District Human Development Report - 2017

Tirunelveli District

State Planning Commission
Tamil Nadu

TIRUNELVELI

DISTRICT HUMAN DEVELOPMENT REPORT 2017

District Administration, Tirunelveli and
State Planning Commission, Tamil Nadu
in association with
Manonmaniam Sundaranar 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 achieveing 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 Grwoth Fund to address backwardness. As a sequal, 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

Human Development is an alternative development thinking which puts people at the centre of development, by expanding their choices and enhancing their capabilities. With the focus of development shifting to human development globally, many countries have brought out Human Development Reports including India.

In the recent times, initiatives are taken by the Government of Tamil Nadu in the grass roots aiming at human development. The efforts comprise programmes that vary in size, approach and strategy; and the responsibility of their execution largely lies in the hands of the district administration. The major concerns of the issues are education, health and poverty – which constitute the prime output measures of human development. Besides, programmes are launched to focus on the income-generating activities of the people through productive employment, which will ensure the sustainability of human development. The human development is discussed in terms of these set parameters, owing to the inspiration given by the pioneering efforts of United Nations Development Programme (UNDP). Human Development should necessarily be looked at from a broader perspective with a social concern –such as the welfare of women, children and those who are denied the legitimate share in development. Thus, drawing up ahuman development at the district level is indeed a major step in making the district a nodal agency of development.

I am immensely happy to associate myself with the UNDP and State Planning Commission sponsored assignment of preparing the District Human Development Report (DHDR). It has turned out to be a very successful joint endeavour of an academic institution ManonmaniamSundaranar University, Tirunelveli and the District Administration. This report portrays the various facets of district development from the human development perspective highlighting the positive aspects of the Government of TamilNadu interventions to achieve the goals of vision document 2023. This document is unique for it serves as a ready reckoner for an administrator to understand the core issues like literacy rate, health care issues, industrial development, gender issues, social welfare programmes, poverty alleviation, rural backwardness and unemployment.

This Tirunelveli DHDR has been prepared in a participatory manner by involving various stakeholders like Village Panchayats, Block Development Office, Town Panchayats, Municipalities and District administration. It is expected that the DHDR will be an input for the deliberations of the District Planning Committee, which is constitutionally mandated to undertake and endorse the preparation of District Plans. However, the DHDR certainly will pave a way to the policy makers to prepare plans at various levels from the human development perspectives.

I congratulate and thank the ManonmaniamSundaranar University, Tirunelveli for readily accepting the assignment and completing the task successfully and my special appreciation to Dr.J.Sacratees, Assistant Professor & Head i/c, Department of Economics, who have corrected and altered the entire report tirelessly after the retirement of Dr.S. Manickam, Former Professor & Head who was assigned the task at initial stage. I thank my colleagues, who rendered all support to the ManonmaniamSundaranar University and other officials of the State Planning Commission, Chennai in the preparation of District Human Development Report.

I wish that this document is updated periodically, with special focus on different sectors of Human Development, so that Tirunelveli District will be able to move forward to accomplish the dream of "Vision 2023" document of the Government of TamilNadu.

Dr. M. Karunagaran

ACKNOWLEDGEMENT

The preparation of the Tirunelveli 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 Manonmaniam Sundaranar University by the State Planning Commission in collaboration with the District Administration. At the initial stage, this assignment was given to Dr**. S. Manickam,**Professor & Head, Department of Economics, Manonmaniam Sundaranar University, Tirunelveli by the district administration and later transferred to **Dr. J. Sacratees** after the retirement of the former. This Human Development Report has been kept on track and completed 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 extend my sincere thanks to **Tmt. Santha Sheela Nair, I.A.S.,** (Rtd), Former Vice Chairman, 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, I.A.S**, the then Member Secretary, State Planning Commission, who initiated this exercise and also my thanks isdue to **Thiru Sugato Dutt, I.F.S.,**the then Member Secretary i/c, State Planning Commission for providing all necessary administrativesupport and resources to accomplish the task. I am very muchindebted to**Thiru Anil Meshram, I.A.S.,**theMember Secretary, State Planning Commission who is keen enough to extend his support to complete the assignment in a smooth and fair manner. Iowe a deep sense of gratitude to **Prof.Dr.A.K.Kumaraguru**, the then Vice-Chancellor, Manonmaniam Sundaranar University, Tirunelveli, who encouraged me to involve in this assignment. I sincerely express my indebtedness to **Prof. Dr. K. Baskar,** the Vice-Chancellor, Manonmaniam Sundaranar University, Tirunelveli who extended all support and encouragement to complete the task successfully. I express my indebtedness to **Dr. M. Karunagaran, I.A.S.,**Collector, Tirunelveli district for providing necessary facilities in the collection of data pertaining to the district and for offering suggestions at every stage of the DHDR preparation, which helped me to bring the report in this present form.

With a deep sense of gratitude, I gratefully acknowledge all the help extended to me at every stage of this report by **Dr. A. John D Britto,** the Registrar, Manonmaniam Sundaranar University, Tirunelveli.

I also extend my sincere thanks to **Thiru P.Selvarajan,** HoDDP-and RD, **Selvi .S.Namagiri,** SDPOand **Tmt.G.N.Krupa,** Planning Officer, and other staffs of the State Planning Commission, Chennai for going through the manuscript and for offering suggestions.

I am much indebted to **Tmt. R. Raja Jeya Bala,** the thenDistrict Planning Officer, TirunelveliDistrict for her co-operation extended during the preparation of the report. I am also deeply thankful to **Thiru –S. Ganapathy,** District Planning Officer, **Tmt. M. Angelin Louisa,** Superintendent **Tmt. J.K. Lakshmi,** Assistant, **Thiru P. Ganesan,** Former Statistical Inspector and other staff in the District Planning Cell, Tirunelveli district for their sustained help extended during the preparation of District Human Development Report.

I also thank all the officials and the staff in the District Government Departments for their interest and for providing the adequate data.

I am grateful to **Dr. S. Manickam,** Former Professor & Head, Department of Economics, Manonmaniam Sundaranar University, Tirunelveli and **Dr. Uma Maheswari R.M.** Assistant Professor of English, S.T. Hindu College, Nagercoil for their support and encouragement throughout the preparation of the report.

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CHAPTER 1
TIRUNELVELI DISTRICT - A PROFILE

Chapter

1

Tirunelveli District - A Profile

Topography

Tirunelveli district is located in the southern part of Tamil Nadu with a total geographical area of 6759 sq.kms. It lies between 8°.05' and 9°.30' of the Northern latitude and 77°.05' and 78°.25' of Eastern longitude and is bounded by Virudhunagar and Thoothukudi districts in the north, Western Ghats in the west, Kanyakumari district in the south and Thoothukudi district and Gulf of Mannar in the east. The district is situated about 65 m above the mean sea level. The perennial river Tamirabarani provides life to the people of the district.

History

Tirunelveli is named after 'Thiru – Nel – Veli' meaning Sacred Hedged Paddy. It is believed that a staunch devotee of Shiva, Vedasarma, who collected paddy by begging laid it out to dry under the sun and went for bathing in the Tamirabarani River. He prayed for the rain for the welfare of people who were affected by famine. His prayer was answered, a thunder storm broke-out and it rained heavily. Vedasarma rushed to the place where he had spread the paddy. Despite heavy downpour around the area, the paddy did not get soaked. The lord had protected it 'like a hedge'. Since then, according to puranas, the town is called –""Tiru-nel-veli"" - (Sacred Hedged Paddy).

Origin of the District

The region around the district was ruled by Pandiyas of south India, having their head quarters at Tirunelveli. Itplayed a great role in the politics of the region even during the period of the Pandya kings. There was an active participation of Tirunelveli both on cultural and political fronts during the reign of the Chola and Vijayanagar kings. After this, Tirunelveli was annexed and came under the rule of Nawab of Arcot. Later the district was formed in 1790 by the East India Company. Carving out Thoothukudi district, the present Tirunelveli district was formed on 20 October 1986. Now, this District has three revenue divisions, comprising 11 taluks, 19 development blocks, 616 revenue villages and 425 village panchayats. Besides, in the district, there are 38 town panchayats, 7 municipalities and 1corporation.

Language

Most of the people of the district speak Tamil. There are also people who speak Telugu and Malayalam. The tribal people living along the Western Ghats speak their native language. In the district majority of the people speak Tamil. However, in education at primary, secondary and college levels both Tamil and English languages are used as media of instruction.

Art, Architecture and Culture

The huge Nellaiappar temple at Tirunelveli, the Sankaranainar temple at Sankarankovil, Kasiviswanathar temple at Tenkasi and Vanamamalai Temple at Nanguneri are the landmarks of the district, signifying Hindu Culture.Palayamkottai has many Christian missions and Athankaraipallivasal and Pottalpudur Darga have been considered to be important sacred places for Muslims. People of different religions live in harmony, signifying the attitude of the people towards secularism, the main principle of the country.

The Venkatachalapathy temple at Krishnapuram village on the Tirunelveli - Tiruchendur main road about 12 km from Tirunelveli is one of the few specimens depicting architectural marvel and grandeur.

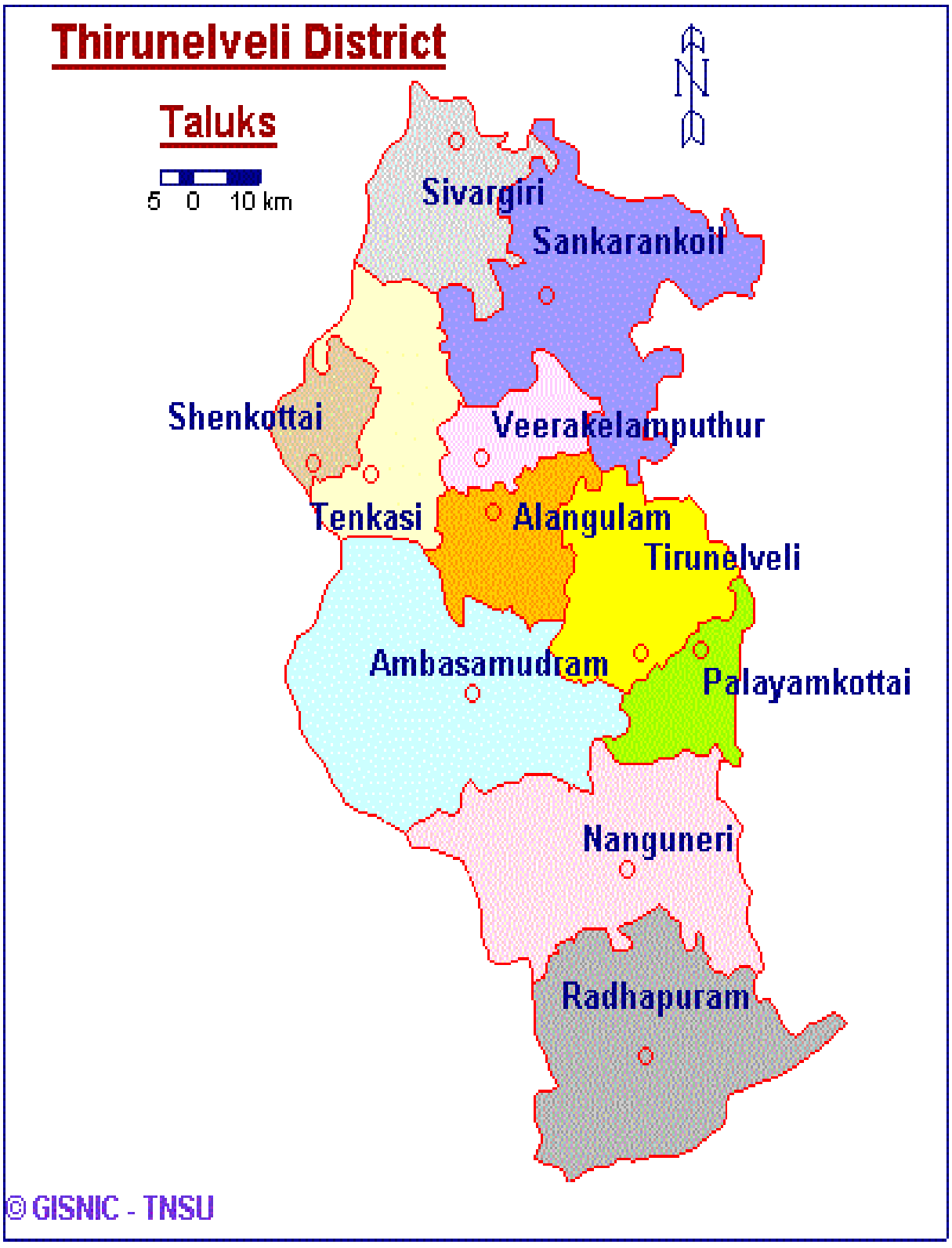
Swamy Nellaiappar and Kanthimathi Ambal Temple

The temple of Nellaiappar and Kanthimathi is situated in the centre of the town and the gopurams were built according to the rules laid down in the agamasastras by Rama Pandyan.The mandapam has colourful fragrant flowers. A square vasantha mandapam with 100 pillars is found in the midst of this garden.

The centre of attraction of this place is the oldest dargah built around the year 1674. This dargah attracts not only the Muslims but also Hindus and Christians in equal numbers. This was built by adopting Hindu temple patterns. If the prayers of the pilgrims are answered, they pay their offerings, through the dargha in large numbers during Kanthuri festival with great reverence.

The Holy Trinity Cathedral, popularly known as *Oosi Gopuram*, a small, elegant and beautiful Church was built in 1826 by Rev.Rhenius and opened to public for worship on 26 June, 1826. The church constructed by the generous contribution from Christians, Muslims and Hindus stands out as an example of religious harmony.

Tirunelveli DistrictMap



Tirunelveli district consists of 3 revenue divisions, 11 taluks and 616 revenue villages. With regard to the local bodies, there are 425 Village Panchayats, 19 blocks, 36 Town Panchayats, 7 Municipalities and 1 Corporation. The community development blocks are Alangulam, Ambasamudhram, Cheranmahadevi, Kadayam, Kadaiyanallur, Kalakadu, Keelapavoor, Kuruvikulam, Manur, Melaneelithanallur, Nanguneri, Palayamkottai, Pappakudi, Radhapuram, Sankarankovil, Shencottah, Tenkasi and Valliyoor.

Basic Demographic Indicators

Population, which is human capital if properly educated and trained, is a very important factor for economic development. The optimum size of population helps to utilize natural resources and this in turn will raise the per capita income and the standard of living of the people.

Table 1.1-District Basic Demographic Indicators

Sl. No	Indicators	2001	2011
1	Population	27,23,988	30,77,233
2	Decennial Growth (%)	8.92	12.97
3	Density of population per sq.km.	399	455
4	Urban population (%)	48.03	49.40
5	Sex ratio	1042	1023
6	Percentage of 0-6 year old	11.75	10.45

Source: Census Documents 2001 and 2011

The population of the district in 2011 was 30, 77,233 and it was an increase of 12.97 % over the 2001 census, whereas, the population of Tamil Nadu (7,21,47,030) in 2011 has increased by 15.6 % during the same period. The share of the population of the district to the total population of the State came to 4.27 % cent in 2011, whereas the share of geographical area of the district is 5.199 % of the total geographical area of the State (1, 30,000 sq- k.m)

Among the blocks, the population of Vasudevanallur had a greater share of about 6.53 % in 2001 and 6.31 % in 2011, standing next only to Corporation, while Pappakudi block had the least share in the district population both in 2001 and 2011 (2.61 and 2.71%). Since the geographical area of the block is the lowest, the share of population of Pappakudi block is found to be low.

