welfare Office, Cuddalore, 2015.

Various policies and initiatives have been extended to give full support to the Differently Abled Persons in their pursuit of full and equal involvement in every aspect of society. Scheme wise achievements are given in Table 7.4. Assistances for differently abled persons of 9,218 received the quantum of benefits of Rs.1129.72 lakhs during 2015 in Cuddalore district. The number of beneficiaries is very high in mentally retarded cases and they received the benefits of Rs.77.61 lakhs. At the next level, benefits were provided to the Severely Disabled and the expenditure is Rs.66.96 lakhs. It shows that the cases of mental retardation are very high in the district. Since the district has afflicted with mental illnesses, the district administration may concentrate on both preventive as well as curative aspects to control the same.

Crime against Women

The semantic meaning of crime against women is direct or indirect physical or mental cruelty to women. Although women may be victims of any of the general crimes such as murder, robbery, cheating etc., only the crimes which are directed specifically against women are characterized as crimes against women. Table 7.5 shows the number of complaints registered during 2012-14 under various categories. In total, 129 cases were registered in the district during 2014. Of these, kidnapping and abduction are very high (68) followed by cruelty by husbands and relatives (39). This shows that crimes against women prevail in the district.

Table 7.5: Crime against Women

S. No	Category	No. of cases - 2012	No. of cases - 2013	No. of cases - 2014
1	Rape	41	36	14
2	Dowry Deaths	8	6	5
3	Molestation	64	8	3
4	Cruelty by Husband and relatives.	63	64	39
5	Kidnapping and Abduction	124	48	68
	Total	300	162	129

Source: Superintendent of Police, Cuddalore, 2014.

Box 7.3: Marriage and Maternity Assistance Programme

The empowerment of women has been recognized as the central issue in determining the status of women. The traditional programmes of women's welfare undertaken by the Tamil Nadu Government have been mostly at the level of social assistance, such as pension for widows, marriage grants etc. Under marriage assistance scheme, four grams of gold for making thali (mangalsutra) are given free to the couple with Rs.25,000 only for educated poor women. Table shows that 100% coverage in terms of marriage and maternity assistance has been achieved in all the blocks of the district. The financial assistance under the Dr. Muthulakshmi Reddy Maternity Benefit Scheme for the poor pregnant women was enhanced from Rs.6,000/- to Rs. 12,000/-(Rupees twelve thousand only) with effect from 01.06.2011. The cash assistance under the scheme will be given in three installments on conditional basis and restricted for two deliveries. The first installment of Rs.4000/- will be given to every pregnant women, who avails all required health services during the 7th month of pregnancy. The second installment of Rs.4000/- will be given to the mother after delivery who delivers in the government / local body institution. The third installment of Rs. 4000/- will be given to the mother on completion of third dose of DPT, Hepatitis, and Polio/Pentavalent.

Marriage and Maternity Assistance Provided to Women

S. No	Category	No. of women assisted		Coverage	Percentage
		2012-13	2013-14		
1	Marriage Assistance	6,492	5,326	All 13 Blocks	100
2	Maternity Assistance	35,296	20,815	All 13 Blocks	100

YEAR	No of Beneficiaries	Allotment (Rs. in Crore)	Utilized (Rs.in Crore)	Percentage
2013-14	26,924	27.13	26.82	99
2014-15	28,554	28.36	28.36	100

Source: Department of Statistics, Cuddalore, 2014.

AN & PN Care

Antenatal women are enrolled immediately once known as pregnant and services are provided. Weight monitoring is done regularly every month at Anganwadi Centres. Constant house visits and mothers meeting are conducted at AWC's. Post natal women are counselled for initiation of breastfeeding, exclusive breast feeding for 6 months positioning of babies and immunization. Weight monitoring of new-borns are done immediately after birth. During the first month, after birth, weighing is monitored 5 times (Birth weight, and every 7th day after birth).

IGMSY

Under Indira Gandhi Matritva Sahyog Yojana (IGMSY) a cash incentive of Rs.12,000/- will be provided directly to women 19 years and above for the first two live births subject to the woman fulfilling specific conditions relating to maternal child health and nutrition. The amount is given contributed as Rs.6000/- from Social Welfare and Rs.6000/- from Health Department. Cash incentive is provided in three installments, between the second trimesters of pregnancy till the infant completes 6 months of age. Women enrolled under IGMSY will be encouraged to avail JSY (Janani Suraksha Yojana) package also for institutional delivery and vice-versa. However, there is no cash incentive under IGMSY at the time of delivery since cash incentive for this is already provided under JSY. Separate registers are maintained in the AWC's to monitor the beneficiaries.

Samudhaya Vallaikappu

Valaikappu is an important traditional ritual conducted at the pregnant woman's mother's home during the odd pregnancy months of seventh or ninth. Samudhaya vallaikappu is celebrated throughout the district in all blocks. In this ritual, five varieties of rice such as sweet pongal, coconut, tamarind, lemon and curd rice are provided. At the Valaikappu medical Support are provided by medical officers as to precautions and special care to be taken during pregnancy. Also details on government schemes and benefits for antenatal, postnatal women and children. Knowledge of Colostrum feeding exclusive breastfeeding and child care & Nutrition Practices are taught them for their benefits of both pregnant women and infant. In Cuddalore district it was conducted during 2012-13 and 2013-14. In total 2,130 and 3,550 pregnant women were benefitted during the period respectively.

Conclusion

In the light of the facts discussed above, it could be concluded that a significant proportion of aged population live in the district and men and women are in equal proportion. It is observed that the family system has been changed from joint family to nuclear family, tries to exclude the aged population. In realizing the importance, the governments have introduced various financial security schemes for the aged. These schemes help the aged people to live independently and meet their immediate needs. The role of destitute widows and destitute deserted widows' financial assistance scheme benefits is remarkable in the district and all the targeted groups have been benefitted. In the process of wiping out caste and communal discrimination, inter-caste marriage scheme have been introduced and significant number of people benefitted from this scheme. Similarly, maternity assistance is provided to all the targeted population. However, the crimes against women are still high in the district. Crimes and women development are moving together in the district. This can be controlled with better infrastructure. Overall infrastructural development is essential for enhancing the status of human development in the district. The district's infrastructure is analyzed in the next chapter.

CHAPTER 8

INFRASTRUCTURE

Chapter
8
Infrastructure

Introduction

This chapter presents the infrastructural facilities available in the district, and it examines their contribution to human development. Infrastructure plays a crucial role in promoting economic growth and thereby contributes to the reduction of economic disparities, poverty, and deprivations. Greater access by the poor to education and health services, water and sanitation, road network, and electricity is needed to bring equitable development and social empowerment. The provision of quality and efficient infrastructure services is essential to realize the full potential of the growth impulses surging through the economy.

Social Infrastructure has received increasing attention of the planners and policy-makers when basic needs appeared in the measurement of development. The need to provide basic amenities of life has now become essential to improve delivery of services. This view has been recorded in the IGIDR report (2002). It highlights that human development is associated with knowledge, health, clean drinking water, sanitation, and shelter. Social infrastructure is critical for human development as physical infrastructure. The term "Social infrastructure" is used to include those facilities, which tend to improve the quality of human life. It is therefore, an umbrella term that covers all basic investment in health, education, drinking water supply, disease eradication, public hygiene, nutrition etc. There is a positive relationship between human development and infrastructural development and economic development. The physical infrastructure consists of power, transport (roads, railways, aviation, waterways, and ports), telecommunications, irrigation, and water supply. They are also known as economic infrastructure as they directly or indirectly contribute to productivity.

Roads

Table 8.1 shows the distribution of different types of roads in Cuddalore district. In Cuddalore district 6581.51km roads have been laid so far. They include 1535.08km MUD road, 975.08km WBM road, 3579.74km BT road, and 491.58km of CC roads. These road infrastructures have been created over the years through various schemes on the basis of demand. However, the quality and

durability of roads differ significantly. Road infrastructure may be created through PPP model for having better quality and durability.

Table 8.1: Distribution of Roads Types and Road Length

S. No	Block / District	Total Road Length	MUD	WBM	BT	CC
1	Annagramam	295.073	31.780	21.698	187.384	54.211
2	Cuddalore	616.007	100.327	62.749	367.562	85.369
3	Kammapuram	385.702	61.520	55.295	256.172	12.715
4	Kattumannarkoil	617.297	74.171	121.438	393.882	27.806
5	Keerapalayam	395.324	39.401	28.527	299.045	28.351
6	Kumaratchi	461.652	64.269	30.567	315.188	51.628
7	Kurinjipadi	593.679	99.312	94.052	359.795	40.520
8	Mangalore	881.807	467.309	91.959	311.944	10.595
9	Melbhuvanagiri	238.053	10.580	72.847	147.061	7.565
10	Nallur	587.680	273.165	112.590	194.171	7.754
11	Panruti	446.284	62.152	100.991	209.858	73.283
12	Parangipettai	478.054	80.068	76.663	266.088	55.235
13	Virudhachalam	584.901	171.035	105.713	271.597	36.556
	District	6581.513	1535.089	975.089	3579.747	491.588

Source: Executive Engineer DRDA, Cuddalore, 2014.

Electricity

Tamil Nadu Electricity Board is providing power supply services to the domestic, commercial, agricultural, and industrial activities. Their contribution in improving the economy of the State of Tamil Nadu by extensive electrification of the villages has been well recognized. Further, it is observed that the Government has extended free supply of electricity to the huts. In view of the increasing demand and increasing loads, the Government can find alternative source of energy and take appropriate steps to control power theft and transmission loss. The thermal power generated by the district is 16242.43MU, and 38.3MU is purchased from outside to meet the consumption needs of various sectors namely agriculture, industry, apart from public lighting, domestic, and commercial consumption. Rural Electrification is rigorously carried out to support the Agriculture Sector. Table 8.2 portrays the status of electrification on possession of electricity connection among the villages, hamlets, towns and street lights in Cuddalore district. There are 898 revenue villages in the district. These villages are provided with electricity for the use of domestic, commercial and agriculture. Apart from routine commercial services, they also provide street light and free electricity to the huts. In total, there are 1,35,730 street lights functioning in the district. Of these, the numbers are more

than 10,000 in the blocks of Cuddalore (22,777), Kurinjipadi (16,209), Panruti (12,775), and Parangipettai (11,406). It is observed that the intensity of street lights is in relation to the level of economic activities and density of population.