Economy

Agriculture

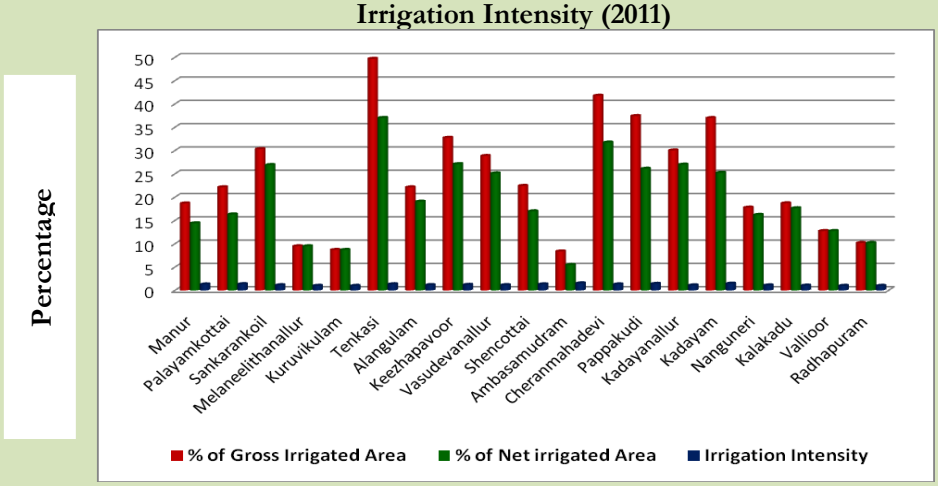
Agriculture is the backbone of Indian economy and it contributes to the growth of the country in terms of income and employment. Although in recent years the share of agriculture is gradually falling, even now it occupies a pivotal role in the economy. It provides greater opportunities for the livelihood of around 60 % of the population. It supplies raw materials to industry and earns foreign exchange. The sector is also the primary source of saving and capital formation of the country. However, the performance of the sector highly depends upon the monsoon. In Tamil Nadu, Tirunelveli has a comparativeadvantage in carrying out agricultural activities.

The district enjoys the benefit of the early showers of southwest monsoon and later it receives rains from the Northeast monsoon. The district chiefly gets irrigation facilities from rivers arising from Western Ghats.

Box 1.1 : Irrigation Infrastructure

To find out the status of agriculture through irrigation intensity and to suggest essential steps for increasing the agricultural production, the study is undertaken. In the study on human development index it is understood that Manur, Melaneelithanallur and Kuruvikulam have obtained low index value, Manur (0.240), Melaneelithanallur (0.380) and Kuruvikulam (0.400). The major reason for this is low standard of living, low health status and low education status of these blocks. The major reason for the low sectoral indices is due to poverty and unemployment in these blocks. As these blocks are rural and dependent on agriculture, to find out how and to what extent it provides income earning opportunities to the people, a field study on agriculture in these blocks is attempted. As irrigation is the major determinant of the prospects of agriculture in the field, a survey was attempted in these blocks and it is compared with the earlier status in 2001.

Irrigation Intensity (2011)



Source: Deputy Director of Statistics, Tirunelveli

In 2001, the district had 18.42 % of land under gross irrigated area and among the blocks, Shencottai, Cheranmahadevi and Kadayam have greater gross irrigated area of 55.57 %, 42.61and 40.49 % and Nanguneri, Vallioor, Radhapuram blocks have less gross irrigated area of 6.71, 6.96 and 8.05 %, respectively. In 2011, Pappakudi (37.42%), Cheranmahadevi (41.78%) Tenkasi (49.70%) had high gross irrigated area where Ambasamudram (8.38%), Kuruvikulam (8.70%) and Melaneelithanallur (9.49%) had low gross irrigated area.

Between 2001 and 2011, the gross cropped area for the top blocks has declined largely due to low irrigation intensity. Moreover, in 2011 itself, there is greater difference between the blocks in terms of irrigation facility. This indicates greater variations in the irrigation facility of the district. The blocks identified as backward by the State Planning Commission have less gross irrigated area (Melaneelithanallur 10.79 % and Kuruvikulam 9.88% in 2001 and 9.49% and 8.7 % in 2011). Thus in order to increase the development of blocks, provision of irrigation infrastructure facilities assumes importance and for this construction of check dams, percolationponds, recharge shaft and provision of drip irrigation facilities play a vital role.

The dams and anaicuts constructed along Tamirabarani and Manimuthar rivers serve agriculture and power generation both. Normal rainfall in the district is 736.9mm a year and it may go up to 814.8 mm per annum and it is generally well distributed. The Tamirabarani River offers perennial irrigation to a fairly large area on which two crops are normally raised. Several tanks and wells form part of the other sources of irrigation.

Tirunelveli, the penultimate southern most district of Tamil Nadu, has diverse geographical physical features such as lofty mountains and low plains, sand dunes, rivers and cascades, seacoast and thick inland forest, sandy soils and fertile alluvium, with a variety of flora, fauna, and protected wild life.

To highlight the district's unique physiographic divisions, it has Western Ghats on the western side of the district with thick forest cover, river plains including Thamirabarani plain mainly in the eastern region and coastal environment in the Radhapuram region. Thus, the district has all the five types of land classified by ancient Tamils. Ambasamudram, Kalakadu and Shencottah blocks are mostly hilly with forest coverage (*Kurunji* and *Mullai*);Palayamkottai, Manur and Alangulam blocks are largely plains (*Marutham*); Radhapuram block is largely a coastal region (*Neithal*) and Melaneelithanallur and Kuruvikulam are dry blocks (*Palai*). This physiographic feature is unique to the district. Courtallam and Pappanasam Agasthiar falls in the Western Ghats are the natural physiographic endowment of the district and also attract tourists and pilgrims.

Generally, the district has a maximum temperature of 35.6 and a minimum of 21.7 degree Celsius. In the summer, the weather is quite hot in May and June and the maximum temperature sometimes reaches 45 degree Celsius. With the onset of the southwest monsoon, there is some drop in temperature. From November to January, the coolest part of the year, the mean daily maximum temperature is about 30 -31 degree Celsius in the interior parts and the mean daily minimum in these months is about 22 -23 degree Celsius in the district.

The normal rainfall in the district is 736.9mm in a year. The district receives copious rainfall during the monsoon seasons. Maximum precipitation is contributed by the North-east Monsoon (429.8mm), followed by the South-west monsoon (92.6mm).

At present, the total geographical area of the district is 6759 sq.kms and in 2001 the total area of the district was 6823sq-kms. The district area was reduced in 2011 due to the transfer of 12 revenue villages of Kuruvikulam to Thoothukudi district. Of the total area of the district in 2001, forest area covers 18.90% and the area under cultivation is 23.03%. The land put to non agriculture purpose is 15.26%. The current and other fallow lands come to 5.26 and 5.76%, respectively which is a great concern for rural society.

Forest represent all forested areas on lands classed or administered, as forest under any legal enactment dealing with forest, whether state owned or private. The forest area of Tirunelveli district was 1,27,757.66 ha in 2010-11. It is 18.90 % of the total geographical area of the district. The district forest cover has increased by 1.2% from 2011. This may be due to strenuous efforts taken by the authorities. However, the forest area has to be increased to at least 25% of the total geographical area. Ambasamudram taluk with an extent of 59,161.48 ha under forest is the highest in the district and lowest in Palayamkottai taluk which is 799.74 ha.

Land that cannot be brought under cultivation, unless at a high cost - whether such land is in isolated blocks or within cultivated holdings, such as mountains, deserts, hills etc -- are classified as

uncultivable waste land. An extent of 29,682.24 ha of land comes under this category which represents 4.39 % of the total geographical area of the district has come down from 4.54% in 2001.

The land put to use for purposes other than agriculture such as buildings, pathways, roads, social forests, bus stands, railway tracks, canals, rivers, local reservoirs, swamp area, water logged areas,lands under still water etc. are brought under category other than agricultural category. Area under this classification is 1,03,136 ha accounting for 15.26% of the district's geographical area, which increased from 14.58% in 2001. This points largely to the urbanization process.

All lands available for cultivation, whether not taken up for cultivation or taken up for cultivation once, but not cultivated during the current year and continuously for the last five years or more in succession, for one reason or the other are classified as cultivable waste. Such lands may be either fallow or covered with shrubs and jungles which are not put to any use. The total area under cultivable waste is 36,455.62 ha or 5.36 % of the total geographical area of the district. A significant achievement is made here by the district in bringing down the cultivable waste from 9.21% in 2001 to 5.36% in 2011, underlining the expansion of agriculture in the district area wise.

All grazing lands whether they are permanent pastures or meadows are considered permanent pastures and other grazing lands. Village common and grazing lands within forested area are included under this category. An extent of 5,156.35ha or 0.76 % of the geographical area of the district falls under this category.

All cultivable lands, which are not included under net area sown, but put to some agricultural use such as lands under casuarina, eucalyptus, teak, bamboo bushes, babul, thatching grass and other groves for fuel etc. and which are not included under orchards and which yield only once in their life span are classified under this category -as land under miscellaneous tree crops. The extent under this category during 2011 was 8595 ha that is, 1.27 % of the geographical area of the State. Radhapuram taluk with 4,484.05 ha ranked first, contributing 51.62 % to the total area of the district under this category, followed by Ambasamudram taluk with 948.52ha (10.92%) and Tirunelveli taluk with 833.43ha (9.60%) in 2010-11.

Lands that are kept fallow out of the net area sown during the previous year are classified as current fallow for the reporting year. The area under current fallow during 2011 was 35,525 ha (5.26%). The extent under this category is the highest in Sankarankovil taluk (18,310.45 ha) followed by Tirunelveli taluk 4,102.26ha, Radhapuram 3,644.78ha and Alangulam taluk 3,114.91ha. These taluks together accounted for 67.74 % of the total area of the district under this category in 2010-11.

Lands which are taken up for cultivation but have been temporarily put off for cultivation for a period of not less than one year but not more than five years due to poverty of the cultivators, inadequate supply of water, silting of canals and rivers, etc. are treated as other fallow land. An extent of 1,74,126 ha, which is 25.76 % of the total geographical areawas recorded under this category during 2011.

Net area sown represents the area sown under first crop during the*fasli* year. Out of 6,75,850.21 ha of the total geographical area, 1,55,658 ha of land constituting 23.03 % was cultivated once with various crops during the year 2011. Of the total net area sown in the district, the share of Sankarankovil taluk is the highest with 27,858.47ha (19.21%) followed by Ambasamudram taluk with 20,136.02ha (13.88%) and Nanguneri taluk with 16,416.79 ha (11.32%). When comparing the net area sown with that of the geographical area of the district, Sankarankovil taluk and Palayamkottai taluk ranked first and least, respectively, contributing 19.21 and 4.17 % of its geographical area towards this category in 2010-11.

The two major groups into which the soils of the division may be divided are red and black. Black soil is suited to agriculture. The red soil being generally the result of the genesis of decomposition in situ of underlying ferruginous rock vary considerably in character depending upon local factors. Over hornblende and other ferruginous forms, the soil is of deep red colour with high iron content as observed in the plain cultivable areas of Shencottah taluk. The soil tends to become swampy in wet weather and hard during the dry weather, possibly due to pan formation below the surface. The soil derived from the decomposition of highly siliceous variety of gneiss is more sandy and of pale red colour. This soil is present in sufficient depth and the rainfall comparatively abundant, as seen near Kodamadi and upper dam. Red loam is the predominant soil type in this district accounting for 48.21 % followed by black soil of 30.09 %. The other types of soils are lateritic soil, sandy coastal alluvium, red sandy soil and others.

The total area of the forest of the district is 1,27,758 ha of which nearly 81,700 ha is set apart for Tiger Reserve of Mundanthurai and Kalakadu. The entire forest of the district stretches along the Western Ghats. Various types of forests from luxuriant tropical wet evergreen forests to southern thorn scrub forests occur in the district. Owing to its diverse geographical factors, the forests in the district are technically classified as Southern hill top tropical evergreen forests, West Coast tropical evergreen forests, Southern moist mixed deciduous forests, Ochlandra reed forests, Carnatic umbrella thorn forests, Southern Euphorsia scrub and Southern thorn scrub forest. There is a Wildlife Sanctuary at Mundanthurai and Kalakadu, where spotted deers, lion-tailed monkeys, elephants and tigers are found.

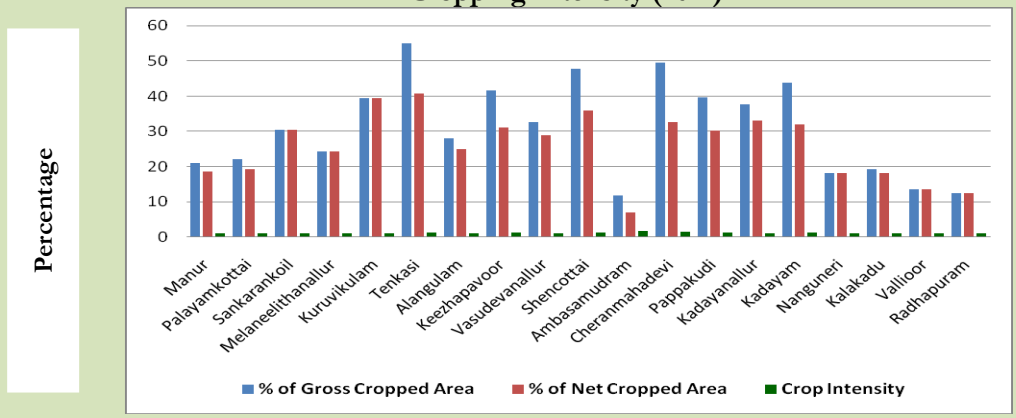
Box 1.2 - Cropping Pattern

To find out the status of agriculture through cropping pattern, and to suggest essential steps for increasing the cropping intensity and thereby the agricultural production, the study is undertaken. Another important determinant of the prosperity of agriculture is cropping pattern. Hence, it is included in the field study. Cropping is determined mainly by the type of soil and irrigation. Tirunelveli has fertile soil only in some of the blocks like Cheranmahadevi. Less fertile soil is found distributed over some other blocks like Radhapuram. The cropping pattern of the district essentially varies from block to block.

Wet cultivation is essentially paddy cultivation and the major share of the gross cropped area is under this crop. In dry regions, diversified cropping pattern exists and no single crop claims a large share of the gross cropped area. Dry cultivation, which characterizes these regions, is also basically millet and cash crop cultivation. Even in dry regions wherever water is available, it is the paddy crop that is sown by the farmers. Paddy occupies the largest area of cultivation, followed by cotton. Paddy is cultivated mainly in Tirunelveli, Palayamkottai, Tenkasi, Shencottai, Ambasamudram and Nanguneri Taluks.

Other crops such as cumbu, ragi, pulses, groundnut, gingelly, coconut, chillies and indigo are cultivated in the district. Some portions of Sankarankoil have rich, fertile black soil, which is highly suitable for cotton cultivation. Factors such as type of soil, climatic conditions and irrigation facilities determine the cropping pattern in this region. Most of the crops are on the ground only for three or four months, except chillies and cotton which take more than five months.

Cropping Intensity (2011)



Source: Deputy Director of Statistics, Tirunelveli

The cropping intensity in the district varies from 1.68 to 1 and the gross cropped area varies from 54.92% to11.89% in 2011. The block which has more gross cropped area and crop intensity will be naturally providing more employment to the people depending on agriculture. Tenkasi block has 63.01% gross cropped area in 2001 and 54.92% in 2011, highlighting the fall in the gross cropped area in the block and, on the other hand, there is no significant change in the crop intensity at the maximum level (Palayamkottai 1.67 in 2001 and Ambasamudram 1.68 in 2011). Radhapuram is at the bottom in both the aspects (8.05 and 1) in 2001and (12.43 and 1) in 2011.

Like irrigation intensity, crop intensity is also wildly divergent between the blocks. This leads to variation in agriculture production and standard of living of the people in the district. Therefore, it is suggested to provide irrigation facility such as check dams, percolation ponds, recharge shaft and provision of drip irrigation to increase the agricultural productivity in the district and to have a cropping pattern, which provides income and employment to the people of the district.

The forest in the ghat regions are under the influence of the Southwest monsoon and are dense in nature. Forests are light deciduous in the lower slopes and dense masses of short trees are found from an elevation of 1000' to 3000 feet. Above 3000 feet evergreen forests with very tall trees are found. Teakwood, black wood, rose wood etc. are the most important among them. Important forest products of the Tirunelveli division are honey, wax, cashew, palmyrah, cane pepper, tamarind, bamboo etc.

i. Forest Area: There are 58 forest areas in the Tirunelveli district constituting a total area of 1,19,469.62 ha, out of which 55 forest areas fall under the RF category with 40,373.62 ha and 3 under sanctuary areas with 79,096 ha.

ii. Trend in Per Capita Forest Area: Forest area has not shown any fluctuation over the years. The area covered under forests is 1, 19,469.62 ha from the years 1961 to 1996. The per capita forest area has shown a declining trend from 0.070 ha in 1961 to 0.039 ha in 1996 due to steady increase in population. In 2011, with the population of 3077233 and with the forest area of 127758 ha the per capita forest coverage works out to be 0.0415 ha.

iii. Social Forestry Scheme: Manmade forest plantations have been restricted to the existing forest areas in Tirunelveli district. About 7,620.40 hectares of man-made forest plantations are available in the district. Eucalyptus, teak, casuarina, cashew, red sander, cloves, sandal, neem, tamarind and other species are manmade.

About 600 species of timber trees and 3500 species of plants are found, underpinning the bio diversity of the district. The dense forests of Shenkottai and Tenkasi taluks are covered by medicinal shrubs, teakwood, etc. The chief forest produce of the district includes teak wood, rose wood, wild jack and cave wood. Firewood and sandal wood are the other major products. Minor products include cashew nut, cashew fruit, tea, karuvelampattai, tamarind, honey, kaddukai, cane, thaneerkodi etc.

Tamirabarani River

The Tamirabarani is a symbol of Tamil culture and civilization and an identity of the far south of India. In Tamil and Sanskrit literature of earlier times, the Pandyas were referred to as the rulers of the land where the Tamarabarani flowed. Tamirabarani is the chief river of the district which has a large network of tributaries including Peyar, Ullar, Karaiyar, Servalar, Pampar, Manimuthar, Varahanathi, Ramanathi, Jambunathi, Gadananathi, Kallar, Karunaiyar, Pachaiyar, Chittar, Gundar, Aintharuviar, Hanumanathi, Karuppanathi and Aluthakanniar. The two rivers of the district, which are not linked with Tamirabarani, are the Nambiar and the Hanumanathi of Nanguneri taluk.

The total length of the river is about 125 km and its course in Tirunelveli district is about 75 km. and its passes through Ambasamudram, Pappakudi, Cheranmahadevi, Palayamkottai blocks and Tirunelveli Corporation. The river is perennial as its catchment areas lie in Western Ghats. To improve irrigation facilities, the district has many reservoirs such as Pappanasam, Manimuthar, Gadana, Ramanathi, Karuppanadhi and Gundar. Backward blocks such as Melaneelithanallur and Kuruvikulam do not have sound irrigation facilities.

Kannadian Irrigation System

Irrigation facility more precisely, the irrigation intensity, determines the growth and performance of agriculture and having understood the significance of the effective usage of water, the Government of Tamil Nadu has started connecting inter-state rivers. In this process Kannadian irrigation system has been formulated and is being implemented connecting Tamirabarani –

Karumeniyar- Nambiyar Rivers. Government of Tamil Nadu has allocated Rs.126 crores this year to expedite the project, facilitating irrigation facilities to Radhapuram and Nanguneri blocks.

Foodgrain Production

In India, agricultural crops are broadly divided into foodgrains and non- foodgrains. The crops under foodgrains include cereals such as rice, wheat, jowar and maize and pulses. The crops under non-foodgrains include cash crops such as cotton, jute, oilseeds and sugarcane. The foodgrain production in the country stood at 54.92 million tonnes in 1951. In 2011-12, it increased to 252million tonnes. Falling along the track of Tamil Nadu, the major foodgrain crops in the district are rice, cholam, kambu, ragi and maize.

It is interesting to note that the blocks which have irrigation facility produce rice in all the seasons of the year and in these blocks, no/very little cultivation activity takes place pertaining to cholam, cumbu, ragi, and maize. Only in Sankarankovil and Vasudevanallur, both wet crops and dry crops are cultivated. In most of the blocks, rice under samba season alone is cultivated to a greater extent.

Rice cultivation is the major agricultural activity of the district and it is the major foodgrain for the people. It fetches comparatively a higher price than the other millet crops. Here, it is to be noted that the blocks which are endowed with irrigation facility along with greater fertility of the soil will be agriculturally developed and others will be backward. Vasudevanallur, Manur and Cheranmahadevi occupy the top position and Melaneelithanallur, Radhapuram and Kuruvikulam are the blocks which produce least rice output. In Ambasamudram, Pappakudi, and Cheranmahadevi and in parts of Palayamkottai more than one crop is cultivated due to the locational advantage of the blocks along the banks of Tamirabarani and in Alangulam and in certain pockets of a few other blocks. Due to good irrigation facility double cropping is practised. Although Manur occupiessecond rank in rice production, in terms of per capita production the same position is not retained. As Kuruvikulam is identified as a dry region, it occupies top rank in dry crop cultivation (maize). Here, the regions, which are dry, may be made suitable to cultivate food crops round the year to eliminate backwardness.

Dry regions of the district are Melaneelithanallur, Kuruvikulam and Sankarankovil. Here, people cultivate leguminous crop for livelihood. Melaneelithanallur block has greater gross cropped area under pulses.

In Manur, Sankarankovil, Kuruvikulam and Melaneelithanallur, the percentage of pulses cultivation in the gross cropped area is high. It is also to be understood that out of the four blocks, three blocks, Manur, Kuruvikulam and Melaneelithanallur - are backward both agriculturally and industrially. Hence, with given natural endowments of the blocks, efforts are needed to improve the standard of living of the people. Therefore, promoting value-added industries pertaining to pulses may be advantageous.

Box 1.3 - Land Holdings

Another determinant of the development of agriculture is land holding. This is very peculiar to India. Here, there are marginal, small, medium and large farmers doing cultivation. In India, growing population, law of inheritance, decline in joint family system and people's attachment to land holdings cause the average land holdings to be small and fragmented. This means each small land holding consists of many small pieces scattered over the village. Tirunelveli district is no exception to this.

In the district during 2011, of the total farmers, 82.68% were marginal farmers, 10.53% were small farmers, 6.44% were medium farmers and 0.35% were large farmers. In contrast, their holdings were 36.89, 20.13, 31.46 and 11.52%, respectively. It is crystal clear that distribution of land is skewed and the same phenomenon is found in most of the blocks. The existence of subdivision and fragmentation and distorted distribution of land holdings act as impediment for the efficient, productive and profitable agriculture. Therefore, it is suggested to provide efficient water supply system like drip irrigation and to promote improved and frontier agricultural practices such as better seeds, manures and machinery as the panacea for low agricultural productivity and backwardness in rural area of the district. This will go a long way to improve the human development status of the district.

Land Holding and Social Groups

In India, land is distributed unequally and tilted towards upper community. This leads to social and economic injustice. This is also one of the reasons for low productivity because of absentee landlordism. In Tirunelveli, agriculture is the main occupation and since the perennial river, Tamirabarani flows and supplies water, the importance of agriculture in the district assumes much more. Hence, a case study on land holdings and social group in Tirunelveli is attempted.

In regard to the operation of land holdings among various sections of the society, an analysis is made as to how far the land is distributed between communities. The land holding having a size of less than 1 ha of dry and 0.5 ha of wet, that is, Radhapuram (3.26%), Keezhapavoor (4.7%) and Vallioor (4.94%) have lesser number of SC population out of the total cultivators and Manur (26.21%), Sankarankoil (26.91%) and Kuruvikulam (27.53%) have greater number of SC population out of the total cultivators.

Similarly, the land holding having a size of more than 1ha of dry and 0.5ha of wet, Keezhapavoor (1.12%), Pappakudi (3.15%) and Vallioor (3.22%) have lesser number of SC population in the total cultivators and Vasudevanallur (15%), Sankarankoil (18.1) and Manur (20.98) have greater number of SC population in the total cultivators.

In order to bring social and economic justice to the downtrodden section of the society, the land has to be distributed to the SC community in future. Here, distribution of purampokku land to SC population and transforming other uncultivable land to cultivable land and distributing it to the vulnerable community may be the solution for alleviating poverty among the people of the lower strata of the society.

Industry

Tirunelveli Industrial estate was established in 1959 by the Government of Tamil Nadu. Kadaiyanallur Estate was established in the year 1992 by SIDCO. Valliyoor Industrial Estate (I) was established in 2005. Apart from these, an Industrial Estate in Kurukkalpatti, Melaneelithanallur Development Block and one more at Ponnakudi in Nanguneri Development Block are proposed to be set up.

IT Park for Tirunelveli District is being set up at Gangaikondan, about 20km north of Tirunelveli city on Tirunelveli-Madurai NH-7. IT Park is formed in a total extent of 500 acres of land.

An area of 390 acres has been allotted to IT/ITES industries. Social infra-structures such as schools, hotels, hospitals, mall, clubs and residential area get 110 acres. An extent of 100 acres has already been approved as IT-specific Special Economic Zone (SEZ). Electronic Manufacturing Companies with an export agenda may also apply for allotment.

Special Economic Zone at Tirunelveli

Along the National Highway-7, with the Western Ghats as a picturesque background, the SEZ is spread over 2500 acres in Nanguneri taluk of Tirunelveli district of Tamil Nadu, which is about 30km away from Tirunelveli city. The Special Economic Zone has been designed to provide SEZ IT Parks, manufacturing units, residential apartments, plots, water treatment, sewerage treatment plants, un-interrupted power supply and other amenities. This SEZ is a self-sufficient industrial township, wherein, a sound infrastructural framework supports production operations, where global connectivity ensures optimal business growth and where one can enjoy the pleasures of modern day living in the serene ambience of nature.Apart from the above facilities, the district has the following large and medium-scale industries.

In the district, there are medium and large-scale industries such as The India Cements, Sankarnagar, Tamil Nadu Jai Bharath Mills Ltd, Malayankulam Village Chidambarapuram, Sun Paper Mills Ltd, Mukkudal, Syed Cotton Mills Ltd, Sindhupoondurai, Sundaram Textiles Ltd, Nambinagar, Nanguneri, Kovilpatti Lakshmi Roller Flour Mills Ltd, 75/8 Benares Cape Road, Gangaikondan and Dharani Sugars and Chemicals Ltd, Dharaninagar, Athuvazhi.

In addition to the above-mentioned industries, recently in Tirunelveli district Radhapuram block beach sand minerals such as ilmenite, garnet and zircon are mined on a large scale. These minerals are exported to various countries.Apart from large and medium-scale industries, the district has cottage and handicrafts industry and the various types of these industries are: (1)handloom, mat weaving, basket making, palmirah products and poultry. (2)Country bricks, tiles making, blacksmithing, carpentry (3) Metal and allied works, terracota products and (4) Lacquerware and wet grinding stone.

Although the district is endowed with minerals such as limestone, beach and minerals, it is industrially backward. Several industrial estates and even the IT Park are yet to attain their full growth. Sufficient steps such as provision of continuous supply of electricity, subsidized raw materials, provision of credit facilities to industrialists and creating suitable infrastructure would go a long way in making this district industrially advanced.

Other Sectors

Other major sectors include banks and insurance. In Tirunelveli district, there are 297 commercial banks functioning and serving 12,76,598 account holders, reaching almost 41% of the district population of 30,77,233 in 2011. Among the blocks, Palayamkottai has the highest number of account holders (97,650). In Tirunelveli district, there are eight branches of LIC serving people with life insurance and the total number of policies goes up to 96,248. With population of over 30.77 lakhs, policy holders form only 3.13%.

Gross District Domestic Product

Agriculture has been the backbone of the district economy as in the case of the State and the country. In Tirunelveli district during 2009-10, the primary sector contributed only 8.43 % and the tertiary sector's income to the district comes to 56.03 %. In all three years, agriculture seems to be the lowest contributing sector and the tertiary sector is the highest contributing sector among the three.

Table: 1.2 – Sectoral Distribution of Gross District Domestic Product

Year	GDDP At Constant Price (2004-05) (Rs.in Lakhs)		
	2009-10	**2010-11**	**2011-12**
Primary	1,27,198 (8.43)	1,24,478 (7.42)	1,33,446 (7.52)
Secondary	5,36,637 (35.55)	5,96,602 (35.57)	6,08,326 (34.28)
Tertiary	8,45,798 (56.03)	9,56,195 (57.01)	10,32,602 (58.20)
Total	**15,09,633 (100.00)**	**16,77,275 (100.00)**	**17,74,374 (100.00)**

Source: Department of Economics and Statistics, Chennai.

A comparison of the district with the State's economy shows that in 2005-06, the primary sector contributed 3.68 % to the state total agricultural production in terms of value, whereas in 2009-10, the share of agriculture in the total agricultural production of the State runs to 3.69 %. This shows a slight decline in the share of agriculture, indicating a small fall in employment and income of the rural people of the district.

When comparing the growth rate of the primary sector, the highest growth rate was in 2006-07 whereas the lowest was in 2008-09. There is a fluctuation in the growth rate of agriculture which needs to be corrected. Here, ensuring water supply seems to be a necessary effort for rain-deficient blocks such as Kuruvikulam and Melaneelithanallur. This also points out the importance of creating additional water storage infrastructure to save the excess water of Thamirabarani River during monsoon.

The secondary sector is also playing an important role in the district economy. It has grown at an annual rate of 35.15 % in 2005-06 and in 2009-10, the annual growth rate was 22.70 %. In certain years the growth rate has been found negative. This fluctuation also affects the employment and income of the people. Here, ensuring uninterrupted power supply would stabilize the growth of the industrial sector. This is also reflected in the share of the district industrial sector to total State industrial sector. In 2004-05, the share was 5.60 % as against 5.40 % in 2009-10. The above facts stress the importance of starting new industries and providing suitable infrastructure including power supply for industries. This will go a long way in increasing human development in the district.

In the tertiary sector, growth rate ranges from 13.38% to 19.77% during the period and here also fluctuations were found. However, the degree of fluctuation is low compared to other two sectors. The district contribution to State tertiary sector was 4.1 % in 2004-05 and 3.94 % in 2009-10. It is to be noted that the contribution of the district to the state in all the three sectors has declined during the said period underpinning the underperformance of the district. A critical minimum effort is needed to address the issue.

In the analysis of the contribution of the district to the State domestic product, a falling trend is observed, supporting the above observation in connection with sectoral contribution. The total district net domestic product comes to Rs. 8,71,583 lakhs and for the State, it is Rs.1,93,64,503 lakhs in 2004-05 and in 2009-10 the respective figures are Rs. 18,46,109 lakhs and Rs.5,27,91,219 lakhs. The share of Tirunelveli in this is 3.5% for 2009-10, whereas it is 4.5% for 2004-05. This declining trend has to be reversed. Here, it needs to be stressed that the share of the district net domestic product has to be increased through all round development of the sectors including agriculture and industry, since the district had 4.27 % of the State population in 2011.

Growth Rate Per capita Income

Per capita income, a conventional measurement and indicator of economic welfare, is a ratio between national income and population of a country. This has been employed to measure economic attainment for quite some time before human development index was applied.

Table: 1.3 - Per capita Income

	At Constant Price (2004-2005)		**in Rupees**	
Year	Tirunelveli	**% Increase**	**Tamil Nadu**	**% Increase**
2008-09	44,293	-	43,193	-
2009-10	47,757	7.82	47,394	9.73
2010-11	54,259	13.61	53,507	12.90

Source: Department of Economics and Statistics, Chennai

The per capita income of the district in 2008-09 was Rs.44,293 and this has increased to Rs.54,259 in 2010-11 during the same period the per capita income of the state, Tamil Nadu has increased from Rs.43,193 to Rs.53,507.

In all the three years, the per capita income of the district was marginally higher than the State per capita income. On the other hand, the per capita income of India at current prices during the last six years has been growing annually at more than 10%. And during 2010-11, the growth rate is 17.42 % whereas for the State it is 21.97 %, underlining the better performance of the state of Tamil Nadu. At the district level, the highest growth rate has been found in 2005-06 and thereafter there has been a steady decline till 2009-10. The average growth rate during 2005-06 to 2010-11 has been 14.42, 17.39 and 15.75 % for the country, State and the district respectively. The per capita income of the district can be increased by concentrating on agriculture and industrial development since the growth rate of the district pertaining to agriculture and industry (19.60 and 16.58%) is lower than the State's (21.80 and 18.34%) per capita income.