Table 8.2: Status of Electrification in Cuddalore district

Sl. No	Block /District	Revenue Village	Hamlets	Towns	No.of street lights
1	Annagramam	55	273	3	8,615
2	Cuddalore	77	429	1	22,777
3	Kammapuram	66	298	1	7,972
4	Kattumannarkoil	76	338	2	7,574
5	Keerapalayam	77	258	1	9,144
6	Kumaratchi	89	351	2	9,782
7	Kurinjipadi	71	487	2	16,209
8	Mangalore	85	243	1	6,341
9	Melbhuvanagiri	55	201	2	6,446
10	Nallur	77	248	1	7,626
11	Panruti	44	304	1	12,775
12	Parangipettai	57	243	2	11,406
13	Virudhachalam	69	238	2	9,063
	District Total	898	3,911	21	1,35,730

Source: Department of Statistics, Cuddalore, 2014.

Of the total number of households 94 per cent have electricity connections. It is inclusive of free hut services. Among the blocks, there is not much variation in accessing electricity. The maximum and minimum proportions varied between 96 and 92 per cent (Appendix I: Table 1.1). It reveals that some of the marginalized population could not enjoy the electricity services in the district. The reasons may be explored by way of making an in-depth study to address the issues.

Communication System

Table 8.3 gives the number of telecommunication services that exist in the Cuddalore district. In total, there are 1,885 PCOs in Cuddalore district. The total number of landline connections in the district is 39,176. The total number of mobile phone towers in the district is recorded as 192. Out of that, 60 towers are located in rural areas and 24 towers are located in urban areas. There are 63 telephone exchanges in Cuddalore district. Of these, 48 exchanges are located in rural areas and 15 exchanges are available in urban areas. These statistics do not cover the private mobile services provided.

Table 8.3: Telecommunication System in Cuddalore district

S. No	Block / District	No. of Tel. Exchanges	No. of PCOs	No. of Land Lines	Number of Mobile Phone Towers
1	Annagramam	5	111	1,586	10
2	Cuddalore	9	444	10,306	46
3	Kammapuram	4	91	2,565	15
4	Kattumannarkoil	4	128	1,751	10
5	Keerapalayam	5	227	3,886	20
6	Kumaratchi	3	55	966	4
7	Kurinjipadi	7	148	6,988	20
8	Mangalore	5	126	1,852	11
9	Melbhuvanagiri	3	90	1,093	8
10	Nallur	2	78	956	11
11	Panruti	5	135	2,415	14
12	Parangipettai	5	90	1,550	7
13	Virudhachalam	6	162	3,262	16
	District	63	1,885	39,176	192

Source: General Manager (CFA) BSNL, Cuddalore 2014.

Financial Institutions

As member based, member controlled social and economic organizations, cooperatives can, and often do, provide various forms of social protection. Savings and Credit Cooperative Societies (SACCOS) provide affordable loans to their members, who would otherwise have no access to credit from private financial institutions. Such loan is used to start small enterprises, house construction and payment of school fees, agricultural production to buy household goods and also to cover medical expenses. Cooperative banks provide loans to cooperative enterprises. Such loans enable the borrowing cooperatives expand their enterprises which in turn benefit their members. Such banks also support special programmes for cooperative members and their communities. Most farmers' cooperative societies provide farm inputs on credit which include implements, seeds, fertilizers, pesticides, packing and building materials, hiring of farm machinery. The money is repaid when the farmer-member sells his crop through the cooperative. Insurance cooperatives provide protection to members and their property. They also provide cover for the members' assets in the cooperative society. Many savings and credit cooperatives provide loan protection cover. Cooperative micro insurance is becoming increasingly common. Data on co-operative banks and other financial institutions present in Cuddalore district is given in Table 8.4. There are 167 co-operative banks in Cuddalore district and the total members of the societies are recorded as 5.00 lakhs. Among the blocks, Parangipettai has less number of co-operative societies in the district.

Table 8.4: Commercial and Cooperative Banks in Cuddalore district

S. No	Block / District	No. of Co-operative Societies	No.of Members	Commercial Banks	No. of Account Holders
1	Annagramam	13	41,789	8	23,600
2	Cuddalore	17	46,943	34	1,03,910
3	Kammapuram	10	34,388	15	30,800
4	Kattumannarkoil	10	24,055	5	18,740
5	Keerapalayam	14	41,580	8	25,704
6	Kumaratchi	14	26,010	22	87,516
7	Kurinjipadi	17	47,890	10	28,165
8	Mangalore	14	40,172	9	21,333
9	Melbhuvanagiri	11	32,675	6	22,452
10	Nallur	13	30,551	9	22,697
11	Panruti	14	47,290	16	60,623
12	Parangipettai	8	23,760	6	17,820
13	Virudhachalam	12	62,971	10	40,275
	District	167	5,00,074	158	5,03,635

Source: Joint Registrar, Co-operative Societies, Cuddalore 2014.

As far as commercial banks are concerned, there are 158 branches in Cuddalore district, and these banks have 5.03 lakhs account holders. Among the blocks, Mangalore (9), Nallur (9), Annagramam (8), Keerapalayam (8), Melbhuvanagiri (6), Parangipettai (6) and Kattumannarkoil (5), have comparatively few branches in Cuddalore district. It is observed from the table that Nallur and Parangipettai blocks are having less number of branches in co-operatives as well as commercial banks in the district.

Insurance

The details of insurance agencies functioning in Cuddalore district are given in Table 8.5. Five branches of Life Insurance Corporation are located in urban municipalities.10.9 lakhs policies are issued to the clients by Life Insurance Corporation of India. Further, LIC is the single largest insurance in India and it also serves more people in the district. Apart from LIC, other private and public sector insurances companies are functioning in the districts and provide services to the people.

Table 8.5: Insurance and other agencies in Cuddalore district

S. No.	Name of the companies	No. of Branches	Polices Issued
1	LIC OF INDIA	5	10,91,873
District		5	10,91,873

Source: LIC of India, Cuddalore 2014.

Box 8.1: Habitation Vulnerability Assessment Framework for Coastal Hazards

The aim of the case study is to draw a comprehensive vulnerability framework combining Geo-Physical–Natural factors with Socio-Economic-Institutional factors responsible for causing vulnerability at habitation levels and to construct Composite Vulnerability Index (CVI) and dimensional indices. A study was undertaken by the Agro Climate Research Centre, Tamil Nadu Agricultural University and Coimbatore in the coastal zone of Cuddalore district. Despite being vulnerable to natural hazards, the coastal regions are densely populated due to developmental opportunities. Therefore, more than 25 crores people live within 50 km of the coastline to reap the benefits of the coastal ecosystem, and their life and livelihood are exposed to the threats of weather hazards. The magnitude and risk of disasters are directly proportional to the sensitivity and inversely proportional to the degree of resilience of the exposed community. To mitigate the ill effects of hazards, a thorough understanding of the vulnerability causing factors and coping capabilities is required for which vulnerability analysis is essential.

CVI of 17 habitations in study area was developed on a scale of "one" to "five" by considering nine broad dimensions of vulnerability viz., geographic, demographic, institutional, natural, social, safety infrastructure, physical, livelihood, and economic, each expressed by five indicators, using a total of seventy five variables of vulnerability, with weightage of 22.20%, 13.19%, 13.34%, 13.35%, 9.20%, 6.24%,5.89%, 9.83% and 6.77% respectively, arrived through Analytic Hierarchy Process (AHP). The results indicated that two habitations viz. Samiyarpettai (3.18) and C. Pudupettai (3.10) have CVI in acutely vulnerable (level 3-CVI between 3 and 4) category, and rest of the 15 habitations are in the highly vulnerable (level 2-CVI between 2 and 3) category. CVI construction enables the policy makers to devise a suitable strategy for vulnerability reduction.

The habitation vulnerability mapping provides information for prioritisation of the vulnerability dimensions and is a very useful tool for developing effective policy to reduce vulnerability at habitation level. It is not the intensity of natural hazards but the degree of vulnerability, i.e., sensitivity and resilience of the exposed population, which decides the magnitude and risk of coastal disasters caused by natural hazards. Construction of vulnerability index has many advantages. An index provides a qualitative rating that helps to prioritise key issues that need to be addressed. Index construction enhances the analysis of subjective traits, and it is useful in summarizing and communicating the vulnerability assessment results to decision makers and stakeholders. An important finding of the study is that the communities, particularly the village elders, have traditional wisdom to predict and foretell about an imminent hazard and may also suggest the way for evacuation. Another significant finding of the study is that a top down approach by the administration to draw up disaster management plan does not fully serve the purpose. The local community needs to be involved at every stage from the very beginning in developing a disaster management plan. Appropriate land use planning and proper management of available resources play a critical role in reducing risks.

Transport Facilities: Public transport facilities available in district for the movement of Men and material

A good, safe and sustainable transport system is fundamental to the well-being of every citizen. It is essential for the economic growth, and in general, for enhancing human development. Road is the primary means of transport for the people of the district of Cuddalore. Road transport services are also being used by the people for employment, educational, and health care.

Cuddalore is connected to other parts of Tamil Nadu through a very good Rail and Road Network. National Highways cover 183.738 kms. National Highway NH45A links Viluppuram and Nagapattinam districts, NH45C links Villupuram and Thanjavur districts, and NH227 connects the district with Trichy district. The State Highways SH-9, SH-10, SH-24, SH-68, SH-70, SH-138, SH-140, SH-141, SH-143, SH-213, and SH-214 link the various parts of the districts with the nearby urban areas and they cover 1671.024 kms. Three railway lines are diverging from Cuddalore junction, connecting 27 Railway stations of the State. One goes to Villupuram and Chennai; one goes to Mayiladuthurai and Tiruchirappalli and another goes to Virudhachalam and Salem. The length of the broad gauge lines is 107 kms. Cuddalore district has one sea port. Import of crude oil is done via this port.

Box 8.2: Water Crisis in NLC Mining-hit Villages

The objective of the case study is to scale up the NLC's corporate social responsibilty activities in the district. The existing CSR activities are not sufficient to meet the basic needs of drinking water. Every household living in and around NLC region feels that the level of ground water table is going down drastically over the years due to mining activities. The study team had interaction with the elected representatives of panchayat villages and recorded the views. A meeting of Panchayat Presidents of 53 villages, which were affected by the NLC's mining operations, was held at the Cuddalore Collector's Camp Office. They discussed the drinking water problem and also to improve the ground water-level. The meeting was presided over by Mr.Devenathan, Assistant's Director (Panchayat) of Rural Development Deportment. At the meeting, Panchayat Presidents lamented over the drinking water scarcity in their villages because of failure of bore wells due to mining activities.

The idea of desilting of important water bodies in the villages with the assistance of the NLC was mooted by the village panchayat presidents at the meeting. The President of Vadakuthu Village Panchayat K.Jagan said, "Borewells in our village have become dysfunctional due to explosives used in the mines of NLC. Because of the explosives, the borewells get shaken. As a consequence, the drinking water supply had been affected many times. The fund allotted to the Village Panchayat Administration is insufficient to repair the borewells and normalize water

supply." The President of Keezhur village panchayat, M Arul Murugan said, "There is a 159-acre-lake called Cholan Lake at Pancharapalayam. If the lake is desilted with the use of the NLC's CSR fund, nearly 1 village will see improved ground water facilities. About 340 hectares of agricultural lands will get water from this land." Most Village Panchayat Presidents suggested that NLC should carry out desilting work in important water bodies, which means that rain water harvesting, should be done on a larger scale. Devanathan said tripartite meeting compressing NLC officials, panchayat presidents of these 53 villages, and the district administration would be held soon and suggestions would be sent to the NLC before it decides the fund allocation under CSR programme.

Major ports

Cuddalore port is an open roadstead (anchorage) port situated at the confluence of the rivers Uppanar and Paravanar in the east coast of Tamil Nadu in the Bay of Bengal. Ships anchor at the open sea at the available depth, loading and unloading of cargo take place by means of Lighters/Steel Barges. The anchorage has 8-10m depth available at the distance of 0.5 nautical mile. The port is rehabilitated at a cost of Rs.12 crores and undertook works such as strengthening the wharf, erection of high mast lights, dredging of Uppanar river from Nose Point to Jetty and re-laying of RCC approach road. All renovation works have been completed and the port is ready to handle all types of cargo. It is proposed to develop this port on PPP mode. This port is situated at the confluence of the Rivers Uppanar and Paravanar. As part of the rehabilitation work, the dredging of Uppanar river has been just completed at a cost of Rs. 4 crores resulting in sufficient depth available for barge navigation from Nose point to Jetty. The depth available at the port entrance is about 2.5-3 metres at low tide time. About 4 m depth is available at the wharf.

At this port ships anchor in mid-stream at a distance of about a mile from the shore, cargo is loaded and discharged through lighters. The following port facilities are available at the port: Wharves, Stacking area, Cargo sheds, Dry Dock and Weigh Bridge. Light house and VHF are functioning at the port for navigational aids. Tamil Nadu Petro Products Limited have constructed a chemical storage terminal at the port for import of propylene. The Government of Tamil Nadu has decided to develop this port through private sector participation.

Irrigation channel

Cuddalore district is at the tail end of the Cauvery delta region. Parts of the district get water from the irrigation canals that bring water from Mettur dam. Ground water from Neyveli mines provides coverage. According to a rough estimate, 60% of the farms are dependent solely on rainfall, and the rest have access to irrigation/groundwater pumps. In Cuddalore district, 593 tanks, 270 canals, and one major reservoir serve as the main source of irrigation. Wellington reservoir is the major reservoir in Tittagudi taluk and Veeranam tank is the major irrigation source in Chidambaram and Kattumannarkoil taluks. In Cuddalore taluk Perumal Eri is the major surface irrigation source.

Generally, for agricultural purposes, maximum amount of available water resources are utilized through minor irrigation schemes. The surface flow in the rivers can be observed only during monsoon periods. The deficient monsoon rainfall has affected the flow of surface water into reservoirs, anaicuts, lakes, etc. Hence, under these circumstances, the agriculturists have to totally depend upon an alternative source i.e., ground water to meet their irrigation requirement. The south eastern part of this district comes under Cauvery anaicut, irrigated by the lower anaicut- Vadavur, Veeranam – Perumal tank irrigation system.

Cuddalore has always been classified as a multi-hazard prone district. Cyclones and floods have wreaked havoc in the district several times in the past few centuries. The district also falls within the zone-3 with respect to earthquakes. A part of the problem owes its genesis to the location of the district. The district has a long coastline, and is therefore vulnerable to the cyclonic depressions and the resultant rains which cause floods. The Bay of Bengal experiences severe tropical cyclones during the northeast monsoon (October through December). The cyclone surges are well known for their destructive potential and impact on human activities due to associated strong winds along the coast and heavy rainfall. An added risk factor is that large parts of the coastal zone are low lying and with a gentle slope, resulting in large inundation, and therefore increased vulnerability of the region. Cuddalore district has an area of 3678 Sq. km comprising of extremely fertile and well-irrigated lands benefiting from water draining over fields and through major and minor river systems. The district, however, suffers from flooding when excess water flows down these local rivers and over the fields due to northeast monsoon rains in the river basins and in the district itself. The drainage is poor, and the encroachments over the drought years have led to a scenario where, even rainfalls, which are slightly above normal, can cause floods, disrupting the normal course of work.

Coupled with this is the perennial problem of low water carrying capacity of the lakes and tanks. Desilting of these water bodies involves huge expenditure, and over a period of time, they have been neglected altogether. Along the coast of Tamil Nadu, the Nagapattinam–Cuddalore region experienced the worst impact of the tsunami surge and inundation caused by the Great Sumatra Earthquake of 26 December 2004. Surge heights along this coastal region were of the order of 2–5 m, with inundation distances of many hundreds of metres into the hinterland.

In Cuddalore district, during December 2004, tsunami ranged from 2.5 to 3.3 m with inundation distances between 330 and 1,680m. Subsequently, Cyclone Nisha in 2008 and Cyclone Thane in December 2011 created surge heights between 1 and 1.5m. The devastation caused by the Tsunami has left coastal lands flattened and billions of dollars' worth infrastructure, economic assets, and materials were devastated. According to the official statistics, the proportion of human toll among women was three times more than men in Cuddalore district.

It had severe impact on coastal fishing communities in Cuddalore destroying houses, boats, fishing gear, agricultural land, and salt pans wiping out the livelihoods of millions of people. Cyclonic Storm Thane was the strongest tropical cyclone of 2011 within the North Indian Ocean. Thane made landfall early on December 30, on the north Tamil Nadu coast between Cuddalore and Pondicherry and left at least 39 people dead in Cuddalore district.

Dams, Channels bring drinking water to the district

Cuddalore district is endowed with the following five river basins:

1. Cauvery- coleroon river basin
2. Vellar river basin
3. Manimuthar river basin
4. Pennaiyar river basin and
5. Gadilam river basin

Box 8.3: Revitalizing Water Bodies in Chidambaram Municipal Region

The objective of the case study is to portray the conditions of urban water bodies in the district. These urban water bodies are becoming as waste water collection tanks and create various environmental problems. These problems create additional social and private costs to the society. To analyze the current status of the water bodies of Chidambaram municipal region, water samples were collected by the study team from all 13 tanks of Chidambaram Municipal Region and tested in the Chemical Engineering Department of Annamalai University and the experimental results are shown in table. In Chidambaram Municipal Region, thirteen tanks have been playing a vital role in socio, cultural, economic, and environment development. These tanks were created by our forefathers and managed by the local communities for several centuries. Since many of these tanks and their inlets have not been subjected to periodic desiltation, the surface area of the tanks has come down. Encroachments in the form of small huts initially started to emerge around the water bodies. Gradually, the hut dwellers try to get ownership rights and later use political pressure to continue occupation and to resist eviction. Encroachment of water bodies and their inlets leads to environmental problems because of the dumping of the garbage in water bodies, draining sewage water in to the tanks, construction of buildings and other infrastructure in the water spread area, and encroachment of the water ways. This leads to the extinction of the water bodies, contamination of the water bodies, spreading of the water borne diseases, and threat to aquatic life.

Status of Water Quality of Thirteen Water Tanks during April 2014

S. No	Sample Identification	pH @ 25° C	Chlorides as (mg/l)	Hardness (mg/l)	Sulphate as S04(mg/l)	Electrical Conductivity (millohms/cm)	Total Dissolved Solids (mg/l)	Dissolved Oxygen DO (mg/l)	Turbidity (NTU)	Escherichia coil	C.O.D (mg/l)	T.O.C (mg/l)
Desirable Limit		Min	250	300	200	0.77	500	Min	5	-VE	250	1
Permissible limit		Max	1000	600	400	3.076	2000	Max	10	-VE		150
1	GanaprakasamKulam	7.9	240	204	40	0.94	611	4.2	16.5	-VE	76	16.8
2	OmmaKulam	7.8	84	130	30	0.31	400	5.2	32.4	-VE	4	8.93
3	NagacheryKulam	6.8	80	104	26	0.23	360	4.8	42	-VE	36	11.1
4	DhatcnaKulam	7.4	220	204	32	0.9	585	3.6	34	-VE	44	13.6
5	Easwarankulam	6.45	60	70	42	0.19	200	5.2	82	-VE	92	23
6	AyeaKulam	7.32	260	230	30	0.91	591	4.3	22	-VE	8	30.5
7	VannaKulam	7.32	124	160	22	0.42	373	5	28.2	-VE	24	21
8	Periyannakulam	8.15	328	808	140	2.4	1560	4.2	2.5	-VE	64	74.2
9	Thillaikaliyammankulam	7.15	430	618	110	3.2	2080	3.8	17.5	-VE	64	74.2
10	Anaimathgukulam	7.75	160	188	30	0.33	400	4.1	8.5	-VE	44	12.2
11	ElamaiyakkinarKulam	7.68	140	360	80	0.69	635	3.8	3.5	-VE	24	16.4
12	PalamanKulam	6.98	120	320	60	0.63	610	4.3	18	-VE	28	7.88
13	Kumarankulam	7.1	956	1272	120	4.1	2665	2.8	18.5	-VE	1120	174

Source: Samples and reports generated by the scholars of Annamalai University, 2014.

As the tanks become dry, excessive pumping of ground water takes place, and because of the poor recharging capacity of the ground water, the water table has come down, and the quality of the water also has deteriorated making it non-potable. Further, encroachment of the water ways results in heavy floods during the monsoon time. Of the thirteen tanks, five tanks, namely Periyannakulam, Ganaprakasamkulam, Dhatchankulam, Ommakulam, and Nagacherykulam are very big tanks and are fully encroached. Terraced /tiled houses have also been constructed in the encroached area. Except for Eswarankulum, all the tanks contain hard water, making it unfit for bathing and washing. Further, the turbidity is very high in all the tanks which shield and protect bacteria from the action of disinfecting agents. The PH level is low which reveals that it is unsuitable for fishing. Also, the dissolved oxygen is quite low in all the tanks, indicating the unfavorable conditions for fish to survive. The above facts reveal that this requires serious and immediate action to protect the existing water bodies. Tanks and ponds were created by our forefathers to harvest the rain water and use it efficiently by proper maintenance. These water bodies have high potential for ground water recharge. Improper maintenance and weak encroachment eviction procedures have led to the growth of encroachment and disappearance of water bodies. Eviction related works are delayed due to prolonged legal battles and political pressure. An exclusive department should be established to carry out eviction related works in a timely manner.