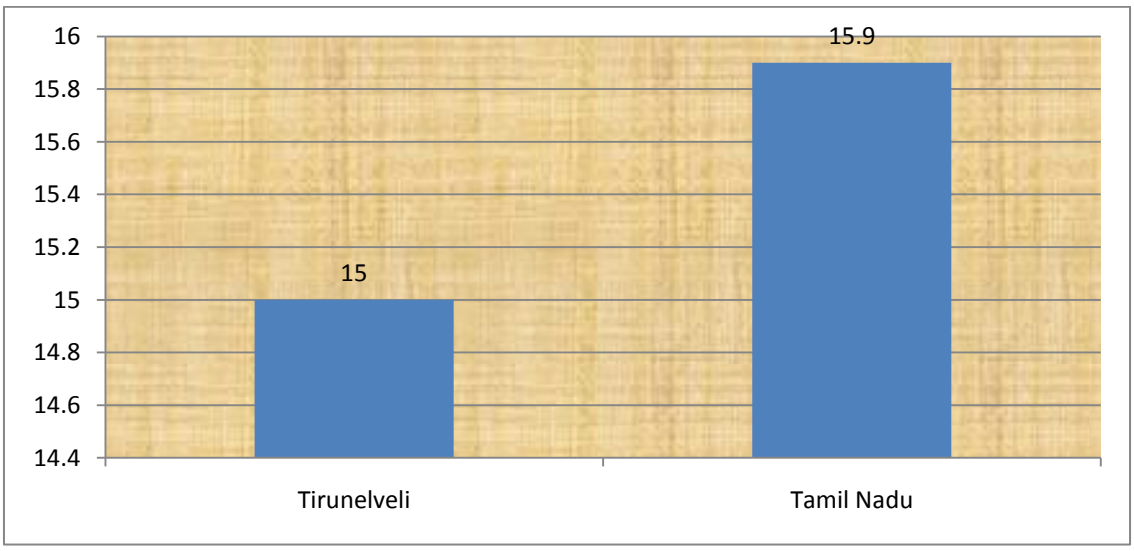
Social Sector

Social sector includes education and health. Both the sectors are important for human development. Education and health increase productivity and both the sectors are interlinked. However, in developing countries such as India, both the sectors are not fully developed due to various economic and social barriers thus, affecting the human development index.

Health

Crude Birth Rate (CBR) and Total fertility rate will indicate fertility. The CBR in Tirunelveli is marginally less than the State's CBR. As Tirunelveli is known for education, the CBR can very easily be brought down to the one which is in Kerala. Total fertilityrate (TFR) is defined as the average number of children,a woman would bear during her lifetime. In India, the total fertility rate is 2.6 in 2009 and it may go down to 2 births per women by the next decade. In Tamil Nadu, the TFR in 2011 is 1.7.

Figure: 1.1 Crude Birth Rate (2013-14)



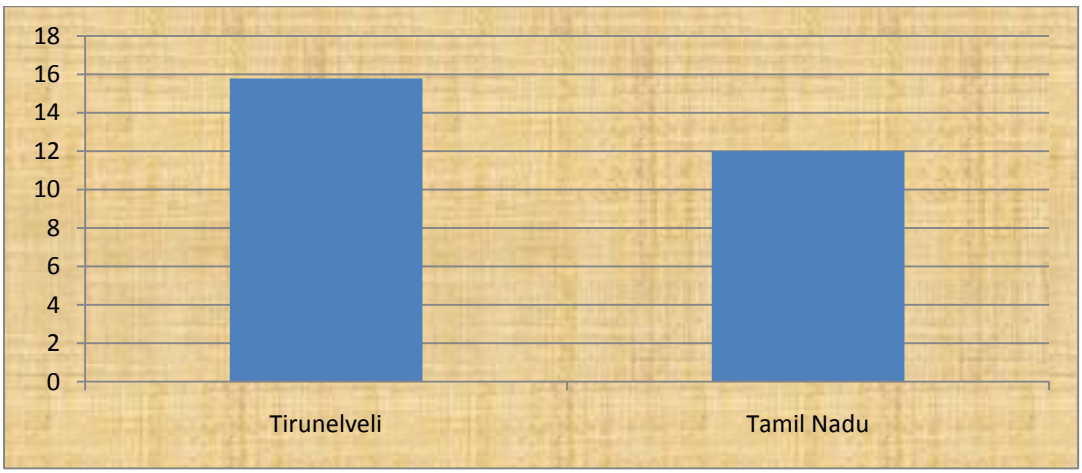
High birth rate is one of the causes for population explosion in India. There are many social and economic factors causing this high birth rate. The main social factors may be early marriage and marriage is a social compulsion. Illiteracy is also adding fuel to the fire. Poverty is the major economic factor leading to this issue. In Tirunelveli district, the TFR is high in Pappakudi (35.94) and in Manur it is 30.50. The lowest TFR is found in Tenkasi block which is only 11.18. Therefore, the blocks which have high TFR may introduce measures to reduce it.

Infant Mortality Rate (IMR)

Infant Mortality Rate means the number of deaths for per thousand live births. The true development of a region is revealed through infant mortality and maternal mortality rates. The low rates of the above two crystal clearly underlines the high level of health infrastructure such as hospital, availability of health-care personnel and nutritional status of people.

In the district there has been a decline in the infant mortality rate during 2007 -2011 (20-19.3%). Between blocks, the IMR varies from 11.18 % in Tenkasi to 35.94 % in Pappakudi in 2009. It is highly contrasting that Ambasamudram, the block with low poverty and low CBR and CDR, has high infant mortality of 23.57%. This peculiar problem is to be thoroughly investigated and suitable measures to be taken by the district administration. The corporation area has low rate and here the facilities and the steps taken may be incorporated in areas where high infant mortality is found.

Figure: 1.2 Infant Mortality Rate (2013-14)



In Tirunelveli, the infant mortality rate is 15.78 and for the State, it is 12. This is not a sound trend. Against this, in 2009in Tamil Nadu, the IMR was 21.20 which is higher than the district figure of 19.12. This shows that Tirunelveli district was somewhat better in addressing this issue then. Therefore, the district has to bring down the IMR below two digits in the near future.

Literacy and Education

Education is a basic necessity for social awareness. Education brings a better society. Lack of education prevents social and economic enrichment. Literacy rate is a concept denoting the ratio of total number of literates to total population. The trend in the literacy rate at the district level during the last decade has increased from 76.09 to 82.50%. Although this is a positive aspect of the district, the female literacy was lower than the male literacy during 2001-2011. Understanding the above gender inequity and the importance of female literacy, the district authorities have taken tremendous efforts to improve female literacy and as a result it has increased from 67.43% in 2001 to 78.95% in 2011 and the growth rate of male literacy is 10.38% and female literacy is 12.68%.

Tirunelveli Corporation had the greatest literacy rate in 2011 and the figure for the year stands at 90.39% and at the other extreme, Melaneelithanallur is with the lowest literacy rate of 72.74%. Since the corporation area has more schools and teachers and the people are economically better off than their counterparts in the blocks, literacy is high. Against this, Melaneelithanallur, a backward block in terms of agriculture and industry, with a high poverty incidence of 33.93%, has low literacy rate. To increase this rate, apart from providing better educational infrastructure, steps need to be taken for increasing the employment and income of the people focusing on developmental efforts on dry farm cultivation and small-scale industries especially connected with value addition of millets and chilies.

Enrolment Ratio

The need for universalization of primary education in India was stressed by Sri Dadabhai Naoroji. Universalization of primary education is a provision to provide free educational opportunities to all children of the society of all castes, creeds and irrespective of sex. There has been a tremendous increase in elementary education after Independence. The primary education in India has expanded exponentially and now it is one of the world's largest systems.

The enrolment ratio at primary level was 99.72% in 2011-12 for the district, consisting of 99.68% for boys and 99.76% for girls. Here girls' ratio is slightly higher than the boys' ratio. The enrolment ratio at primary level is 101.70% in 2012-13 for the district, having almost equal GER between male (101.54) and females (101.86). Here also, girls' ratio is slightly higher than the boys' ratio. However, girls' enrollment ratio begins to decline from upper primary onwards. Therefore, attention must be paid on girls' education from upper primary level.

Generally in the district, transition from primary to upper primary is good and revolves around 99% and dropout is almost less than 3% at primary level. On the other hand, the transition from upper primary to secondary in 2012-13 varies from 80.49% in Kadayam to 98.92% in Shencottah. The reason for high transition rate in Shencottah may be attributed to its close proximity to Kerala, where literacy is very high in the country. The other reason is the prosperous nature of agriculture in the block due to copious rainfall.

> The Government of Tamil Nadu has envisioned Tamil Nadu as the "Numero Uno" State in India by 2023. The 'Vision 2023 strategic plan for infrastructure development' of Tamil Nadu aims to make the State as the first poverty – free State of India. This is also reflected in the broad vision of the 12thPlan by including accelerated, innovative and inclusive growth with sustainability, all aiming at reducing poverty, creating job opportunities enabling access to health and education.

The Government of Tamil Nadu has planned to address the regional imbalances and backwardness in human development and gender parameters. In an attempt to take important measures towards the realization of equitable growth with sustainability, the State for the first time has come forward to measure the human development index at block level and based on the status, district development planning is to be formulated. Towards this end, the district human development report will be prepared.

CHAPTER 2

STATUS OF HUMAN DEVELOPMENT

Chapter

2

Status of Human Development in Tirunelveli District

Introduction

The ultimate objective of economic endeavours is human development which includes quality of life, in terms of the level of standard of living and social services encompassing education and health. Economic growth is conventionally measured by GDP or GDP per capita. However, it is difficult to find out the exact human development, as this has to be measured through different social and economic dimensions. To capture the various dimensions of human development, United Nations Development Programme (UNDP) has introduced Human Development Index (HDI). The HDI consists of three dimensions namely standard of living, health and education. The calculation of index for living standard comprises five indicators, two for health and two for education. In this calculation some of the indicators are positive such as cooking fuel, toilet, water, electricity, pucca house, literacy rate and GER at primary and secondary level and some other indicators such as child mortality rate and maternal mortality rate are negative. The index value for a positive indicator is calculated by: Index Value = (Actual Value – Minimum Value) / (Maximum Value – Minimum Value). The index value for negative indicator is calculated by using the formula: Index Value = (Maximum Value – Actual Value) / (Maximum Value – Minimum Value). For computing sectoral indices (health, education and standard of living) geometric mean is used and the method of calculation is as below. Thus, there are three indices, one for Standard of living and another for health and the other one 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 = $(I_1 \times . I_2 \times \ldots . I_n)^{(1/n)}$.

To compute HDI, the three sectoral indices are aggregated applying geometric mean. Therefore, 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. In this chapter, attempts have been made to calculate the HDI at block level to know about the human development at the bottom structure of the economy.

The index would reveal the status of the blocks and would help the formulation of suitable plan and policy at the panchayat union levels and thus, would enable the country to adopt inclusive economic growth. This would also pave way for development from below and thus would ensure people's participation in the development process. The dimensions and the respective indicators considered for the estimation of HDI are as follows:

Dimensions	Indicators
Standard of Living	Access to Cooking fuel
	Access to Toilet
	Access to Water
	Access to Electricity
	Access to Pucca house
Health	Infant Mortality Rate
	Maternal Mortality Rate
	Under 5 Mortality Rate
Education	Literacy Rate
	Gross Enrolment in Primary
	Gross Enrolment in Secondary

Human Development Index - Inter-Block Variations

The HDI has been constructed for 19 blocks and a corporation in the district employing the methodology spelt out earlier in the chapter. The index value varies from 0.88 (corporation) to 0.41 (Manur and Kuruvikulam). The high value for standard of living index and health index has determined to a large extent the HDI value of the corporation. On the contrary the low value of standard of living index and education index pushed down the HDI value of Melaneelithanallur to the lowest one in the district, placing it at the 20th rank. Tenkasi has an HDI value of 0.75 and is at the second spot because of its high positions in education index (0.78) and health index (0.76), Manur is at the 19th rank with 0.41 as HDI value because of its low rank in education index (0.36) and health index (0.42).

Table: 2.1 – Human Development Index, 2014

Top 3 blocks		Bottom 3 blocks	
Corporation	0.88	Melaneelithanallur	0.45
Tenkasi	0.75	Manur	0.41
Vallioor	0.69	Kuruvikulam	0.41

The above comparative analysis of HDI shows that the variation of HDI value between the blocks is very wide and in terms of reasons for high and low values of HDI, no single sectoral index and individual indicators can be attributed. Each block has distinct advantages and disadvantages and therefore a detailed study on each sector and indicator is attempted for policy suggestions and development programmes.

Modern fuel includes LPG, electricity and bio-gas. These fuels are easily controllable, transported and flexible to use according to requirements. The heat energy produced is also not wasted,it is comparatively safe and leaves less carbon or sulphur. In India, most of the rural people still use firewood for cooking purpose and there by women are often affected by the smoke, resulting in headache to lung problems. It also takes more time for cooking. Modern fuels such as LPG are mostly used by urban and rural rich people. Thus, use of LPG is taken as one of the variables for understanding human development.

In the district, in the blocks such as Corporation, Tenkasi and Ambasamudram, the percentage of people using modern fuel is high. Melaneelithanallur, a block which is identified as a backward one by the Government of Tamil Nadu is trailing behind all other blocks as rural people consume less modern fuel.The high index value for modern fuel has been noticed in Corporation, Tenkasiand Ambasamudram and the low index value is associated with Melaneelithanallur, Manur and Kuruvikulam. The high value goes with agriculturally advanced blocks and urban areas. Kuruvikulam which has a low value is an agriculturally backward block. Here, it can be inferred that high-income group consumes modern fuel even in rural areas. Keeping this in view, it is suggested that rural people can be given more subsidized gas.

Box 2.1 - Use of Modern Fuel

To investigate further into the reasons for low use of modern fuel in Melaneelithanallur, a case study is undertaken. The use of modern fuels for the domestic purpose shows the status of the people. Lower use of modern fuel marks poor living standards and of the 19 blocks in the district, Melaneelithanallur has the lowest percentage of households that is, 23% use modern fuels. This low percentage in the block, reflects in the index value for modern fuels and also pulls down the Human Development Index. Melaneelithanallur has got the 19th rank in HDI.

In Melaneelithanallur, there are 25 village panchayats and the living standard among these villages vary widely and the use of LPG among the households of the villages also varies. To understand why there is low percentage of consumption in the villages, the consumption pattern of the cooking fuel is surveyed. The field survey points out that, of the 25 village panchayats, in 2013-14, in Achampatti only 8.67% of the households use modern fuels and 82% of the households use wood and 9.25% use kerosene for cooking purposes. In Moovirunthali 18.35, 74.77 and 6.88% of the households use modern fuel, wood and kerosene, respectively. In Kulasekaramangalam, Melailanthaikulam and Thadiyampatti, only around 23% of the households use modern fuel and over 50% of the households use fire wood for cooking purposes. The low consumption of cooking fuel is almost found in the most backward villages of Kuruvikulam.

On the other hand, in Chinnakovilangulam 95.24% of the households consume LPG and only around 5% of the households use wood and kerosene for domestic purpose. Ilanthaikulam village has got about 89% in LPG consumption. The households in Ko.Maruthappapuram (68.14%), Pattadaikatti (66.33%), Sundankurichi (64.94%) and Vannikonnendal (63.25%) use LPG over 60% for cooking. These villages are comparatively advanced and thus, high consumption of LPG is found.

Thus, the people in Achampatti, Moovirunthali, Kulasekaramangalam, Melailanthaikulam and Thadiyampatti who use wood as cooking fuel may be provided with LPG at greater subsidy for making them to shift to modern fuels. This would not only endow the people with hygienic cooking environment but would also safeguard them from the smoke in the kitchen. Moreover, the people using traditional fuels like firewood have to be created awareness on the use of modern fuels and make them utilize it, in their day to day life economically.

In Tirunelveli, the urban population has more toilet facilities and 96% of the people in Tirunelveli corporation use modern toilet facilities and among blocks, Vallioor tops the rank (81%) and Melaneelithanallur has only 35% coverage. In the index value for this item, Corporation, Valliyoor and Ambasamudram secure top three ranks and the bottom three are Melaneelithanallur, Manur and Kuruvikulam. In this, Melaneelithanallur and Kuruvikulam find low literacy value. Therefore, people in these blocks apart from low income, due to low literacy rate, do not know the importance of sanitation. Moreover, in Melaneelithanallur access to water for toilet facility remains a great hurdle due to scarcity of water. The average rain fall in Melaneelithanallur is well below the

district level. River water is also not available. This may be another reason for low toilet facility in Melaneelithanallur.

Box 2.2- Toilet Facilities

To find out the major reasons for low index value for toilet facilities in Melaneelithanallur this case study with a field survey is carried out. In the district, the people of Melaneelithanallur have low toilet availability and only 35% of the household make use of the toilets. This affects the index value of toilet facilities and in turn affects the Human Development Index.