Cauvery- Coleroon River Basin

Heavy rain and consequent discharges of surplus water from the dams in cauvery basin of Karnataka state result in over flooding of the basin particularly in the southwest monsoon season. Similarly the local heavy rain during North East Monsoon also causes heavy flooding, in most years. The river Coleroon is the drainage carrier of Cauvery, branching out near upper anicut. The Cuddalore and Nagapattinam districts are directly benefited to an extent of 1,31,799 acres. The lower anicut across the coleroon river in normal course of the year, stagnates a normal flow of water in the river and a part is diverted to Cuddalore district through North Rajan cannal and Vadavar. The Rajan cannal traverses parallel to the Coleroon river to a lagoon of 25 km from lower anicut to the low level than the bed of Coleroon river, irrigating major areas of Kattumannarkoil and Chidambaram taluks.

The Vadavar river traverses from lower anicut 10 miles north ward and ends in the southern tip of Veeranam tank at Lalpet of Kattumanar koil taluk, feeding the whole Veeranam tank. From the northern tip of the Veeranam tank, the water is let in to the Sethaiyathope anicut across Vellar river and the water flows North-ward feeding the Perumal Eri irrigating parts of Chidambaram and Cuddalore taluks. The tanks for irrigation in the Coleroon basin in Cuddalore district are very ancient and constructed in Chola and Pallava periods. The System tanks get supply from the anicuts and their own catchment areas during rainy season.

The channels do not get continuous supply because the monsoon runoff in the area is meagre with a shorter duration of rain. Sometimes, on the formation of depression in Bay of Bengal, heavy to very heavy rains are received but flows as flood, as the rain water could not be stored and utilized fully for getting the maximum advantage and most of the channels and tanks remain silted up. The livelihood of the people in this basin depends on agriculture only.

Vellar River Basin

The Vellar river basin is one of the 17 river basins of Tamil Nadu and the basin lies in the northern part of Tamil Nadu in South India, between the latitudes 11°13' N-12°00' N and Longitudes 78°13' E-79°47' E and in between Pennaiyar, Paravanar and Cauvery river basin. The total area of the basin is 7520.87 Sq. kms.

The total length of the river is about 150 kms. The Vellar river originates in the Chitheri hills of Dharmapuri district in the name of Anaimaduvu river and Thumbar river, Singipuram Aru which

originate at Jallattu reserve forest area at 8 kms east of Salem taluk in Salem district. The river Vellar drains into Bay of Bengal near Parangipettai in Chidambaram taluk of Cuddalore district.

The river Vellar is having six tributaries viz., Anaimaduvu, Swethanadhi, Kallar, Chinnar, Manimukthanadhi and Gomukhi. A portion of Dharmapuri, Salem, Namakkal, Perambalur, Trichy, Villupuram and Cuddalore districts are covered in Vellar river basin. Manimukthanadhi, which is the major tributary, originates from Kalrayan hills in Villupuram district, traverses about 111 km and joins Vellar near Srimushnam in Chidambaram taluk of Cuddalore district.

Singipuram Aru and Swethanadhi originate from Kolli hills; Kallar river originates from Pachaimalai hills, Chinnar draining Vannadu and Kombainadu, Manimuktha and Gomukhi rivers draining from Eastern slopes of Kalrayan hills. Thus, the Vellar basin is having the following river systems: Vasista nadhi, Swetha nadhi, Chinnar river, Anaivari odai, Manimuktha nadhi, Gomukhi nadhi, and Periya odai.

Veeranam Tank

Veeranam tank, under Lower Coleroon anaicut system is the major tank with an ayacut of 44856 hectares. The length of its bund is 16.00 kms. The foreshore bund length is 30.60 km. The original capacity of this tank was about 1400 Mcft. It has got 34 sluices, the silt level of the lowest is (+) 27.69. The silt level of the highest sluice is (+) 40.00. Besides supplying irrigation water, it serves as a source for the drinking water to Chennai Metropolitan water supply scheme also.

Wellington Reservoir

Wellington Reservoir is located in Keelacheruvai village of Thittagudi taluk. The reservoir capacity is 29 feet with an ayacut area of 24,059 acres. This reservoir was constructed during 1913-1923.

Box 8.4: NLC: Removal of (SO_2) through Manmade Forest Canopy

The objective of the case study is to portray the ongoing activities of sulphur-di-oxide removal through manmade forest canopy introduced by the Neyveli Lignite Corporation. This is one of the ventures in controlling negative externalities introduced by the NLC. The study team has explored the records of NLC and ascertains the facts through field visit. One of the crucial issues that confronted world leaders in the recently concluded Copenhagen summit was that of achieving sufficient power generation for developing countries without exacerbating the problem of global warming. Developing countries, like India, are poised on the path of massive infrastructural project development still requiring power from conventional sources. Power generation at the point of origin of a particular natural resource such as lignite will still continue for some decades to come. Neyveli in Cuddalore district is rich in lignite. Neyveli Lignite Corporation (NLC) is indeed Asia's largest lignite based power plant. The generation of power however comes with a price – this involves the release of large quantities of SO_2, which should be removed effectively. The dry deposition of sulphur dioxide over forested canopies is a subject of intense new research. The study carried out by researchers of Vellore Institute of Technology, Vellore is a first study over coastal Tamil Nadu in the Indian subcontinent. In this case study, it is shown through fluid mechanical models, how SO_2 pollution emanating from stacks is removed effectively by a hand planted, manmade, forest canopy. This power plant is situated in a hot humid tropical belt, giving one the meteorological advantage of a suitable micro-climate for the proliferation of lush green vegetation in a short span of time. N.L.C.'s astonishing success story really rests on the fact that the founding fathers planted 17 million trees within the complex which act as an efficient sink for sulphur-di-oxide (SO_2) capture.

Deposition velocity of SO_2 is determined for a particular month, April, where the effects of wet scavenging are non-existent. Particular emphasis is placed on various resistances including stomatal, mesophyllic, upper canopy, and buoyant convection resistances which are simulated using actual data from NLC during April. Canopy resistance values are determined to be 158.87 and 124.45 s.m-1 at 8:30 a.m. and at 2:30 p.m. respectively. The respective deposition velocities at those times are calculated to be 0.55 and 0.73 cm.s-1. These are first calculations for an evergreen forest within a tropical belt in the Indian subcontinent. The results show that the manmade forest canopy helps to significantly improve the air quality. The computed deposition velocity (V_d) values can be directly used by town planners for Environmental Impact Analysis of future Power Plant projects within the subcontinent.

Major projects bring electricity to district

Neyveli Lignite Corporation, a public sector enterprise was started in the year 1956. NLC is pioneer among the public sector undertakings with ancillary and auxiliary industries under its fold. NLC generates not only electricity but also provides employment to many people. Further, through the corporate social responsibility, NLC builds and renovates the basic infrastructure such as roads, drinking water as well as provide the core services of education and health to the people of the neighbouring region. The main core activity of NLC is lignite excavation and power generation

using the lignite excavated. NLC is having lignite mining units namely a Mine I, Mine II, Mine IA, and Barsingsar Mine. Also, raw lignite is being sold to small scale industries to use it as fuel in their production activities. It is presently mining 24 MT of lignite and has an installed capacity of 2,740 MW of electricity. It also supplies a large quantity of sweet water to Chennai from the artesian aquifers in the lignite mines. All the southern states are beneficiaries of this power generation project. NLC is a pioneer among the public sector undertakings with complex industries under its fold. The other constituent units of the company are Fertilizer plant and Briquetting and Carbonization plant. Briquetting and Carbonization plant at NLC produced coke from lignite, which is sold under the popular trade name "LECO". The coke produced in the plant is extensively used in the industrial sector by virtue of its special properties. NLC has well-developed township in Neyveli.

Tourist Places

Tourism promotion activity in Cuddalore is still in its nascent stage, and if the existing potential, vast at that, is tapped fully, the Gross Domestic Product (GDP) index of the district will go up by several notches. As of now, what was acting as a disincentive was the lack of hotels and literature on tourist spots. It was quite unfortunate that the tourists who used to pass through Cuddalore could not get to see many places of tourist interest. Once this is addressed, there would be a constant flow of tourists. Pichavaram tourist spot has sprawling stretch of mangrove forests, with hanging roots and rich flora and fauna. The backwaters hedged by the mangroves, a visual pleasure, could be utilized for introducing water sports, and the beach abutting the mangrove forest was the ideal locale for watching sun rise and sea surfing.

In the areas surrounding mangrove forests, Irula tribal families were eking out a living by manually catching fish with bare hands and without the help of any mechanical devices. Their lifestyle could be showcased to the visitors as in the case of Todas in the Nilgiris. Cuddalore port is an open roadstead (anchorage) port situated at the confluence of the rivers Uppanar and Paravanar in the Bay of Bengal. Ships anchor at the open sea and loading and unloading of cargo takes place by means of Lighters/Steel Barges. The beautiful golden sandy beach of Silver Beach – Devanampattinam on the eastern side is a great attraction for tourists. Cuddalore Municipal Administration, and the Tourism Department have joined hands to provide ample scope for water sports and beach activities for the visitors during summer.

Port Novo is the earliest European association with the Portuguese, the Dutch, the Danish, and the English. It was formerly a major seaport town in the district. The marine biological research station of Annamalai University is located here. A historic Portuguese fort can also be seen here. It has one of the best beaches, Samiarpettai beach which has good amount of water sports which is a favourite with tourists. Bhuvanagiri, Padalesearar Temple – Cuddalore, Devanatha Swami Temple – Thiruvanthipuram, Veeratteswarar Temple – Thiruvathigai, Vridhagiriswarar Temple-Vridhachalam are great pilgrimage sites.

Conclusion

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

CHAPTER 9

SUMMARY AND WAY FORWARD

Chapter
9
Summary and Way Forward

Introduction

The preceding chapters of this DHDR examine the various contours of human development of Cuddalore district. In the light of the observations, an attempt has been made to explore the possibilities to utilize natural and human resources fully for achieving sustainable human development. This chapter suggests some measures that could be adopted by the district administration to overcome some of the identified challenges in the district.

Summary and Way Forward

Status of Human Development

- Various indices of the blocks were worked out, and the status was assessed. The other related human development indices such as GII, CDI, and MDPI that focus on specific issues of gender development, child development and poverty were also comprehensively dealt with. There is a rich scope for the execution of various ongoing developmental programmes in an effective way with the inclusion of all stakeholders as well as to introduce specific programmes to address the area based disparities in the district.

Employment, Income, and Poverty

- The district's per capita income (Rs.56,315) of the district is low compared to that of the State average (Rs.63,996) during 2011-12 at constant prices. The income growth rate of the district is 81.29, when compared to the State growth rate of 88.23 during 2004 - 2012. A majority of the people of the district are dependent on agriculture and fishing for their living. Further, the district is vulnerable to devastations by natural calamities such as cyclones and storms which dampen growth.
- Though the district has a good network of irrigation canals, the availability of water for irrigation is limited by rainwater and Cauvery water. As both of them are erratic, the agricultural operations and planning get affected which results in unsustained income. This

warrants alternative farming methods and one such method is Integrated Farming. It offers scope of getting income throughout the year, and at the same time reduces risk due to the vagaries of Nature. Instead of growing only a single crop, farmers can try and diversify agricultural activities like dairy, bio-gas, mushroom, fish, and poultry along with crops to get a higher income.

- Cashew, minor millets, and maize being the major crops of some blocks, there is scope for setting up of food processing and poultry feed industries in those blocks. Paddy and groundnut being the other major crop of the district, technically innovative modern rice and oil mills could be set up. Paper industries could be set up using paddy hay, sugarcane bagasse, and bamboo as raw material.
- Fishing is the most obvious activity along the coast, and is the major livelihood as well as food security of a large section of the economically underprivileged population of the coastal areas in Cuddalore district. Since agriculture is also the major livelihood of the people of the district, the fish waste can be utilized for compost making and it is an excellent organic input for farming and waste disposal system, besides serving as an excellent source of protein in poultry feed. Also, the fishermen can earn additional income by selling fish compost.
- Welfare measures like housing, modernization of existing fishing harbors/fish landing centers and training programmes for better fish catch and fish processing help the fishermen of the district to live a decent living.
- NGOs may be encouraged to enter the area of marketing or food processing technologies, both regarded as crucial lacunae in the district's fishing sector. Modern fishing markets, sea food processing centres and poultry feed industries with dry fish as raw material could be set up in coastal blocks.
- Though the government has implemented various schemes for the benefit of the farmers/fishermen, they are not fully aware of all the Government schemes. To disseminate and sensitize, steps may be taken to bring all the people together in the form of association at block levels. All such associations in the district may be linked with the line departments and financial institutions/credit societies.
- The district has a long coastline and it is vulnerable to the cyclonic depressions and the resultant rains which cause floods. Also, the district suffers from flooding when excess water flows down the local rivers and over the fields due to northeast monsoon rains. Therefore,

there is an urgent need to widen and strengthen the river/tank bunds to carry the maximum flood discharge safely and let into sea to avoid damages to village roads, agricultural production, livestock and to prevent flood havoc.

- The drainage is poor, and the encroachments over the drought years have led to a scenario where, even rainfall, which is slightly above normal, can cause floods, disrupting the normal course of work. Desilting and deweeding of tanks such as Perumaleri, Veeranam Eri, and other tanks of the district may be done to increase the water catchment area and to improve the water retention capacity of these tanks. Also, encroachments around water bodies should be removed to sustain the ground water level in the district which has come down very fast in the past decade.
- Programmes that provide self-employment and wage employment to the poor should be implemented with greater vigour. The data provided by the SECC is proposed to be used in the execution of poverty alleviation programmes.
- Poverty remains high among certain communities in the district as a legacy of history. Several decades of affirmative action has not altered this situation. So the block wise data pertaining to the three dimensions of poverty namely: (i) geographical backwardness of the block, (ii) economic backwardness of the block, and (iii) social backwardness of the block may be considered in implementing the various government schemes such as NRLM, and MGNREGS.
- Promoting clusters will help to alleviate poverty in the district. The areas that require special attention are promoting marketing opportunities, enhancing productivity and competitiveness, linkages with support institutions, appropriate financing, creation of critical infrastructure, and creation of local governance framework for groups of local stakeholders for continuous business promotion.

Health and Nutrition

- Unreliable or insufficient power supply is some of the factors that combine to inhibit the ability of the PHCs to conduct critical procedures and ensure quality healthcare delivery. The most conspicuous impact of these problems is on medical and electrical equipment. Most of the equipment is not being fully used due to lack of installation and operational personnel or lack of appropriate electrical supply, or both.

- The rural-urban divide is yet another worrying aspect in terms of healthcare services. Through the provision of adequate housing, the staff will be better motivated and retained to deliver services. Therefore, it is absolutely necessary that residential accommodation be provided to the medical and paramedical staff for the effective functioning of the PHCs and HSCs. The provision of staff housing for themselves and their families, with appropriate utilities and other infrastructure, will ensure retention of requisite cadres and skills.

- Cuddalore being a coastal district, it is highly vulnerable to vector prone diseases such as Dengue, Malaria and Chickenkunya. Deaths occur mostly due to late diagnosis and late referral to the higher medical institutions. For identifying the disease early, a laboratory equipped with all facilities is important. The laboratory is in the district headquarters only (Cuddalore), and it is far away from certain blocks of the district. So, for early diagnosis and referral, one or more laboratories equipped with all facilities are needed in faraway blocks of the district headquarters.

- As the district area is very vast, the district health administration may be bifurcated into two HUDs, such as Cuddalore and Virudhachalam for delivering healthcare services effectively.
- Periodical mapping of TB, leprosy and HIV in rural and urban areas may be carried out.
- Though the government has implemented various healthcare schemes for the benefit of the people, they are not fully aware of all the Government schemes. To create awareness, disseminate, and sensitize, steps may be taken with the help of VHNs.
- Collective Action Institution may be created involving BMO, SHG members, and PRI leaders for monitoring and conducting social audit of the primary healthcare services.
- The correlation between health and living conditions is well known. Urban poor face greater health risks due to poor sanitation, lack of safe drinking water, poor drainage, high density of population etc. Thus the district administration must focus on strengthening preventive action for improved health and nutrition and prevention of diseases in urban slum areas. Local bodies specifically on provision of clean drinking water may be ensured to control water borne diseases, and they have to take steps in controlling sea water intrusion.

Literacy and Education

- The literacy rate of Cuddalore district is 78.04% during 2011, which is low as compared to the State average of 71.85. A plethora of government initiatives to provide access to primary education are underway, but issues of equity, quality, and access remain areas of concern — particularly in rural schools.
- Children in rural areas continue to be deprived of quality education owing to factors like lack of competent and committed teachers, teaching-learning materials, and so on. Improving the efficiency and equity of schooling depends, in large measure, on adequate teachers and ensuring that all students have access to quality education.
- There is a direct correlation between higher levels of attendance and better academic performance. A chronic absenteeism can adversely affect a student's education, limiting employment and restricting life opportunities.
- With SMS and the power of today's mobile phones, the Government schools can easily revolutionize the way in which they communicate with students and their families. Parents and guardians can be automatically alerted via SMS messages to their mobile phones, making it an easy, time saving and fault-free way to record real-time student attendance, attendance and performance.
- In the modern world ICT skills and knowledge of English is an important employability skill to be employed as well as to move higher in one's professional life. Steps should be initiated to bridge the gap of digital divide by way of providing unlimited online access to E-Resources and also provide online training in English, which will enable students to take up their college education with confidence and dignity and also make them job ready.
- The pass out rate at the level of 10^{th} and +2 levels is relatively low among the districts of the State. As a policy of the State Government, students get promoted up to ninth standard compulsorily barring all formalities. This has created a moral hazard among the stakeholders, and they have not taken seriously the school education, specifically those who enroll in the Government Schools. This could be seen in the lower pass percentage of 10th and 12^{th} Standards. As the child gets promoted without any qualitative and quantitative assessment, the teachers' responsibility is at stake. The teacher is not going to be questioned if a child is not doing well, and there will be many teachers who may not spend that extra time required

on a child to bring him/her up the learning curve and leave it to the parents to do this. This has to be checked without the child being subjected to insults and punishments.

Gender Equality

- Female literacy rate of the district is below the State average, and the gender gap in literacy is more than the State average. The female literacy rate of the blocks, Panruti, Mangalore, and Nallur is comparatively low, and special interventions have to be put in place to bring them on par with other blocks of the district.
- Attempts should be made to map the out-of-school girls (9-14 years), and efforts should be put in place to provide them with educational opportunities and bring them on par with the other children of their age in schools. School girls can be imparted vocational skills like plumbing, repairing, and so on to break gender stereotypes like tailoring etc., which help in empowering girls.
- Though the district administration is taking steps to improve the status of women in the district, still there is room for increasing life expectancy through prenatal care of expectant mothers, immunization, creation of awareness against female infanticide, increasing female literacy, educating parents about the benefits of sending the girl children to school, disseminate the various schemes of the government aimed at empowering women and girl children, and to narrow the wage differences between male and female.
- The active participation of women in political sphere is integral to the empowerment of women and helps to build a gender-equal society as well as to speed up the process of national development. The SHG development model is based on the idea of women empowerment. It not only offers members a sustainable income and a new level of financial mobility, but also encourages women to utilize local resources, raises awareness of their rights, and develops leadership skills and confidence.
- The SHGs in the district could be further strengthened and motivated, and there is a wide scope to develop and strengthen micro enterprises through SHGs to generate sustainable income and employment. This collective institution would only facilitate the members of SHG to avail credit facilities without any collateral. Also, crime against women in the district is on the rise. Strenuous efforts have to be made to bring this under control.

Social Security

- The district administration must take appropriate measures to ensure that available benefits reach them. The proportion of disabled population has come down from 64,426 to 42,632 during 2001-2011 in the district.
- Of the different types of disability, the hearing disability number has alone increased from 3,291 to 9,558 during the period. This warrants immediate attention to control the same. Other types of disabilities have registered negative growth, and it witnessed the track record of Health Department of the district.
- The number of houseless households is 393 and the total population is 1,128 during 2011. Even though the growth rate is negative during the last decade, it could be accelerated further to reach the level of zero in the district.

Infrastructure/Environment Sustainability

- There is a clear bondage between infrastructure and human development. Infrastructure creation and maintenance promotes and sustains human development. Without roads, power, schools, and health centres and without access to credit, the rural poor living in remote villages is the most affected. Comprehensive programmes could be taken up by the Government to ensure that all the parts of the district are interlinked through better roads so as to enable the people to travel to nearby areas to avail basic services.
- The district has rich potential of lignite and provides electricity to the state as well as to neighbouring states. At present, the NLC earmarks a minimum amount for CSR activities. If they scale up and earmark sizeable grant from their net profits, the basic infrastructure and its services of the district may be improved and sustained. Further, the Veeranam Tank provides drinking water to the Chennai Metropolitan Area. Besides, a number of mega bore wells erected and pumping the water to Chennai during the dry season. This has generated a lot of negative externalities to the people living in the district. A sizeable portion of water tax collected in the Chennai Metropolitan Area may be shared with the district for compensating the damages.