The survey is made in all 25 villages of the block and here, the survey attempted to cover the houses with toilet facilities and toilet facility available in common places like schools and Anganwadi centres. The survey also intended to include the toilet facility for the community, especially for women. The village Achampatti like in the case of fuel, has the lowest percentage of the houses with toilet facilities, that is, 13.73%. Melailanthakulam also has a low percentage of 10.89% of houses with toilet facilities and the same village has low percentage of cooking fuel. Pattadaikatti and Kurukkalpatty have only 16.03% and 18.33% houses with toilet facilities.

On the other hand, Moovirunthali has 49.59% of houses with toilet facilities and Kelaneelithanallur and Senthamaram Majara have 42.03 and 41.13%, respectively. It seems that the type of houses determines the availability of the toilet facilities. In Moovirunthali, 48% of the houses are concrete and another 48% of the houses are tiled ones. In this block, concrete houses are large in numbers and therefore toilet facilities are also great.

In order to find out the determinants of toilet facilities, a regression analysis is employed taking toilet as dependent variable and concrete houses as independent variable. The data for this are collected from the 25 villages of Melaneelithanallur and the results explain that the linear regression model explains about 40% of the toilet facility. It is explained by the independent variable, concrete house. In the model, 'F' and 't' values are significant. Therefore, the type of house determines the toilet facility.In Achampatti, 72.50% of the houses are tiled and of the 1,483 houses, only 27% are concrete made. This low percentage of the concrete house is leading to low toilet facilities. Hence, it is suggested to offer housing loan at low rate of interest to the people of Achampatti which may transform the entire sanitation condition of the village. To provide toilets in all the houses is at present a Himalayan task. Therefore, what is immediately possible is to create toilet facilities at common places wherever it is necessary. With this view, a field survey is undertaken to access the toilet facilities at the common places and to point out the necessity of it in certain places. The above table shows the toilet facilities in the schools and anganwadi centres and toilet meant for the community.

In the villages of Melaneelithanallur, there are about 27 schools without toilet and in Vadakupanavadali village there are about six schools and all the schools do not have toilet facilities. Likewise, in Sendamaram Majara, Sendamaram Kasbha and Narikudi villages there are five, four and four schools without toilet facilities. In Sendamaram Kasbha, out of 10 Anganwadi centres, six are without toilet and there is no community toilet facility for male. Hence, it is suggested that immediate budgetary allocation be made to create at least common toilet facility in Vadakupanavadali, Sendamaram, Majara, Sendamaram, Kasbha and Narikudi villages. In schools and in Sendamaram Kasbha and Anganwadi centres, toilets should be provided.

In Tamil Nadu, supplying safe drinking water is crucial for people and it is directly and indirectly linked to the livelihood of the people. Providing safe drinking water is one of the priorities of the Panchayat Union. A comparison of consumption of safe drinking water among the households of different blocks shows vast difference. In the district, only 83% of the people are covered under safe drinking water schemes and this is well above the national average as per the census data. As the consumption of the safe drinking water reflects people's living standards, its index value for water supply habitation-wise is considered for HDI measurement. In the analysis of index value for safe drinking water, it is understood that Tenkasi and Corporation have outstripped other blocks. As

already noticed Melaneelithanallur and Kuruvikulam are lagging behind in other positive indices implying the backwardness of these blocks, water supply also has the same situation here. Water supply should be ensuredin these areas.

Electricity is an integral utility in modern society and is the backbone of the development of the industry, agriculture, communication, transport and is also associated with every walk of life. Even entertainment is dependent on power supply. Therefore, the index value for electricity is included in the calculation of HDI.

Knowing its significance, Tamil Nadu has almost 100% electricity coverage. Now ensuring continuing power supply is the need of the hour. In Tirunelveli, over 90% of households are provided with power. The percentage for electricity coverage is high among all blocks. Therefore, it reflects well and positively in the standard of the living index of the district. However, for the development of agriculture and industry in the district, uninterrupted power supply is necessary.

Pucca housing facilities mean better living environment and better health and improved productivity of the people. It also raises the social status of people and this is reflected in the well being of people. In the analysis of index of pucca house in Tirunelveli district, Manur block has the highest percentage (81%) of people with good housing facilities and the lowest is Pappakudi (30%) block. The index value for pucca house is maximum for Corporation with one and Keelapavoor block has the lowest value (0.13). Understanding this, the housing project of the present Chief Minister of Tamil Nadu, "Green House" is implemented with all seriousness throughout the district to improve the housing facilities of people.

In India, after Independence, achievement in health is modest and expenditure on health both by private and public is low. There is also a sharp inequality that exists in access to health between the rich and the poor and between the rural and urban people. Therefore, it is a necessity to increase public expenditures on health. Against this, the public health investment has declined from 1.3% of GDP in 1990 to 0.9% in 1999 (ZoyaHasan and MushirulHasan, 2013).Only recently, the budgetary allocation has been increased marginally.

Health plays a vital role in human development. Sound body and sound mind are essential components of productivity. Good health is not limited to a particular religion, caste, region or gender. To understand the health status of the people in Tirunelveli, IMR and MMR are considered.

Infant mortality rate is a sensitive indicator of health and the social and economic attainment of the people. It reflects the probability of a child dying within one year. In India, infant mortality has declined from 134 in 1947 to 47 in 2010 (ZoyaHasan and MushirulHasan, 2013). The main causes of this tragedy are pre-mature birth, respiratory infections and diarrhea. With a view to reducing the IMR and strengthening the health care system, the National Rural Health Mission was launched in 2005. Even then it is estimated that there is a shortage of 19,590 sub-centres and 4,252 primary health centres in India.

Tamil Nadu has made tremendous progress in reducing the IMR. It has been reduced from 113 in 1971 to 24 in 2010, which is well below the all India figure of 47 during the year. As regards the gender gap in IMR, Tamil Nadu did well and it was almost equal between boys(23) and girls (24) in 2010.

As infant mortality rate is one of the indicators of health status, it is included in the HDI. High infant mortality rate means, underdevelopment. In Tirunelveli district, Corporation (7.50), Valliyoor (7.54) and Palayamkottai (10.44) have low incidence of infant mortality and thus find a high index value in the indicator and Manur (20.93), Kuruvikulam (20.05) and Cheranmahadevi (20.45) have high incidence of infant mortality and thus, secure a low index value. In fact, one block which is rural and corporation which is urban are with one as index value which is an exemplary achievement. Even in other blocks where infant mortality is high, it is less than the national figure, 47 in 2010. However, the district has to embark upon new plans and programmes to curtail the infant mortality rate as all blocks have high IMR compared to the IMR of developed countries.

Generally, the Maternal Mortality Ratio (MMR) is the annual number of female deaths per 1,00,000 live births from any cause related to or aggravated by pregnancy or its management. Simply, the MMR includes deaths during pregnancy, childbirth, or within 42 days of termination of pregnancy for a specified year (www.cia.gov.world-factbook). Globally the MMR has decreased from 400 in 1990 to 210 in 2010. The major causes for maternal death are hemorrhage, sepsis and anaemia. The other reasons are toxaemia and malposition. All these pinpoint inadequate health facilities. It also shows lack of knowledge and delayed medical attention in the rural areas. The MMR also varies between various social groups. The antenatal coverage has to be increased to the poor and the socially under privileged women.

As the MMR is also another indicator of health, it is included in the index calculation and as regards the index value, Corporation, Valliyoor, Tenkasi, Melaneelithanallur and six other blocks showedgreater performance (10) in eliminating MMR in the study period and Kadayam (195.95) and Ambasamudram(174.22) blocks performed poorly. Melaneelithanallur outshines other blocks, which has to be appreciated and it has to be considered as role model for other blocks in this aspect. Kadayam which has high BPL families and high percentage of SC population needs to be provided with more health care facilities to bring down the MMR.

Under 5MR is also considered as one of the indicators of the health and high under 5MR shows low level of health achievement. In India, in 2010 under 5MR is 59, states such as Assam(83), Madhya Pradesh(82), Uttar Pradesh(79), Odisha(78) and Rajasthan(69) are with great levels of under 5MR and Kerala (15) and Tamil Nadu(27) are with the lowest figures(Council for Social Development 2013). In this, Tamil Nadu has 30 for rural and 24 for urban as U5MR whereas for India, it is 66 and 38 respectively. Similarly, gender discrimination is found even among children as under 5MR for male is 55 and it is 64 for female in India in 2010. However, the achievement of Tamil Nadu is to be applauded as the gap has narrowed down to 2 (26 for males and 28 for females).

However, there are miles to go before Tamil Nadu reaches Kerala's landmark feat (14 for males and 16 for females).

In Tirunelveli district, Corporation has very low U5MR (7.50) signifying the health facilities available in the region. In contrast,Kuruvikulam (20.40), Manur (20.93), Cheranmahadevi (22.80) and Ambasamudram (26.10), have very low index. Therefore, a special health package in terms of health infrastructure and health care staff including doctors should be provided at once. However,most of the blocks are better off, since the under 5MR is lower than the state value for most of the blocks including the corporation.

Education is the most important component of human resource development. All forms of education transform the society and provide economic benefits. Moreover, it creates the required social environment for people to live in harmony. Thus, every state in India vies for becoming fully literate, since literacy rate of state explains the status of attainment in this field and also in human development.

Tirunelveli district is considered to be the Oxford of the state. Palayamkottai has cluster of schools and colleges providing quality education. In the district Corporation (90.39%), Vallioor (88.64%) and Radhapuram (88.61%) blocks have achieved higher literacy rate in terms of its index value and Melaneelithanallur (72.74%), Kuruvikulam (74.10%) and Manur (76.70%) and blocks stand opposite. The above fact indicates blocks which have higher number of schools obtained higher index value and blocks with lower number of schools naturally descend in the order. Therefore, it is suggested that school infrastructure may be created in those blocks where low literacy is there. Further, blocks such as Kuruvikulam and Melaneelithanallur which are backward do not fare well in literacy. Here, poverty may be the reason for low literacy.

Box 2.3- Literacy Rate

To probe into the reasons for low literacy rate in Melaneelithanallur and to suggest measures to improve it, a case study is undertaken. In the district, Melaneelithanallur has the least rate of 72.74 and the highest is Corporation with 90.39%. The index value for this indicator for Melaneelithanallur is 0.290 and for the Corporation, it is 1.000. The skewed index value between Melaneelithanallur and Corporation gets echoed in the Human Development Index.

A field survey is undertaken to know the present status of the facilities such as schools, staff, infrastructure and such others determining literacy. In rural areas, people prefer to go to school which is nearer to their home. This is, because of poverty and also due to inadequate public transport facility. In the survey made in the 25 villages of Melaneelithanallur, the availability of schools and distance between the schools and the resident point is taken.

The study points out that although primary school is available in the village Panchayats, they are not there in each of the hamlets of the villages, which affect the enrolment of children at primary level. The field survey also brings to light that for upper primary education, in Periyakovilangulam the children have to walk a distance of nearly 6 kilometers. The facilities available for high school and higher secondary school education have to be increased. Achampatti, which is backward in terms of LPG consumption and toilet facilities also has no high school facility. The children have to cover the distance of 6 to 14 kilometers for undergoing secondary and higher secondary education in private and government schools. Hence, it is suggested the upper primary school in Achampatti may be elevated to provide secondary education. Likewise, the upper primary school in Narikudi, Ilanthaikulam, Moovirunthali and Thadiyampatti may be converted into high schools and higher secondary schools, as the children have to travel a distance of over 7 kilometers for secondary education. Similarly, the high school in Vellappaneri may be elevated to higher secondary school. These facilities along with poverty alleviation programmes will go a long way to increase the literacy rate in the block.

The Education System has a uniform structure of 10+2 system. School education is divided into primary, upper primary, secondary and higher secondary. In India, government and private institutions offer school education. Enrollment ratio at primary and secondary levels also assume major role in human development. Hence, universalization of primary education is a prime objective of all the States, a major task for the country now. Towards this end, the country has increased educational facilities and now there are 8.1 lakh primary schools, 14.94 lakh upper primary schools in the country.

The enrollment of children at primary level is 13.3 crore and at upper primary, enrollment is 5.45 crore. In the country many programmes are launched to increase the enrollment at the primary and upper primary levels. Programmes include Operation Black Board and Sarva Shiksha Abhiyan. Tamil Nadu has almost achieved the Himalayan task of universalization of primary education. However, the educational status of the district is known for better educational plans and for understanding human development in the district.

Box 2.4 - GER - Primary Education

To suggest measures to increase the low GER at primary education in Melaneelithanallur, a detailed analysis in the form case study is undertaken. Primary education plays an important role in the development of the individual through private benefits and in the development of the country through social benefits. Studies show that among the primary, upper primary, secondary, higher secondary and collegiate education, primary education gives more social return. Therefore, higher the enrollment in primary education, higher the return and human development. In the district, Melaneelithanallur has only 85.47%.

While undertaking the field study, the respondents of the village said that out of eight hamlets in Kulasekaramangalam, only one hamlet has education facility. Similarly, in Vellappaneri only one hamlet has the education facility out of seven hamlets. In Pattadaikatti village panchayat, of the seven hamlets only two have school facility. In Melaneelithanallur, there are about 95 hamlets in 25 village panchayats and out of the 95 hamlets, 29 hamlets do not have education facility. This is the major reason for low enrolment at primary level in Melaneelithanallur.

Hence, from the analysis of the case study, it is suggested to increase the education facilities as per the requirement of the residents of the villages. It is also further suggested that if there is no sufficient population in the hamlets and if it is difficult allocating fund for the creation of the educational facilities, a public transport support may be given to the vulnerable children to pick them up from their home to school. Like noon meal programme, a free transport programme may be introduced. Here, the assistance of the Self Help Groups of women may be utilized to take care of the children. The members of the SHGs may be given a loan to buy a small vehicle like tri-wheeler and this may be utilized for pickup purpose. And the free transport facility may increase the GER at primary level in the educationally backward hamlets.

Within the districts, Tenkasi (127.89%), Vasudevenallur (122.61%) and Ambasamudram (115.43%) blocks have achieved higher gross enrollment ratio at primary level and Kuruvikulam (85.76%), Manur (85.78%) and Melaneelithanallur (85.84%) blocks stand last. It has been observed that Kuruvikulam and Melaneelithanallur are already at the bottom in literacy rate too.

Hence, more investment on education in these two blocks is needed to improve human development and also to bring social development. As far as Manur is concerned, it is abysmally low both in education and health pointing out a strong linkage between the two sectors. It means good education leads to sound health and vice versa. Therefore, in Manur block, investment in both health and education is needed. Considering the geographical area, Manur is the largest block in the district. Therefore, it has to be examined whether smaller block leads to better governance in the light of Kalakadu a small block securing fourth rank in HDI and second rank in GII among the 19 blocks of the district.

Similar to primary education, secondary education in the country has also grown significantly. However, due to poverty, social inhibition and inadequate infrastructure, the transition rate from upper primary to secondary has fallen greatly. This is more so for the girl child. Access to higher education is also affected by inadequate infrastructure such as roads and transport.

Box 2.5: GER - Secondary Education

To make an in-depth study on the low GER in Kuruvikulam and to recommend measures for increasing the GER (secondary), a case analysis is carried out. Education is not complete with primary education as it is a continuous process and children have to complete primary, secondary, and tertiary education, so as to gain knowledge and efficiency. In the era of knowledge explosion and in the competitive world, secondary education determines the future course of the study and also the life of an individual. Such an important indicator has to be understood thoroughly. In the district, Kuruvikulam has low GER secondary education.

The field study shows that in Kuruvikulam, inadequate infrastructure facility for higher education seems to be the major reason for the low GER. There are 43 village panchayats in Kuruvikulam block and in certain villages children have to go a long distance of around eight kilometers for secondary education as there is no high school either private or government one.

In Kulakattakurichi, for secondary education, the children have to walk eight kilometers for studying in government high school and six kilometers for private high school. Similarly, in Chathirapatti, Mukkutumalai and Nakkalamuthanpatt, there is no high school. It is situated only over five kilometers away from these villages. For K.Alangulam and Sangupatti, schools are available only four kilometers away. And the distances mentioned above may go more if the hamlets in each village are considered. Therefore, provision of school facilities nearby the villages may improve the GER at secondary in the backward block of Tirunelveli. It is further suggested that the upper primary school nearby these villages may be elevated to high school status. Otherwise, free transport service for picking up the children may improve the GER at secondary education. Apart from creating the school infrastructure appointing talented teachers will definitely boost the enrolment. Alongside as this Kuruvikulam block is backward in terms of agriculture and other aspects, providing supplementary job opportunities may also contribute to the development of education.