Environmental Initiatives

- Corporates in the district such as NLC can be encouraged to build programs and introduce new innovative environmentally friendly initiatives as part of Corporate Social Responsibility. It may include periodic awareness campaigns on different environmental friendly practices and topics through community outreach programmes and school education.
- Initiatives from the State, civil societies and scientists for promoting organic farming will generate more employment in the district besides being environmental friendly
- The existing condition of water supply and sanitation has deteriorated due to a number of factors. Most of the households that live in urban areas acquire bottled water from the market and significant proportion of households keep water purifiers, enabling them to make the available water as potable. This practice is being extended to the rural areas of the district.
- Adequate steps have to be taken up to provide sustainable drinking water supply and covered drainage system, enabling the control of various health outbreaks. The use of plastic carry bags are growing in the district and this has to be viewed seriously and steps are to be taken to control the use of plastic carry bags.
- There is no scientific solid waste management system in the district. The existing practice of waste disposal is creating irreparable damage. In realizing the importance of growing solid waste, specifically on non-biodegradable materials, a proper solid waste management system has to be created in all municipal areas of the district. This system will definitely control air, water, and land pollution in the district.

Conclusion

The HDI, GII, CDI, and MDPI are tools which not only reveal the level of human development in the district but also serve as a measuring scale to compare the performance of the blocks and to identify intra-block disparities. The education, health, and income disparities across the blocks of the district are distinctly captured by the indices. It is observed that certain blocks that fared well in terms of certain indices, failed to fare well in other indices. For example the blocks Virudhachalam, Kumaratchi, and Annagramam fared well in the education index of HDI, but the same blocks

performed very poorly with respect to health index of HDI. This has pulled down the overall human development index of these blocks.

Similarly, the high standard of living index does not imply higher levels of human development. For example, though the blocks Kurinjipadi and Parangipettai recorded high standard of living index, their HDI is low. On juxtaposing the three sectoral index values viz., standard of living index, education index, and health index, it could be concluded that there is no one to one relationship among the indicators.

After assessing the ground realities of each and every block, it could be concluded that the priority and needs of the people significantly vary among the blocks, and specific policy prescriptions are needed in achieving holistic balanced development in the district. Mere planning and allocation of funds would not be adequate. An effective delivery mechanism has to ensure people's participation at various stages of the formulation and implementation of the welfare programmes. Transparency in the operation of the schemes and adequate monitoring of the use of resources at various levels is needed to check to achieve the intended targets.

ANNEXURES

Human Development Index

Table 9.1: Block-wise HDI Indicators

S.No	Block/ District	Standard of Living					Health			Education		
		Cooking Fuel	Toilet Facilities	Drinking Water (Habitation)	Electricity	Pucca Houses	IMR	MMR	U5MR	Literacy Rate	GER Primary	GER Secondary
		Census	DRDA	DRDA	Census	DRDA	Health Department - Cuddalore			Census 2011	Education Department	
		2011	2013-14	2013-14	2011	2013-14	2013-14	2013-14	2013-14	2011	2013-14	2013-14
1	Annagramam	34.42	39.18	96.01	93.14	85.79	16.00	109	16.80	75.81	99.10	88.84
2	Cuddalore	51.15	60.88	100.00	95.70	74.70	13.30	70	14.40	81.77	94.80	93.61
3	Kammapuram	32.46	25.71	99.26	95.54	62.22	17.40	40	18.20	74.27	100.10	88.26
4	Kattumannarkoil	24.67	51.87	100.00	95.24	39.93	16.10	40	17.30	77.68	100.00	88.35
5	Keerapalayam	36.86	51.02	99.83	94.13	80.22	17.40	50	18.50	82.23	100.02	86.51
6	Kumaratchi	32.24	49.17	98.49	94.51	68.33	15.70	10	16.50	84.13	97.06	86.42
7	Kurinjipadi	51.81	16.80	97.53	92.20	73.84	16.70	30	17.50	80.08	100.04	89.64
8	Mangalore	26.51	38.65	96.86	93.59	71.78	17.90	30	18.90	68.47	96.01	86.31
9	Melbhuvanagiri	41.53	43.16	96.99	93.65	65.28	16.80	60	19.00	79.37	89.07	88.92
10	Nallur	28.94	32.22	99.38	94.38	77.89	17.60	10	19.20	71.41	99.90	90.00
11	Panruti	34.42	45.73	97.81	93.14	76.20	15.80	29	16.40	74.72	94.40	89.67
12	Parangipettai	41.53	51.51	98.83	93.66	63.64	15.60	10	16.50	80.67	88.80	90.97
13	Virudhachalam	32.45	45.52	96.36	95.53	78.95	16.90	130	17.90	78.10	99.90	91.65
	District	38.49	42.06	98.26	94.15	72.06	16.20	50	17.20	78.04	98.50	89.49

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

Table 9.2: Block-wise Human Development Index

S.No	Block/District	Standard of Living Indices					Health Indices			Education Indices			Sectoral Index			Overall Index	Rank
		Cooking Fuel	Toilet Facilities	Drinking Water	Electricity	Pucca Houses	IMR	MMR	U5MR	Literacy Rate	GER Primary	GER Secondary	Standard of Living	Health	Education		
1	Annagramam	0.413	0.526	0.706	0.799	1.000	0.577	0.256	0.643	0.630	0.950	0.700	0.657	0.456	0.749	0.608	6
2	Cuddalore	0.978	1.000	1.000	1.000	0.778	1.000	0.549	1.000	0.895	0.737	1.000	0.947	0.819	0.871	0.877	1
3	Kammapuram	0.347	0.231	0.946	0.987	0.527	0.358	0.774	0.435	0.562	1.000	0.664	0.524	0.494	0.720	0.571	9
4	Kattumannarkoil	0.083	0.803	1.000	0.964	0.080	0.562	0.774	0.568	0.714	0.995	0.670	0.349	0.628	0.781	0.555	11
5	Keerapalayam	0.495	0.785	0.987	0.876	0.888	0.358	0.699	0.390	0.916	0.996	0.555	0.785	0.461	0.797	0.661	5
6	Kumaratchi	0.339	0.744	0.889	0.907	0.650	0.624	1.000	0.688	1.000	0.849	0.548	0.667	0.754	0.775	0.731	2
7	Kurinjipadi	1.000	0.037	0.818	0.725	0.760	0.468	0.850	0.539	0.820	0.997	0.751	0.440	0.598	0.850	0.607	7
8	Mangalore	0.145	0.514	0.769	0.834	0.719	0.280	0.850	0.330	0.304	0.797	0.542	0.510	0.428	0.508	0.481	13
9	Melbhuvanagiri	0.653	0.613	0.779	0.839	0.589	0.452	0.624	0.315	0.788	0.453	0.705	0.688	0.447	0.632	0.579	8
10	Nallur	0.228	0.374	0.954	0.896	0.842	0.327	1.000	0.286	0.435	0.990	0.773	0.572	0.454	0.693	0.565	10
11	Panruti	0.413	0.669	0.839	0.799	0.808	0.609	0.859	0.702	0.582	0.718	0.753	0.684	0.716	0.680	0.693	4
12	Parangipettai	0.653	0.795	0.914	0.839	0.556	0.640	1.000	0.688	0.846	0.440	0.834	0.740	0.761	0.677	0.725	3
13	Virudhachalam	0.346	0.664	0.732	0.986	0.863	0.437	0.098	0.479	0.732	0.990	0.877	0.678	0.273	0.860	0.542	12

Source: Computes.

Gender Inequality Index

Table 9.3: Block-wise GII Indicators

S.No	Block/District	MMR	Institutional Deliveries	Ante Natal Coverage	Female Literacy	Male Literacy	Girls (0-6) years	Boys (0-6) years	Elected Representatives		Female WPR	,Male WPR	Female WPR Non-Agri	Male WPR Non-Agri	Female Agri. Wage rate	Male Agri. Wage rate
									Female	Male						
		2013-14	2013-14	2013-14	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2013-14	2013-14
		Health Department			Census of India				(Local bodies/PAPD)		Census of India				Statistic Department	
		Rate	%	%	%	%	%	%	%	%	%	%	%	%	Rs.	Rs.
1	Annagramam	109	100	99.00	67.51	84.19	48.28	51.72	39.19	60.81	32.95	57.81	19.62	40.80	142	214
2	Cuddalore	70	100	100.00	75.76	87.87	48.32	51.68	39.37	60.63	25.25	57.55	48.92	70.86	150	203
3	Kammapuram	40	100	98.00	63.70	84.64	46.26	53.74	36.36	63.64	36.04	56.42	20.40	41.47	91	300
4	Kattumannarkoil	40	100	100.00	70.28	85.10	47.26	52.74	41.24	58.76	31.55	56.44	20.59	33.78	100	258
5	Keerapalayam	50	100	99.00	75.98	88.57	48.06	51.94	39.71	60.29	30.08	57.34	29.80	49.46	150	263
6	Kumaratchi	10	100	93.00	78.42	89.76	48.05	51.95	40.86	59.14	27.54	55.66	31.84	41.90	100	281
7	Kurinjipadi	30	100	100.00	72.44	87.65	46.90	53.10	38.67	61.33	25.77	55.46	34.37	60.65	93	199
8	Mangalore	30	100	100.00	58.25	78.58	46.57	53.43	33.51	66.49	52.02	60.10	10.78	19.90	100	204
9	Melbhuvanagiri	60	100	100.00	71.37	87.30	46.39	53.61	43.16	56.84	36.89	58.23	22.45	39.19	150	278
10	Nallur	10	100	100.00	61.13	81.59	46.73	53.27	42.01	57.99	46.79	59.25	11.78	21.23	86	157
11	Panruti	29	100	88.00	65.12	84.28	46.51	53.49	34.48	65.52	34.09	55.98	25.75	46.47	169	262
12	Parangipettai	10	100	99.00	74.00	87.38	47.43	52.57	37.06	62.94	30.09	57.52	33.49	52.23	150	285
13	Virudhachalam	130	100	100.00	69.55	86.58	46.69	53.31	33.74	66.26	31.92	57.09	25.73	47.64	90	273
	District	50	100	99.00	70.14	85.93	47.26	52.74	38.00	62.00	32.47	57.15	26.40	47.27	116	244

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

Cont.…

Table 9.4: Block-wise GII Index

S.No	Block/District	Health Indices			Empowerment Indices						Labour Indices					
		MMR	Institutional Deliveries	Ante Natal Coverage	Female Literacy	Male Literacy	female Children (0-6) years	male Children (0-6) years	Female Elected Representatives	Elected Representatives	Female WPR	Male WPR	Female WPR in Non-Agri Sector	Male WPR in Non-Agri Sector	Female Agri. Wage rate	Male Agri. Wage rate
1	Annagramam	0.092	1.000	0.990	0.675	0.842	0.483	0.517	0.392	0.608	0.330	0.578	0.196	0.408	0.705	0.460
2	Cuddalore	0.143	1.000	1.000	0.758	0.879	0.483	0.517	0.394	0.606	0.253	0.576	0.489	0.709	0.793	0.386
3	Kammapuram	0.250	1.000	0.980	0.637	0.846	0.463	0.537	0.364	0.636	0.360	0.564	0.204	0.415	0.148	1.000
4	Kattumannarkoil	0.250	1.000	1.000	0.703	0.851	0.473	0.527	0.412	0.588	0.316	0.564	0.206	0.338	0.247	0.737
5	Keerapalayam	0.200	1.000	0.990	0.760	0.886	0.481	0.519	0.397	0.603	0.301	0.573	0.298	0.495	0.793	0.769
6	Kumaratchi	1.000	1.000	0.930	0.784	0.898	0.480	0.520	0.409	0.591	0.275	0.557	0.318	0.419	0.247	0.879
7	Kurinjipadi	0.333	1.000	1.000	0.724	0.876	0.469	0.531	0.387	0.613	0.258	0.555	0.344	0.607	0.170	0.360
8	Mangalore	0.333	1.000	1.000	0.582	0.786	0.466	0.534	0.335	0.665	0.520	0.601	0.108	0.199	0.247	0.395
9	Melbhuvanagiri	0.167	1.000	1.000	0.714	0.873	0.464	0.536	0.432	0.568	0.369	0.582	0.225	0.392	0.793	0.863
10	Nallur	1.000	1.000	1.000	0.611	0.816	0.467	0.533	0.420	0.580	0.468	0.592	0.118	0.212	0.094	0.099
11	Panruti	0.348	1.000	0.880	0.651	0.843	0.465	0.535	0.345	0.655	0.341	0.560	0.257	0.465	1.000	0.758
12	Parangipettai	1.000	1.000	0.990	0.740	0.874	0.474	0.526	0.371	0.629	0.301	0.575	0.335	0.522	0.793	0.905
13	Virudhachalam	0.077	1.000	1.000	0.695	0.866	0.467	0.533	0.337	0.663	0.319	0.571	0.257	0.476	0.138	0.826

Source: Compute.

Cont.…

Table 9.5: Block-wise GII Index

S.No	Block/District	Female Health Indices	Male Health Indices	Female Emp Indices	Male Emp Indices	Female LF Indices	Male LF Indices	GF	GM	GFM	Health Bar	Emp Bar	LF Bar	GFM Bar	GII	Rank
1	Annagramam	0.450	1.000	0.504	0.642	0.357	0.477	0.432	0.674	0.527	0.725	0.573	0.417	0.557	0.055	10
2	Cuddalore	0.523	1.000	0.546	0.651	0.461	0.540	0.509	0.706	0.591	0.761	0.598	0.500	0.611	0.032	4
3	Kammapuram	0.626	1.000	0.481	0.661	0.222	0.616	0.406	0.741	0.524	0.813	0.571	0.419	0.580	0.095	12
4	Kattumannarkoil	0.630	1.000	0.538	0.641	0.252	0.520	0.441	0.693	0.539	0.815	0.590	0.386	0.570	0.055	11
5	Keerapalayam	0.583	1.000	0.549	0.652	0.414	0.602	0.510	0.732	0.601	0.791	0.601	0.508	0.623	0.035	6
6	Kumaratchi	0.976	1.000	0.566	0.651	0.279	0.590	0.536	0.727	0.617	0.988	0.608	0.434	0.639	0.035	5
7	Kurinjipadi	0.693	1.000	0.529	0.658	0.247	0.495	0.449	0.688	0.544	0.847	0.594	0.371	0.571	0.049	9
8	Mangalore	0.693	1.000	0.442	0.654	0.240	0.361	0.419	0.618	0.499	0.847	0.548	0.301	0.519	0.037	7
9	Melbhuvanagiri	0.550	1.000	0.555	0.643	0.403	0.582	0.498	0.721	0.589	0.775	0.599	0.493	0.612	0.037	8
10	Nallur	1.000	1.000	0.507	0.632	0.173	0.232	0.444	0.527	0.482	1.000	0.569	0.203	0.487	0.009	1
11	Panruti	0.674	1.000	0.474	0.666	0.444	0.582	0.522	0.729	0.608	0.837	0.570	0.513	0.626	0.028	3
12	Parangipettai	0.997	1.000	0.524	0.661	0.431	0.648	0.608	0.754	0.673	0.998	0.592	0.539	0.683	0.015	2
13	Virudhachalam	0.425	1.000	0.484	0.674	0.224	0.608	0.359	0.743	0.484	0.713	0.579	0.416	0.556	0.129	13

Source: Compute.

Cont.…

Child Development Index

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

S. No	Block/District	Indicator of Child Development							
		Health			Education				
					Enrollment Rate		Children Never Enrolled in School	Transition Rate	
		U5MR	% of Malnourished Children	0-6 Sex ratio	Primary	Secondary		Primary to Upper Primary	Upper Primary to Secondary
		2014	2014	2011	2013-14				
1	Annagramam	16.80	24.56	934	99.10	88.84	0.000	99.22	99.21
2	Cuddalore	14.40	9.98	935	94.80	93.61	0.010	99.15	99.43
3	Kammapuram	18.20	36.32	861	100.10	88.26	0.000	98.72	99.47
4	Kattumannarkoil	17.30	20.92	896	100.00	88.35	0.000	99.15	99.37
5	Keerapalayam	18.50	24.07	925	100.02	86.51	0.000	99.87	99.36
6	Kumaratchi	16.50	17.61	925	97.06	86.42	0.000	99.61	99.96
7	Kurinjipadi	17.50	22.15	883	100.04	89.64	0.000	99.26	99.31
8	Mangalore	18.90	38.55	872	96.01	86.31	0.000	99.80	99.11
9	Melbhuvanagiri	19.00	13.75	865	89.07	88.92	0.050	99.48	100.51
10	Nallur	19.20	41.39	877	99.90	90.00	0.000	99.27	98.73
11	Panruti	16.40	9.13	870	94.40	89.67	0.000	99.76	99.13
12	Parangipettai	16.50	31.89	902	88.80	90.97	0.000	99.11	99.49
13	Virudhachalam	17.90	34.59	876	99.90	91.65	0.000	99.61	99.72
	District	17.20	23.02	896	98.50	89.49	0.003	99.42	99.45

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

Cont.…

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

S. No	Block/District	Indices								CDI Index	Rank
		Health Index			Education Index						
		U5MR	% of Malnourished Children	0-6 Sex ratio	Enrollment Rate		Children Never Enrolled in School	Transition Rate			
					Primary	Secondary		Primary to Upper Primary	Upper Primary to Secondary		
1	Annagramam	0.500	0.522	0.982	0.912	0.346	1.000	0.435	0.270	0.621	3
2	Cuddalore	1.000	0.974	1.000	0.531	1.000	0.800	0.374	0.393	0.759	1
3	Kammapuram	0.208	0.157	0.000	1.000	0.266	1.000	0.000	0.416	0.381	12
4	Kattumannarkoil	0.396	0.635	0.474	0.991	0.279	1.000	0.374	0.360	0.564	7
5	Keerapalayam	0.146	0.537	0.871	0.993	0.028	1.000	1.000	0.354	0.616	4
6	Kumaratchi	0.563	0.737	0.863	0.731	0.015	1.000	0.774	0.691	0.672	2
7	Kurinjipadi	0.354	0.596	0.301	0.995	0.456	1.000	0.470	0.326	0.562	8
8	Mangalore	0.063	0.088	0.145	0.638	0.000	1.000	0.939	0.213	0.386	11
9	Melbhuvanagiri	0.042	0.857	0.060	0.024	0.357	0.000	0.661	1.000	0.375	13
10	Nallur	0.000	0.000	0.222	0.982	0.505	1.000	0.478	0.000	0.399	10
11	Panruti	0.583	1.000	0.117	0.496	0.460	1.000	0.904	0.225	0.598	5
12	Parangipettai	0.563	0.294	0.556	0.000	0.638	1.000	0.339	0.427	0.477	9
13	Virudhachalam	0.271	0.211	0.202	0.982	0.731	1.000	0.774	0.556	0.591	6

Source: Computed.

Multi-Dimensional Poverty index

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

S. No	Block/District	Health			Education		Living Standards				
		IMR	High Order Birth Rate	Malnourished Children	Dropout in Primary	Dropout in Secondary	cooking fuel	toilet facilities	drinking water	Electricity	Pucca house
		2014	2013-14	2014	2013-14		2011	2013-14		2011	2013-14
1	Annagramam	16.00	12.0	24.6	0.7	5.02	34.42	39.18	96.01	93.14	85.79
2	Cuddalore	13.30	7.0	10.0	0.9	2.59	51.15	60.88	100.00	95.70	74.70
3	Kammapuram	17.40	13.0	36.3	1.0	6.68	32.46	25.71	99.26	95.54	62.22
4	Kattumannarkoil	16.10	11.0	20.9	1.0	5.86	24.67	51.87	100	95.24	39.93
5	Keerapalayam	17.40	12.0	24.1	0.7	8.12	36.86	51.02	99.83	94.13	80.22
6	Kumaratchi	15.70	9.0	17.6	0.8	7.82	32.24	49.17	98.49	94.51	68.33
7	Kurinjipadi	16.70	12.0	22.2	0.6	4.06	51.81	16.80	97.53	92.20	73.84
8	Mangalore	17.90	13.0	38.6	0.8	3.45	26.51	38.65	96.86	93.59	71.78
9	Melbhuvanagiri	16.80	10.0	13.8	0.9	4.06	41.53	43.16	96.99	93.65	65.28
10	Nallur	17.60	13.0	41.4	0.6	6.55	28.94	32.22	99.38	94.38	77.89
11	Panruti	15.80	12.0	9.1	0.8	3.79	34.42	45.73	97.81	93.14	76.20
12	Parangipettai	15.60	7.0	31.9	0.4	5.37	41.53	51.51	98.83	93.66	63.64
13	Virudhachalam	16.90	11.0	34.6	0.6	3.59	32.45	45.52	96.36	95.53	78.95
	District	16.20	11.0	23.0	0.4	4.63	38.49	42.06	98.26	94.15	72.06