This has a greater impact on ST, SC and Muslim girls. In Tirunelveli district Ambasamudram(105.65%), Vasudevenallur (105.25%) and Valliyoor (103.37%) blocks have achieved higher gross enrollment ratio at the secondary level and whereas Manur (98.68%) block has low enrollment ratio. Hence, an all out effort with a big push is needed to make these blocks develop. This includes sizeable investment both from public and private for improving education in the blocks.

Block-wise Sectoral Index

HDI consists of three sectoral indices, viz., living standards, health and education. In the sectoral index, living standards, access to cooking fuel, toilet, water, electricity and pucca house are considered. All the indicators are positive if index valueis high and, human development is also high. The second dimension of human development index is health index, covering child mortality rate and MMR. Both these indicators are negative implying indicators are negatively related to human development. In the third and the last dimension, literacy rate and general enrollment ratio are included. In the present study, as per the methodology explained in the beginning of the chapter, the three sectoral indices are calculated and finally the human development index is estimated.

Sectoral Index - Living Standards

In the district, the standard of living index is high for Corporation, Vallioor and Ambasamudram and low for Mellaneelithanallur. Since the Corporation is largely an urban area, most of the people are employed in organized and informal sector. Therefore, the income of the people is naturally high, reflecting high use of cooking fuel, toilet, safe drinking water and high use of electricity. Thus, out of five indicators, Corporation has five at the top and therefore standard of living is high (1.00). On the contrary, the index value for Melaneelithanallur is low (0.23) because of backwardness in agriculture and industry, resulting in low income and employment. Therefore, people use less cooking fuel and toilet.

In order to find out the relationship between indicators of this category, correlation is applied. The result shows that cooking fuel is significantly correlated with toilet (0.67) and electricity (0.50). This shows that the people with above average income do have toilet and electricity. Other indicators do not have any significant inter linkage. What is of great concern is that there is no linkage between pucca house and toilet (0.33). Therefore, in rural areas it can be made mandatory that all pucca houses should have toilet facilities. Here, it is suggested that measures to ensure 100% sanitation including generating awareness on making use of toilet facility with economic usage of water may be given priority by the society.

Sectoral Index - Health

As regards the health index, Corporation (0.83) stands first and of the 19 blocks Valliyoor (0.87) secures the second place and Manur (0.42) is at the bottom. As in the case of living standard index, Corporation, because of its advantage over the other rural blocks, fares the best. The reasons are obvious and the high income and adequate health infrastructure and proximity of health care centres and paramedical facilities including the medical shops and availability of medicine, transport facilities and awareness of the people may all contribute to this excellent picture of the Corporation. Quite contrarily, Manur is positioned as one of the bottom blocks.

There is naturally a link between IMR and MMR and U5MR, as IMR is included in U5MR. There is also a strong connection between IMR and MMR, since the health of the child and survival depend on the health of the mother. However, in the district there is no strong relationship between IMR and MMR as revealed by the correlation between the health indicators.

Sectoral Index - Education

To understand the interblock variations in education index, among the blocks Tenkasi places itself at the top with 0.78 index value and Melaneelithanallur (0.34), Kuruvikulam (0.35) and Manur (0.36) are at the bottom. It can be accepted for Tenkasi since it has secured good place in standard of living index (0.71) and in health index (0.76). However, necessary measures have to be taken to increase the GER especially at the secondary level in Melaneelithanallur, Kuruvikulam and Manur. Awareness campaign on the importance of education may be undertaken seriously. Girl children can

be given more attention and they may also be provided with educational kits. Additional facilities on ICT may be created at the community level.

To find out the linkage between the various indicators of education, correlation is applied and the results show that the correlation between primary and secondary is significant, underlying the significance of education at both levels.Hence drop-out level at the secondary level should be eliminated and for this creation of educational infrastructure facilities with attractive packages to increase the GER in the blocks, especially the GER at secondary level is necessary.

Intersectoral Linkages

In human resource development, there is a strong linkage between various factors as strong connection between health and education. Education provides more knowledge on health aspects and in turn better health leads to better attainment in education. Likewise better housing, toilet and safe water lead to better health and vice versa. In the district, in order to increase human development, different programmes are to be launched on priority basis. A programme which has wider influence even across the sectors is to be implemented. Therefore, an attempt on inter sectoral linkages is made employing one of the most reliable statistical tools, correlation. The results indicate there is strong significant relationship between education and standard of living indices. To go deep into the investigation, correlation between all the indicators of the education and living standards is applied and it points out that literacy and fuel has 0.57, literacy and toilet has 0.81correlation co-efficient with 1% significant level. Similarly GER at the primary level has significant correlation with cooking fuel (0.64) and toilet (0.47). Concentrating on education in the district will act as panacea for low human development in addition to multi-pronged approach to health and living standards.

However for making investment at one go in all the sectors, it will be difficult for the district and the State as there is financial crunch. Hence, in order to obtain priority among the sectors, regression analysis is applied taking HDI, as dependent variable and sectoral indices, living standard, health and education as independent variables. The analysis demonstrates an interesting result that among the three sectors,health determines 40% of HDI and standard of living determines 40% and health index determines 20%. The result can be relied upon as the't' value for all the three indices is significant. However, since the 't' value for health sector is the highest (14.034), therefore, the district has to concentrate on improving and expanding health at block levels.

Gender Inequality Index (GII)

Man's superiority over woman is established by the division of labour based on sex. For instance a highly labour-intensive work like marketing is considered as an inferior job and hence men do not normally engage in this activity. Norms relating to family and marriage assign a low status to women. Cultural norms also prevent women from taking part in decision making at the village level. Since many of the women are uneducated and illiterate, they are not able to take part in decision making at the community level. Norms relating to family and marriage also relegate women to the background. Hence, there is gender inequity at home, at work and in the society. Unless women are

given equal treatment and opportunities a country may not grow fast and it is also social injustice. To understand how far women are relegated or promoted, gender inequity index is calculated.

GII measures the inequality between men and women in various aspects including economic, social, health, educational and political attainments. As it reflects an unequal situation, a value of zero represents no inequality and a value of one represents the highest level of inequality in the society. The UNDP report of 2010 has brought out the GII index for all the countries. For measuring GII, three dimensions are considered. They are - reproductive health, empowerment and labour market. In reproductive health, MMR (negative), share of institutional deliveries (positive) and share of ante-natal coverage (positive) are included in the calculation of GII. In empowerment, positive indicators such as share of female and male literacy, share of female and male children in the age group of 0-6 years and share of female and male elected representatives in local bodies are considered. In labour market, the positive indicators such as share of female and male work participation rate, share of female and male workers in the non agricultural sector and female and male agricultural wage rate are used and thus GII value is calculated. The GII value ranges from zero (no gender inequality across dimensions) to one (total inequality across dimensions). This format and methodology are given by the State Planning Commission, Tamil Nadu. The GII is estimated with three components as indicated below.

Indicators	Indicators
Health	Maternal Mortality Ratio (MMR)
	Share of Institutional Deliveries (ID)
	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-agricultural Sector
	Male Work Participation Rate in Non-agricultural Sector
	Female Agricultural Wage Rate
	Male Agricultural Wage Rate

Gender Inequality Index - Inter-block Variations

The GII has been calculated for 19 blocks and one corporation in the district. The index values vary from 0.003 (Vallioor) and 0.067 (Corporation) and the lowest value indicates equity between gender in Vallioor. This is a great achievement for the block which the entire civilized world expects from the society. This great achievement is possible largely because of its achievements in health index. Again in the health index Vallioor has a minimum IMR of 10, and the maximum share

of ID (100%) and the maximum ante-natal coverage of 100%. On the other hand, Corporation has got great GII index of 0.067 among the blocks indicating great gender inequity. The other blocks which fare well are Kalakadu and Kuruvikulam. Kuruvikulam is a backward block as per HDI, in contrast it has achieved third rank in GII. This is mainly due to low MMR (10) and 100% achievement in institutional deliveries and ante-natal coverage. Also in empowerment, Kuruvikulam has secured a good position in the share of female elected representatives. In the share of female children also, it did well and in female work participation rate, it ranks high. Therefore, it has a great GII value of 0.004 next only to Vallioor block. In this aspect, Kuruvikulam stands out in women empowerment. To the surprise and shock of the stakeholders, corporation has secured last rank for GIIs concerned.

Table: 2.2 – Gender Inequality Index, 2014

Top 3 blocks		Bottom 3 blocks	
Vallioor	0.003	Ambasamudram	0.052
Kalakadu	0.004	Kadayam	0.055
Kuruvikulam	0.004	Corporation	0.067

Kadayam and Ambasamudram follow Corporation which has the last rank in GII. What is suggested here is that Corporation, in order to improve its gender equity, has to adopt the footsteps of Kuruvikulam, a block with low HDI value but high gender equity. On the whole, all the blocks in the district have attained gender equity compared with other developing nations. For corporation to improve its GII, it has to concentrate on ante-natal coverage which is only 71% whereas the rural blocks have attained 100% coverage.

Now, an attempt is made to assess the performance of various blocks through three major dimensions - reproductive health, empowerment and labour market. MMR is an indicator of health index. During pregnancy, women are vulnerable and they are susceptible to diseases such as anaemia andother pregnancy related health issues leading to even death. This is very specific to female population and therefore, the entire civilized society should take necessary care of women and try to bring down MMR. It is understood that high MMR means low gender development and to know the status of women in Tirunelveli, MMR is considered in the GII and it is discussed already in the chapter that Vallioor is at the top among the blockswith respect to the indicator.

Safe pregnancy and delivery are very important in a civilized world. Both are the responsibility of the society. This is ensured largely by institutional delivery. However, due to illiteracy and poverty and also non-availability of health care facilities, in India, MMR seems to be high. This has to be reduced not only to boost the health conditions of the women but also to improve human development. In the district,in 2013-14 almost 100% institutional delivery is achieved in most of the blocks except in Sankarankoil. Hence, the index value for many blocks including the Corporation is high. The bottom case is Sankarankovil.

Modern health science has enormously developed and with the help of the medical technology, expertise and medicine, every aspect of human health can be improved and thus human development. The health care system now is very advanced and therefore, it can take care of both the mother and the child even during pregnancy. Unfortunately in India, in spite of this advancement, MMR and IMR are high. Thus, there is a necessity to have 100% antenatal coverage. In the district, it is included in the GII calculation as to know how far it influences the gender development/inequity.

In the district, from Alangulam to Vasudevanallur blocks antenatal coverage is100% and corporation is with only 71% coverage. Therefore, this index is one for all the blocks and low for corporation. It is ironical that the Corporation with all health care facilities is not performing equally well as the other blocks, it pinpoints the ignorance and vulnerability of the people living in the slum areas. Therefore, a special awareness campaign may be done for 100% coverage.

Women especially in India have been subjected to exploitation and suppression since time immemorial. This is gross social injustice and also deprives women of economic opportunities. In a country like India if this subjugation has to be totally eradicated it means, women should be empowered economically and politically. Women empowerment can be measured in terms of share of female literacy in the total literacy, percentage of girls in the age group of 0-6 years and the share of female representative in democratic institutions.

Literacy is closely associated with development. In countries like Japan economic development is largely determined by education (human capital). So is the case with India. The total literacy rate of the country comprises male and female literacy rates. Women are not sent to educational institutions for social reasons. But equity in male and female literacy is a synonym of human attainment. Therefore, focused attention is to be paid to increase women literacy. In Tirunelveli the peak positions in female literacy is attained by Corporation, Radhapuram and Vallioor blocks and Kuruvikulam, Melaneelithanallur and Vasudevanallur blocks lie way behind other blocks. The same set of blocks which were at the bottom are at the bottom here also in the case of general literacy.

Tirunelveli Corporation, Ambasamudram and Vallioor blocks attained high male literacy and Kuruvikulam, Vasudevanallur and Melaneelithanallur blocks are with low male literacy. It is observed that in which ever block general literacy is low, male and female literacy are found to be low. Therefore, it can be inferred that it is not that the social factors work against the female literacy. Hence other economic factors such as low income and unemployment may be the prime cause. This can also be substantiated by the dry status of the region which goes against agricultural income which is the mainstay of the people. This is also highlighted by the type of crop (maize, ragi and chollam). Generally, maize and pulses followed by cotton are grown in this area. Income of the people in these areas is predominantly determined by the income derived from agriculture. Income from agriculture varies due to vagaries of monsoon.

Hence, thrust may be given to the new agripreneurs in producing value added products in agriculture and allied sectors like animal husbandry. This may go a long way in increasing the literacy of the block and the district. Therefore, to increase the literacy either the income of the people should be increased through programmes for increasing agricultural productivity or through providing more educational infrastructure. To increase the income of the region, effective implementation of MGNREGP and self-employment schemes such as free distribution of milch animals and goats can also be ensured. This may enhance not only the female literacy and GII but also the male literacy and HDI.

There is a strong social preference to male child among the Indians. This is found invariably in all the sections and regions of the country. This discrimination against female sex starts from birth to death. This social injustice is to be rooted out from Indian soil and to what extent it is practiced or reduced is to be understood. This will also reveal the women empowerment and to understand the phenomenon in the district, the population in the age group 0-6 is considered.

For India the share of female child population is declining and for Tamil Nadu it is higher than India and is slightly increasing. This is a great feat of Tamil Nadu. Here, the attitude of the people towards female children can be known by analysing the trends in the population in the age group 0-6 years. Higher index value for female population in the age group 0 – 6 can be inferred as women empowerment. In Tirunelveli district, top three blocks -Ambasamudram, Kadayanallur and Pappakudi - have greater index value and bottom three blocks - Nanguneri, Cheranmahadevi and Manur - have lower index value.

To understand the gender inequity a comparison of male children in the age group is to be made with the same age group of female children. In the district, all the blocks have higher share of male children which is just above 50 per cent of the child population. However, Manur has 52.09% of male children and 51.81 % is found in Cheranmadevi block and the same rank is reflected in the index also. Here the low index value showcases the underlying low living standards of the poverty stricken people living in appalling conditions leading to the gross discrimination against the vulnerable section.

Gender equity can be obtained through fair representation of females in the policy-making bodies. In India, an effort is made to make a reservation of 33% of Members of Parliament for Women. In Tirunelveli district, out of two Members of Parliament, no women representation is there. Only one woman representative (MLA) out of 10 MLAs in the district indicates gender inequity. This situation is improved in the local bodies. In Tirunelveli a total of 3,280 members represent village panchayats, town panchayats and corporation. Out of 3,280 members, women representatives constitute 1,922 (36.90%). However, there is wide difference in the percentage of women representatives found between blocks.

In the case of women representation, the top three positions have been attained by Pappakudi (42.16%), Malaneelithanallur (40%) and Vasudevanallur (39.64%) blocks and bottom three blocks are Alangulam (34.29%), Kadayanallur (33.45%) and Palayamkottai (30.88%). Even in the case of Panchayat Raj institutions women participation and decision making in public life may be encouraged further in the district. The blocks with lower index value should be taken as a special case to provide more representation for women. Tirunelveli Corporation, an urban area in this aspect is lagging behind the rural blocks and this has to be improved at least in the future.

Since Independence, the elected representation in India has been dominated by male population. Whether the same trend is still found is to be known by measuring GII in the district. The top three positions in male representation have been obtained by Palayamkottai (69.12%), Kadayanallur (66.55%) and Alamgulam (65.71%) blocks and the bottom position is occupied by the three blocks which are Vasudevanallur (60.36%),Malaneelithanallur (59.86%) and Pappakudi (57.84%),

One of the components of human development is the income of the people through gainful employment. Therefore, the percentage of working population involved in productive work determines human attainment. Here, in India most of the people are engaged in agriculture which offers low wage comparatively and in most of the jobs gender discrimination is also practised. Hence, to identify whether gender equity is achieved in the development process of the district, essentially three components are to be considered such as share of female work participation, share of female worker in the non-agricultural sector and female agricultural wage rate.

In India, the worker participation rate for men is 79% and for women it is 47% and for Tamil Nadu it is 73% and 41% respectively. In both the cases, Tamil Nadu has the lesser percentage and in the case of women, the lesser degree goes further. In the district, to estimate the total worker participation rate, workers and marginal workers are taken and the total workforce is 14, 36,454 and the female workers come to 5,60,279 amounting to 39% and the share of female workers to male workers varies from 23 to 53% between blocks. What is to be noted here is that the female participation rates in all the blocks run below 50% and what is of great concern is that the corporation has the lowest value, where more knowledgeable people live. From now on, it has to set itself as an example for other blocks. In the index value for female work participation Alangulam, Kuruvikulam, and Keelapavoor blocks found a place in the top rung of the ladder and Vallioor, Radhapuram and Corporation blocks found place in the lower rung of the ladder.