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

Cont.…

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

S. No	Block/District	Health Indices			Education Indices		Living Standards Indices					MDPI Index value	Rank
							Access to						
		IMR	High Order Birth Rate	Malnourished Children	Dropout in Primary	Dropout in Secondary	Cooking fuel	Toilet facilities	Drinking water	Electricity	Pucca house		
1	Annagramam	0.413	0.167	0.522	0.397	0.561	0.359	0.508	0.000	0.268	1.000	0.581	10
2	Cuddalore	1.000	1.000	0.974	0.159	1.000	0.976	1.000	1.000	1.000	0.758	0.113	1
3	Kammapuram	0.109	0.000	0.157	0.000	0.261	0.287	0.202	0.815	0.954	0.486	0.673	12
4	Kattumannarkoil	0.391	0.333	0.635	0.032	0.409	0.000	0.796	1.000	0.868	0.000	0.554	9
5	Keerapalayam	0.109	0.167	0.537	0.397	0.000	0.449	0.776	0.957	0.551	0.878	0.518	7
6	Kumaratchi	0.478	0.667	0.737	0.333	0.055	0.279	0.734	0.622	0.660	0.619	0.481	4
7	Kurinjipadi	0.261	0.167	0.596	0.603	0.735	1.000	0.000	0.381	0.000	0.740	0.552	8
8	Mangalore	0.000	0.000	0.088	0.270	0.845	0.068	0.496	0.213	0.398	0.694	0.693	13
9	Melbhuvanagiri	0.239	0.500	0.857	0.111	0.735	0.621	0.598	0.246	0.416	0.553	0.512	6
10	Nallur	0.065	0.000	0.000	0.556	0.283	0.158	0.350	0.845	0.623	0.828	0.629	11
11	Panruti	0.457	0.167	1.000	0.365	0.783	0.359	0.656	0.451	0.271	0.791	0.470	3
12	Parangipettai	0.500	1.000	0.294	1.000	0.498	0.621	0.788	0.707	0.417	0.517	0.366	2
13	Virudhachalam	0.217	0.333	0.211	0.571	0.819	0.287	0.652	0.088	0.951	0.851	0.502	5

Source: Computed.

Table 9.10: Crude Birth and Death Rate					
S.No	Block/District	CBR		CDR	
		2013	2014	2013	2014
1	Annagramam	14.30	13.90	4.50	4.60
2	Cuddalore	13.80	14.00	4.70	4.60
3	Kammapuram	16.00	15.70	5.30	5.10
4	Kattumannarkoil	15.70	15.50	4.40	5.00
5	Keerapalayam	14.40	14.20	5.90	5.80
6	Kumaratchi	13.70	13.60	5.20	4.70
7	Kurinjipadi	15.80	15.50	4.30	4.30
8	Mangalore	16.40	16.20	5.40	5.40
9	Melbhuvanagiri	14.50	14.40	6.60	5.70
10	Nallur	15.10	14.90	5.30	5.10
11	Panruti	15.40	15.10	4.60	4.90
12	Parangipettai	15.10	14.90	4.60	4.50
13	Virudhachalam	15.20	14.70	5.00	5.30
	District	14.90	14.80	5.00	4.90

Source: Health Department, Cuddalore – 2014.

Table 9.11: Infant Mortality Rate (2013-2014)			
S.No	Block/District	2013	2014
1	Annagramam	17.90	16.00
2	Cuddalore	13.40	13.30
3	Kammapuram	20.00	17.40
4	Kattumannarkoil	19.90	16.10
5	Keerapalayam	20.20	17.40
6	Kumaratchi	18.30	15.70
7	Kurinjipadi	17.90	16.70
8	Mangalore	26.00	17.90
9	Melbhuvanagiri	19.10	16.80
10	Nallur	20.80	17.60
11	Panruti	17.30	15.80
12	Parangipettai	20.00	15.60
13	Virudhachalam	16.70	16.90
District		18.50	16.20

Source: Health Department, Cuddalore – 2014.

Table 9.12: Percentage of Institutional Deliveries - 2014							
S.No	Block / District	Home	Health Sub centre	Primary Health centre	GH	Private Hospitals	% of Institutional Deliveries
1	Annagramam	0	14	503	1828	404	100
2	Cuddalore	0	79	594	3359	1179	100
3	Kammapuram	0	0	371	840	914	100
4	Kattumannarkoil	0	1	587	1219	654	100
5	Keerapalayam	0	0	286	916	439	100
6	Kumaratchi	0	2	368	1093	834	100
7	Kurinjipadi	0	16	823	2071	736	100
8	Mangalore	0	7	776	962	962	100
9	Melbhuvanagiri	0	1	364	944	452	100
10	Nallur	0	0	707	1243	545	100
11	Panruti	0	0	535	1854	583	100
12	Parangipettai	0	1	535	1179	484	100
13	Virudhachalam	0	1	392	1831	643	100
	District	0	122	6841	19339	8829	100

Source: Health Department, Cuddalore – 2014.

Table 9.13: Malnourished Children 0-5 during 2013-2014							
S.No	Block / District	Normal Children (0-5 Years)	2014				% of MUW+SUW
			*SUW Children		**MUW Children		
			0-5 years	% of SUW	0-5 years	% of MUW	
1	Annagramam	8986	3	0.03	2204	24.53	24.56
2	Cuddalore	19865	8	0.04	1974	9.94	9.98
3	Kammapuram	8689	1	0.01	3155	36.31	36.32
4	Kattumannarkoil	9065	3	0.03	1893	20.88	20.92
5	Keerapalayam	9932	0	0.00	2391	24.07	24.07
6	Kumaratchi	9138	4	0.04	1605	17.56	17.61
7	Kurinjipadi	15510	5	0.03	3431	22.12	22.15
8	Mangalore	9649	1	0.01	3719	38.54	38.55
9	Melbhuvanagiri	7352	10	0.14	1001	13.62	13.75
10	Nallur	7951	6	0.08	3285	41.32	41.39
11	Panruti	14305	3	0.02	1303	9.11	9.13
12	Parangipettai	8557	3	0.04	2726	31.86	31.89
13	Virudhachalam	8364	3	0.04	2890	34.55	34.59
	District	137363	50	0.04	31577	22.99	23.02

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

Table 9.14: Percentage of Drinking Water facilities		
S.No	Block / District	% of Drinking (Habitation)
1	Annagramam	96.01
2	Cuddalore	100.00
3	Kammapuram	99.26
4	Kattumannarkoil	100.00
5	Keerapalayam	99.83
6	Kumaratchi	98.49
7	Kurinjipadi	97.53
8	Mangalore	96.86
9	Melbhuvanagiri	96.99
10	Nallur	99.38
11	Panruti	97.81
12	Parangipettai	98.83
13	Virudhachalam	96.36
	District	98.26

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

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

S.No	Block / District	Literacy 2001			Literacy 2011		
		Person	Male	Female	Person	Male	Female
1	Annagramam	68.77	79.60	57.91	75.81	84.19	67.51
2	Cuddalore	75.30	83.41	67.02	81.77	87.87	75.76
3	Kammapuram	67.25	81.10	52.96	74.27	84.64	63.70
4	Kattumannarkoil	74.46	84.28	64.43	77.68	85.10	70.28
5	Keerapalayam	77.15	85.92	68.44	82.23	88.57	75.98
6	Kumaratchi	77.59	86.04	69.13	84.13	89.76	78.42
7	Kurinjipadi	74.31	83.91	64.42	80.08	87.65	72.44
8	Mangalore	57.65	71.34	44.42	68.47	78.58	58.25
9	Melbhuvanagiri	71.03	82.20	59.74	79.37	87.30	71.37
10	Nallur	61.63	75.22	47.94	71.41	81.59	61.13
11	Panruti	65.86	79.15	52.28	74.72	84.28	65.12
12	Parangipettai	72.93	82.61	63.43	80.67	87.38	74.00
13	Virudhachalam	70.85	82.16	59.47	78.10	86.58	69.55
	District	71.01	81.64	60.27	78.04	85.93	70.14

Source: Census of India during 2001 and 2011.

Note: Census Towns, Town Panchayats and Township are added in the respective rural blocks.

Table 9.16: Female Work Participation Rate

S.No	Block / District	Total Female Population	Total Female Worker	% of Female work participation
1	Annagramam	95,353	31,423	32.95
2	Cuddalore	1,98,366	50,091	25.25
3	Kammapuram	78,175	28,177	36.04
4	Kattumannarkoil	72,141	22,761	31.55
5	Keerapalayam	90,500	27,221	30.08
6	Kumaratchi	75,658	20,839	27.54
7	Kurinjipadi	1,79,546	46,276	25.77
8	Mangalore	84,749	44,090	52.02
9	Melbhuvanagiri	57,875	21,352	36.89
10	Nallur	77,181	36,116	46.79
11	Panruti	1,10,340	37,612	34.09
12	Parangipettai	74348	22,374	30.09
13	Virudhachalam	99,985	31,915	31.92
	District	12,94,217	4,20,247	32.47

Source: Census of India during 2011.

Note: Census Towns, Town Panchayats and Township are added in the respective rural blocks.

Technical Notes

Construction of Indices

Introduction

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

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

Indicators for HDI

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

Indicators for measuring HDI

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

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

Method of Estimating HDI

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

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

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

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

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

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

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

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

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

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

4. To compute HDI, aggregate the three sectoral indices using geometric mean with the following formula.
   HDI= $(SI_l \times SI_h \times SI_e)^{(1/3)}$; where SI_l is the sectoral index for living standard, SI_h is the sectoral index for health and SI_e is the sectoral index for education.

Construction of Gender Inequality Index (GII)

Introduction

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

Indicators considered for measuring GII

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

Method

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

For females

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

For Males

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

2. Aggregating across gender group using a Harmonic mean.

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

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

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

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

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

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

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

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

Construction of Child Development Index (CDI)

Introduction

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

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

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

Indicators for Child Development

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

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

	Transition rate from Primary to Upper Primary and Upper Primary to Secondary

Computation of Child Development Index

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

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

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

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

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

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

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

Multidimensional Poverty Index

Indicators

Dimension	**Indicator**
Health	IMR
	Higher order Birth
	Malnourished Children
Education	Drop out in Primary and Secondary
Living Standards	Access to cooking fuel

	Access to toilet facilities
	Access to drinking water
	Access to Electricity
	Pucca house

Computation of Multidimensional Poverty Index

- The indicators have been broadly categorised under the 3 parameters that influence the HDI.
- All the above indicators are negative and positive in nature.
    - The index value (in the case of a positive indicator) can be calculated using the formula –

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

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

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

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

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

Abbreviations and Acronyms

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

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

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

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

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