With regard to male worker participation rate, Kuruvikulam, Alangulam and Cheranmahadevi are at the top and Vallioor, Radhapuram and Corporation seem to be at the bottom. Hence, it may be inferred that mostly the blocks which provide more opportunities for females offer more opportunities for male also. This inference is drawn from the fact that both Alangulam and Kuruvikulam blocks have more worker participation rate for both male and female. Since Alangulam has water facility, it provides more employment for male and female in agriculture and Kuruvikulam

block has provided jobs to 86% of the registered household in MGNREGP, apart from offering jobs in millet cultivation. This indicates that when employment opportunities are given sufficiently, then both male and female get more jobs. Hence it is suggested that employment schemes like MGNREGP should be given top priority.

In the district, agriculture is the main occupation of the people. It provides employment only during seasonal periods. Moreover it suffers from disguised and seasonal unemployment and it provides jobs mostly to unskilled workers. Thus, it is obvious that people earn less income leading to subsistence living and poverty. Under this condition, providing employment in non-agricultural sector is all the more important especially for women. On the contrary, the growth of workers in non-agricultural sector has grown up by 2.71% only from 2001 to 2011 for the district.

The index value for female worker in non-agricultural sector is high for Pappakudi, Keezhapavoor and Kadayam blocks and low for Melaneelithanallur, Nanguneri and Kuruvikulam blocks. This is great of concern for female population in Melaneelithanallur and Kuruvikulam blocks and while formulating block development plan and in identifying projects under SBGF programmes, women employment may be considered on priority basis.

Employment for male in non agricultural sector assumes importance since it provides more income in a regular fashion. Moreover, the people who depend on agriculture will get reduced and thus the income of the entire community is increased. The index value for male worker in non-agricultural sector is high for Corporation, Ambasamudhram and Radhapuram blocks and Nanguneri, Kuruvikulam and Melaneelithanallur are with low values. The reason is obvious that urban area like Corporation offers more job opportunities in non agricultural sector and industrially backward blocks like Kuruvikulam and Melaneelithanallur provide less jobs in the sector.

Around the world, even in developed countries female workers have been discriminated even in wage rates. This is appalling in developing countries especially in un-organized sectors. Thus, women are under paid and exploited. How far this is happening in Tirunelveli district can be known by comparing the wage rate between male and female. The female agricultural wage rate is high in Vallioor, Sankarankovil and Radhapuram and in seven other blocks and is low in Keelapavoor, Melaneelithanallur, Alangulam and in two more blocks. It is to be noted that Alangulam which is a block where agriculture with irrigation facilities is practised offers only a lower wage to female workers compared to male workers. This needs to be rectified.

Compared to female agricultural wage, male agricultural wage is higher in all the blocks and in some blocks, the difference is much greater. The top three ranks are occupied by Tenkasi, Kadayanallur and Alangulam and in the bottom three ranks, Nanguneri,Radhapuram and Vallioor find their respective places. It is obvious that in dry regions, which produce mainly maize and ragioffer low wage. Only the development of watershed in the region would provide more wage and employment.

Generally, in the blocks where irrigation facility is high and the workforce dependent on agriculture is low, the wage rate for both male and female is higher. However, the impact of MGNREGP on agriculture wage is found in all the blocks even in the blocks which do not have sufficient water facility. This results in wage hike across all the blocks.

The analysis on GII pinpoints the fact that the health of the women plays a vital role in improving gender equity. In GII, the inter-sectoral linkage is not as visible as in HDI, signifying the importance of improvement in all the dimensions of GII for women empowerment. Further, the urban areas need to be given a package of programmes to boost the gender equity, since the general development (HDI) has not been totally translated into gender empowerment; rather it is skewed against women as in Tirunelveli Corporation. In the process, towards equity, the 'empowerment path' traversed by Kuruvikulam and Melaneelithanallur blocks having more GII than the HDI, may be emulated.

Child Development Index - Inter-Block Variations

Child development index is important in countries like India where exploitation of children is high. Therefore, to understand the development of children who are the future pillars of the country, the measurement of child development index is necessary for proper direction and policy. In Tirunelveli the CDI is measured through indicators given below.

Indicators	Indicators
Health	U5MR
	Child Sex Ratio
	Percentage 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

The child development index in the district differs widely from block to block ranging from 0.677 in Corporation to 0.395 in Charanmahadevi. In the analysis of CDI also, Manur is the most underdeveloped block in terms of child development as in the case of HDI and MPI. The reason being Manur has secured 19th rank due to low facilities in the indicators of health and education. So the block has to be given a booster dose in all the two major sectors, in child development, special programme meant for improving the nutrition in the health sector and concentrating on enrollment at primary and secondary levels in education sector will bring bright face and future for the children of this block.

Table 2.3 - Child Development Index, 2014

Top 3 blocks		Bottom 3 blocks	
Corporation	0.677	Kuruvikulam	0.459
Tenkasi	0.673	Manur	0.434
Vasudevanallur	0.623	Charanmahadevi	0.395

The other blocks at the bottom of the district in child development index are Kuruvikulam and Charanmahadevi. In Charanmahadevi, child development index is low since the juvenile sex ratio is only 930 whereas for the district it is 960 in 2011. Similarly, the under 5MR (22.80), enrolment in primary (96.54%) and the children never enrolled in the schools are comparatively not favourable to the block. Therefore, the CDI in Cheranmahadevi is low. Kuruvikulam a block, which secured 18thrank in HDI, has secured the same rank (18th) in Child Development Index. What is suggested to Manur is equally applicable to this block. The block is also agriculturally backward mainly due to lack of irrigation. It has to be given priority in employment schemes like MGNREGS. Thus the increased income may improve the child development.

Corporation, Tenkasi and Vasudevanallur have secured the top three positions with the index value of 0.677, 0.673 and 0.623 respectively. These positions can be attributed to both education and health sectors. Tenkasi has secured second rank in CDI; ithas also secured second rank in GII and HDI. The outstanding performance of the block may be due to its geographical advantage in the form of irrigation and fertility of the soil. From this, it can be concluded that for human development in the rural areas, agriculture has to flourish and therefore, it has to be promoted. In addition, people depending on agriculture are to be given alternative livelihood, since it provides employment only during the seasons. This is supported by the fact that, of all the blocks in Tirunelveli district, employment was provided to a greater percentage of the registered households by MGNREGP. So, it is logically inferred that for human development, child development and agriculture clubbed with additional employment opportunities are essential. And this is a feasible solution.

Multi-Dimensional Poverty Index - Inter-Block Variations

In India, poverty reduction is a major goal and issue. The World Bank estimated 1.29 billion people were living in absolute poverty in 2008. Of this, about 400 million people lived in India and 173 million people in China. Absolute poverty is a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information (Copenhagen Declaration). It depends not only on income but also on access to social services.

Therefore, a critical minimum effort is required to address the issue. In order to formulate policy and programmes, poverty is to be measured as a first step. And in the construction of the multidimensional poverty index, health consisting of IMR, high order birth rate, malnourished

children; education consisting of drop out rates in primary and drop-out in secondary and living standards consisting of cooking fuel, toilet, drinking water, pucca house and electricity are considered.

Dimensions	Indicators
Health	Infant Mortality Rate
	Higher Order Birth Rate
	Malnourished Children
Education	Drop out in Primary
	Drop out in Secondary
Standard of Living	Access to Cooking fuel
	Access to Toilet Facilities
	Access to Drinking Water
	Access to Pucca House
	Access to Electricity

The MPI value varies from 0.09 (Corporation) to 0.56 (Pappakudi). The high value for indicators of standard of living has largely influenced the MPI value for Corporation. The value for health and for education also contributed to Corporation securing first place in combating poverty. This points out the fact that only with the development of all the sectors, poverty could be effectively rooted out.

Table 2.4 - Multidimensional Poverty Index, 2014

Top 3 blocks		Bottom 3 blocks	
Corporation	0.09	Radhapuram	0.46
Tenkasi	0.25	Palayamkottai	0.50
Vallioor	0.31	Pappakudi	0.56

Of the 19 blocks, three blocks (Radhapuram,Palayamkottai and Pappakudi) have secured the index values which point out the severity of the problem. All the three blocks performed poorly in health, education and living standards. Hence, a big push is required to transform the backward blocks into a developed block.

Integrated Analysis: Human Development Index

All the blocks are ranked along with the performance of the district. This has been presented in Table 2.5. Of the 20 blocks, 10 blocks scored above the level of the district's performance. Among the 10 blocks, the government can prioritize sectors and earmark the funds to achieve higher human development uniformly in all areas of the district. Other blocks shine in one index and find themselves at the lower rung of the ladder in another index. Manur, Kuruvikulam and Pappakudi find comparatively last positions in three indices except any one of the four.

Hence, every block has to be given special attention in the sector and the indicators in which it performs poorly. Thus, a greater critical minimum effort is to be taken to improve the human development in all aspects in the backward blocks as identified in the analysis.

Table - 2.5 Consolidation of HDI, GII, CDI and MDPI Indices, 2014

Sl. No	Name of the Block	HDI		GII		CDI		MPI	
		Index Value	Rank	Index Value	Rank	Index Value	Rank	Index Value	Rank
1	Alangulam	0.53	11	0.010	8	0.565	10	0.46	14
2	Ambasamudram	0.45	16	0.052	18	0.603	6	0.37	6
3	Cheranmahadevi	0.47	14	0.040	16	0.395	20	0.44	12
4	Kadayam	0.45	15	0.055	19	0.552	14	0.37	5
5	Kadayanallur	0.60	7	0.015	11	0.563	12	0.37	7
6	Kalakadu	0.67	4	0.004	2	0.597	8	0.40	9
7	Keelapavoor	0.61	5	0.008	6	0.610	4	0.39	8
8	Kuruvikulam	0.41	18	0.004	3	0.459	18	0.46	16
9	Manur	0.41	19	0.030	15	0.434	19	0.42	11
10	Melaneelithanallur	0.38	20	0.004	4	0.565	11	0.46	15
11	Nanguneri	0.53	12	0.026	13	0.562	13	0.46	17
12	Palayamkottai	0.60	8	0.012	10	0.600	7	0.51	19
13	Pappakudi	0.42	17	0.029	14	0.518	16	0.51	20
14	Radhapuram	0.58	9	0.042	17	0.518	17	0.48	18
15	Sankarankoil	0.52	13	0.006	5	0.525	15	0.44	13
16	Shencottai	0.57	10	0.009	7	0.590	9	0.35	4
17	Tenkasi	0.75	2	0.012	9	0.673	2	0.25	2
18	Valliyoor	0.69	3	0.003	1	0.605	5	0.30	3
19	Vasudevanallur	0.61	6	0.020	12	0.623	3	0.42	19
20	Corporation	0.88	1	0.067	20	0.677	1	0.09	1

Conclusion

To sum up the findings of the analysis on HDI, GII, CDI and MPI, a comparative position of the blocks of the district in various indices is attempted for policy suggestions. The various indices of the district pertaining to the human development show that the urban areas are better off than the rural areas. Moreover, there is no uniform human attainment between the blocks. Even in the case of corporation, it has secured first rank in HDI, Child Development Index and Multidimensional Poverty Index and on the other hand it has obtained 20th rank in Gender Inequality Index.

Similarly, Tenkasi block has secured second position in HDI, CDI and MPI, and against this it has secured ninth position in GII. Vallioor which has secured first place in GII, has got third rank in HDI and MPI, but on the contrary it has secured fifth rank in CDI. However, it can be inferred from analysis that Vallioor block has comparatively fared well in all the indices. One of the major reasons for this laudable attainment of the block may be the availability of educational and irrigational facilities.

CHAPTER 3

EMPLOYMENT, INCOME AND POVERTY

Chapter 3

Employment, Income and Poverty

Introduction

The development of a country is fruitful, only when it results in employment and income generation for the entire population and the benefits of growth go evenly among the people irrespective of their occupation, region and social division. Inclusive economic growth is what is needed for the country. It takes into account poverty and inequality in the society, thus rendering not only economic and social justice but also increasing human development. In turn, the human development is determined by income and employment leading to reasonable standard of living, good health and quality education. Thus, there is a strong link between employment, income and poverty.

Employment

In Tirunelveli, there were about 1.28 million people in the work force in 2001 which increased to 1.44 million workers in 2011, constituting the same (47%) percentage of population both in 2001 and 2011. This indicates there has been no increase in the work participation rate. This is a worrisome fact which stresses the creation of more employment opportunities both in agricultural and industrial sectors and also in the tertiary sector.

Size of the Workforce and Worker Participation Rate

The size of the workforce is the size of the actual number of people available for work. The workforce of the country includes both the employed and unemployed. This size is a very important factor in determining the country's economic attainment. The workforce participation rate measures the proportion of the working population that engages itself in the labour market. It indicates the supply of labour in the job market. The classification of the workforce based on sex and religion gives an account of the productive population in the country in detail. In developing countries, the size of the workforce tends to decline as countries make economic progress.

Table: 3.1 - Total Workers and Non-Workers

S. No	Blocks	Total workers		Main Workers		Marginal Workers		Non-Workers		Total Population	
		2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
1	Alangulam	66707	73328	62797	68496	3910	4832	50274	57600	116981	130928
2	Ambasamudram	63782	68151	53085	60396	10697	7755	78405	78887	142187	147038
3	Cheranmahadevi	56743	63438	47179	55378	9564	8060	67105	71888	123848	135326
4	Kadayam	52142	57737	43455	52078	8687	5659	45586	53632	97728	111369
5	Kadayanallur	64046	75241	56080	64980	7966	10261	76887	92605	140933	167846
6	Kalakadu	42465	49236	36290	38850	6175	10386	55935	63525	98400	112761
7	Keezhapavoor	91197	102090	85575	95545	5622	6545	70434	84694	161631	186784
8	Kuruvikulam	61264	54031	51791	47162	9473	6869	47504	41326	108768	95357
9	Manur	49931	66097	42425	54359	7506	11738	46602	65761	96533	131858
10	Melaneelithanallur	47916	51990	43102	47484	4814	4506	39252	43114	87168	95104
11	Nanguneri	48875	53138	38283	41627	10592	11511	57106	59703	105981	112841
12	Palayamkottai	44718	55021	35428	46538	9290	8483	53467	73495	98185	128516
13	Pappakudi	39334	45821	33123	42595	6211	3226	31790	37505	71124	83326
14	Radhapuram	45709	57707	40022	49220	5687	8487	70867	88898	116576	146605
15	Sankarankoil	73140	77496	63528	70097	9612	7399	73508	82187	146648	159683
16	Shencottai	50333	57886	42979	49492	7354	8394	51624	60387	101957	118273
17	Tenkasi	78867	84600	71012	75612	7855	8988	92771	103178	171638	187778
18	Vallioor	59163	63776	50638	55831	8525	7945	88856	94271	148019	158047
19	Vasudevanallur	90944	97199	78477	86715	12467	10484	86908	96957	177852	194156
20	Corporation	153841	182471	145483	168952	8358	13519	257990	291166	4,11,831	473637
District		**1281117**	**1436454**	**1120752**	**1271407**	**160365**	**165047**	**1442871**	**1640779**	**2723988**	**3077233**

Source: Arrived from Census 2011

Among the blocks, Radhapuram has the least participation both in 2001 and 2011, Kuruvikulam tops the list both in 2001 and 2011. Of the total workforce, main workforce in the district constitutes 87.4% in 2001 and 89% in 2011 and the marginal workers constitute the remaining workforce. Among the blocks, Alangulam and Kezhapavoor are with almost 94% in 2001 and in 2011.

In Radhapuram, the household provided with jobs under MGNREGP in 2011 is only 67% whereas it is 86% for Kuruvikulam. In Kuruvikulam, people mostly cultivate maize and other millets. In Radhapuram, migrant workers, including migrants to foreign countries are greater in number leading to low worker participation locally. In addition, marine fishing along the coastal belt is peculiar to Radhapuram.

Worker Participation Rate

In the district, of the total workforce of 1,14,36,454, the rural takes a greater share of 55%. However, in rural areas the employment opportunities are mostly seasonal and also unskilled and semi-skilled in nature. Therefore, the productivity is also low, leading to low income. In urban areas people work in organised sector thereby their income is also higher. Of the total workforce,

malesconstitute 61% and females just 39%. Here, the women in the rural areas work in agriculture where wage is low. Therefore, women are to be given priority in employment in the organized sector.

Box 3.1- Female Worker Participation Rate in Non-Agricultural Sector

To investigate the reasons for low female worker participation rate in non-agricultural sector in Melaneelithanallur, and to suggest measures to increase it, this case study is undertaken. India has to march towards the exclusive club of the developed world and Tamil Nadu has to become the number one State in India in all aspects. For this, the entire population of the country and the State has to participate in the job market. In India, female population constitutes almost 50% of the total population and therefore, their participation in the employment market should also be at least 50%. Then only our dream of making India as developed country and Tamil Nadu as number one State will become true.

A field survey is undertaken to probe into the nature and causes of the low female worker participation in Non-Agriculture Sector in Melaneelithanallur. From the survey, it is clear that in Devarkulam there are 50 female workers in construction industry and 20 in tailoring. And apart from this, there are 255 female workers working in other areas, whereas in Vellalankulam, there is no female worker in construction and tailoring industries. And only 45 women are working in other areas.

Therefore, it is clear that women in rural areas who are unskilled, find jobs in construction and tailoring industries other than agriculture. In Melaneelthanallur, there is no major industry located in village panchayats. Hence, it is suggested to increase employment opportunities for women in rural areas to suit their skill, garment industry may be started. Value addition industry such as fodder industries may be also promoted.

Table: 3.2 –Worker Participation Rate

	Rural/Urban	2001	Percentage	2011	Percentage
Rural	Male	3,89,502	53.37	4,50,874	56.85
	Female	3,40,274	46.63	3,42,256	43.15
	Persons	7,29,776	56.96	7,93,130	55.21
Urban	Male	3,48,409	63.19	4,25,301	66.11
	Female	2,02,932	36.81	2,18,023	33.89
	Persons	5,51,341	43.04	6,43,324	44.79
	Male	7,37,911	57.60	8,76,175	61.00
	Female	5,43,206	42.40	5,60,279	39.00
	Total	**12,81,117**	**100**	**14,36,454**	**100**

Source: Census 2001 and 2011

Along the banks of Tamirabarani, people work largely in agriculture, especially in the blocks such as Ambasamudram, Cheranmahadevi, Pappakudi and Palayamkottai, cultivating paddy. In Melaneelithanallur and Kuruvikulam, millet cultivation takes place. In Corporation area, people working in organized and in informal sectors are greater.

Box 3.2 - Child Labour Decline in Tirunelveli District

In countries, like India where poverty is still the major economic problem, child labour is practised even against the law. This deprives the children of their mental and physical growth. This also indirectly creates other social problems such as early marriage and exploitation of labour. The children are employed mostly in agriculture, home-based works and in small factories. The child labour in India, as per NSSO survey 2009-10, is estimated to be 49.84 lakh. The child labour had been falling gradually from 21.55 million in 1983 to 9.07 million in 2004-05 and further down to 4.9 million. In Tamil Nadu also the child labour has declined from 1.3 million in 1987-88(43rd NSS) to 0.45 million in 1999-2000 (55th NSS). Here, the present status of Tamil Nadu has to be commended as it has only 0.35% of the child labour in India.

In the district, there are about 580 children found in 2012 as against 2,750 in 2001. Among the blocks, corporation has great share of child labour in 2012. Manur, the least developed block has 6.7% of child labour in the same year. An interesting phenomenon is that in all the blocks, including corporation, the child labour has been declining since 2001, except in Kalakadu. The increasing child labour in Kalakadu is also reflected in the fall in GER primary from 113.13 to 93.68 in 2011. Hence, it is suggested that enrolment in upper primaryhas to be taken care of.

Sectoral Composition of Workers and Output

In the district, workers constitute mainly of four categories namely, cultivators, agricultural labourers, household labourers and other workers. Among the four categories, as the district is largely dependent on agriculture, naturally agricultural labourers form a great percentage.

Table: 3.3 – Composition of Workers in Major Sectors

Blocks	Cultivators	Agricultural Labourers	Household Labourers	Other Workers
Alangulam	9,968	17,167	20,613	20,748
Ambasamudram	2,917	8,786	11,732	36,961
Cheranmahadevi	4,095	12,076	11,538	27,669
Kadayam	4,082	10,678	16,028	21,290
Kadayanallur	5,300	21,344	8,521	29,815
Kalakadu	5,678	12,907	4,405	15,860
Keezhapavoor	9,318	15,958	35,098	35,171
Kuruvikulam	5,986	27,795	1,295	12,086
Manur	9,311	23,992	25,382	1,64,626
Melaneelithanallur	7,995	24,740	5,938	8,811
Nanguneri	6,651	16,864	3,075	15,037
Palayamkottai	4,199	9,320	3,776	29,243
Pappakudi	3,607	7,648	16,120	15,220
Radhapuram	2,845	8,310	4,931	33,134
Sankarankoil	7,449	22,540	6,109	33,999
Shencottai	3,063	15,078	11,112	20,239
Tenkasi	3,735	17,759	14,182	39,936
Vallioor	5,471	12,528	6,040	31,792
Vasudevanallur	6,273	35,593	9,772	35,077
District	**1,07,943**	**3,21,083**	**2,15,667**	**6,26,714**

Source: Census 2011.

The third constituent of workers in terms of number is household labourers. In the district the beedi workers, especially the women workers form a great percentage in the work participation. In the block like Alangulam female workers constitute more. The cultivators come last among the four categories of labourers. Here, more opportunities for employment generation have to be

provided especially in the blocks like Manur, Kuruvikulam and Melaneelithanallur so as to improve the human development.

Registration and Placement

The main objective of employment is to provide a decent livelihood for the people and therefore, when a country makes progress, employment opportunities also increase. In India, as in other developing countries people largely depend on agriculture and the share of total employment in agriculture has reduced from around 70% to just over 50% over the years since independence.

As agriculture is a gamble on the monsoon, the employment provided is not regular and even if it provided as it is a seasonal one, the wage is low. Therefore, people have to be given jobs in the regular fashion and in the organized sector. For this purpose, employment exchanges are created and the registered youth are given assistance in getting employment. Employment exchanges create better coordination between the employer and employee and thereby it helps to reduce the information gap in the market.

Table: 3.4 - Registration and Placement

Sl. No	Year	Registration	Placement	% of Placement
1	2007	38,755	245	0.63
2	2008	42,644	398	0.93
3	2009	49,093	111	0.22
4	2010	44,789	544	1.21
5	2011	47,744	767	1.61
6	2012	62,155	833	1.34
7	2013	61,177	711	1.16
8	2014	63,222	317	0.5
	Total	**4,09,579**	**3,926**	**0.96**

Source: District Employment Office, Tirunelveli

In the district, in 2014, the registered youth in the employment exchange is 63,222 and in 2014 alone, about 317 people obtained jobs through exchanges. Over the years from 2007 to 2011, the percentage of registered candidates who have obtained jobs has increased from 0.63% in 2007 to 1.61% in 2011. But later it has fallen down to 0.5% in 2014. This percentage has to be increased at least upto 10% in the district. For this, SEZ at Nanguneri and IT Park at Gangaikondan should take off with flying colours. Training on job skills to the youth can be regularly provided. Steps should also to be taken in the district to make it industrially advanced. Otherwise, it may lead to migration of labourers to Chennai and to other metropolitan cities.

Unemployment

In rural India, unemployment is chronic and is found pervasively in the region and the seasonal unemployment is associated with agriculture. Other type of unemployment existing in agriculture aredisguised and it is highly difficult to distinguish the type of unemployment in rural India. So this leads to difficulty in finding a single employment generation programme to solve the issue. In 2009-10, the Current Daily Status Unemployment Rate of rural workers was 6.8%. The Government of India along with the State governments has introduced many employment generation programmes. At present, Mahatma Gandhi National Rural Employment Guarantee Programme (MGNREGP) is the flagship programme and is being implemented all over India.

In order to enhance the livelihood of the people on a sustainable basis by creating economic and social infrastructure, especially in rural areas and to address the drought, deforestation and soil erosion and to move one step towards realization of 'Right to Work', MGNREGP was introduced on 02.02.2006, renaming the EAS programme and it was introduced in Tirunelveli District on 01.04.2007. Under MGNREGP at least 100 days of guaranteed wage employment is assured for the household. And here at least 33% beneficiaries are to be women. Thus, MGNREGP is socially and economically inclusive approach to unemployment.

Box : 3.3 - MGNREGA - Employment and Income

In the district, the programme is implemented in all the blocks with a view to providing employment and income to rural and unskilled labourers, at least for hundred days a year with a wage of Rs.148 per day for both males and females. It also creates rural assets like road and assists the agriculture by strengthening the bunds of the irrigation structures and deepening of ponds and tanks. Therefore, the programme not only generates direct employment but also creates indirect employment through increasing the irrigation intensity and crop intensity. In the district, it is heartening to note that Kuruvikulam and Manur have provided 86 and 80% of households with jobs, respectively, as the two blocks are backward in agriculture and industry, employment generation assumes significance to alleviate poverty. Keelapavoor is with 29%. Here, Keelapavoor has more irrigation facilities and therefore, agriculture is providing jobs. Still the MGNREGP programme in the block is to be implemented with all seriousness and sincerity to increase the human development. Here it is to be noted that MGNREGP has an impact on work participation rate and work participation rate for female in particular. For example, Kuruvikulam, which has provided job under MGNREGP to 86% of the registered households is in number one position and the same Kuruvikulam has got number one position in total worker participation rate (57%) and work participation rate for female (52%).

Income

Per Capita Income

The per capita income of Tamil Nadu at current prices, during the last six years, has been growing annually at more than 10%. And during 2010-11, the growth rate was 21.97%, whereas for the district it is 17.11% in 2009-10. At the district level, the highest growth rate has been found in 2005-06 and thereafter there has been a steady decline till 2009-10.

Table: 3.5 – Per capita Income in Tirunelveli and Tamil Nadu (in Rupees)

Sl. No	Year	Tirunelveli		Tamil Nadu	
		Per capita Income	Growth Rate	Per capita Income	Growth Rate
1	2004-05	31,334 (P.10.87, S.34.8, T.54.33%)		30,062	
2	2005-06	38,221	21.98	35,243	17.23
3	2006-07	43,281	13.24	42,288	19.99
4	2007-08	50,861	17.51	47,606	12.58
5	2008-09	55,384	8.89	54,137	13.72
6	2009-10	64,861 (P.12.31, S.33.87, T.53.82%)	17.11	64,338	18.84
7	2010-11	@		78,473	21.97
Average Growth rate			**15.75**		**17.39**

Note:1- Figures in parentheses refer to % of Net district domestic product between primary, secondary and tertiary sectors
2. @ 2010-11 estimates are under progress
Source: Department of Economics and Statistics Chennai

The average growth rate from 2005-06 to 2010-11 has been 17.39 and 15.75% for the state and the district respectively. This underlines the better performance of the State of Tamil Nadu over the district during the period. The per capita income of the district can be increased by concentrating on agriculture and industrial development since the growth rate of the district pertaining to agriculture and industry (19.60 and 16.58%) is lower than the State (21.80 and 18.34%). As the per capita income of the district is derived from the district domestic product, the share of district domestic product between various sectors would reflect in the contribution of per capita income of the district. Hence, in the share of per capita income of the district, tertiary sector contributes more than the other two sectors.

Poverty and Inequality

Poverty indicates deprivation and underscores the inability of the people to lead a reasonable standard of living. The estimates of poverty in Tamil Nadu in 2003, classify the district into three categories on the basis of the incidence of poverty viz., the districts with above 40% poverty (high poverty) and the districts with 30-40% (moderate poverty) and the districts with less than 30% of poverty - low poverty (DHDR, Cuddalore, 2009).

Table: 3.6 - Percentage of BPL Households - 2013-14

Sl. No.	Blocks	Total No. of HHs	Total no. of BPL HHs	% of BPL families
1	Alangulam	35,253	10,801	30.64
2	Ambasamudram	54,955	17,372	31.61
3	Cheranmahadevi	50,103	9,535	19.03
4	Kadayam	31,341	11,767	37.55
5	Kadayanallur	48,635	23,114	47.53
6	Kalakadu	34,835	10,672	30.64
7	Keelapavoor	46,969	25,594	54.49
8	Kuruvikulam	37,023	14,047	37.94
9	Manur	36,550	6,971	19.07
10	Melaneelithanallur	24,156	11,808	48.88
11	Nanguneri	34,381	8,279	24.08
12	Palayamkottai	43,598	16,188	37.13
13	Pappakudi	23,146	13,606	58.78
14	Radhapuram	37,043	11,970	32.31
15	Sankarankovil	44,737	11,438	25.57
16	Shencottai	36,699	8,497	23.15
17	Tenkasi	63,462	18,365	28.94
18	Valliyoor	44,516	16,067	36.09
19	Vasudevanallur	58,908	26,767	45.44
20	Corporation	1,27,552	30,367	23.81
	District	**9,13,862**	**3,03,225**	**33.18**

Source: Project Director, DRDA, Corporation, RDMA and AD Town Panchayat, Tirunelveli

In 2013-14, Poverty in Tirunelveli district was estimated to be 33.18%. Generally urban poverty is lower than the rural poverty in the district. At block level, low percentage of poverty is found in Cheranmahadevi (19.03%). This points out that the blocks with high irrigation facilities have low incidence of poverty. Pappakudi (58.78%), Keelapavoor (54.49%) and Melaneelithanallur (48.88%) are stricken by high incidence of poverty. In Pappakudi, poverty is high due to its dry conditions. In Melaneelithanallur, the industrial and agricultural backwardness may be the reasons for it.

Poverty Level among Social Groups

The analysis on poverty is to be investigated thoroughly with social groups, as the people in the lower strata of the society are generally poor. The incidence of poverty in India is found to be high among marginalised and vulnerable sections such as SC, ST and others. In India, in 2004-05, the incidence of poverty among rural SC population was 53.82% and for urban it was 40.58, 35.12 and 22.28% for others in the respective areas. In Tamil Nadu, for rural SC population it was

51.24%which is slightly less than the all India figure and on the other hand, for urban it was slightly higher (40.74%).

In Tirunelveli, the social group of the population is divided into SC, ST, OBC and others. And as found in Tamil Nadu, in Tirunelveli also, the social group at the lower rung of the society, that is, SC and ST population suffer from poverty. And poverty among landless agricultural labourers and marginal farmers is higher than the big farmers.

India is self-sufficient in food production and in 2011 it produced about 257 million tonnes of foodgrains. This means the demand for foodgrains is almost equal to the production. And on the other hand, in pulses and oil seeds, the demand is more than the supply. However, India's population is second in the world with over 120 crore people, with a large chunk of population reeling under poverty, indicating the importance of food production. As agriculture is highly dependent on favourable monsoon and as inflation is a regular phenomenon of the economy, providing food security to the vulnerable section is one of the obligations of the society. With this objective, the public distribution system in India was introduced to provide essential goods at subsidized prices to the needy consumers. Under PDS, rice, wheat, sugar and coarse grains like jowar, bajra, maize etc. are distributed. To make it mandatory, National Food Security Bill was introduced in India in 2011.

Tamil Nadu has made the Universal Public Distribution System (UPDS) as 'poor friendly' by distributing rice at free of cost to eligible card holders through a total of 33,222 fair price shops. Tamil Nadu Civil Supplies Corporation procures rice and other essential commodities required for public distribution system from Food Corporation of India (FCI), thus ensuring food security for the people of Tamil Nadu.

In Tirunelveli, the public distribution system is effectively implemented and in the district a total of 8,53,060 cards are provided, covering 104.64% of households.Between the blocks, Shencottai has only coverage of 96.20%, the lowest in the district, and Kadayanallur has the coverage of 114.30%, the highest in the district, since more families live in a single household. In the district, inmost of the blocks, the card holders are more than the households.

Table: 3.7 - Family Card Holders in 2013-14

Sl. No	Name of the Block	Total No. of Households	Households Provided with Family Cards	%Households Provided with Family Cards
1	Alangulam	35,692	37,772	105.83
2	Ambasamudram	41,263	42,312	102.54
3	Cheranmahadevi	35,995	35,292	98.05
4	Kadayam	29,973	29,620	98.82
5	Kadayanallur	41,962	47,961	114.30
6	Kalakadu	29,017	28,532	98.33
7	Keelapavoor	49,499	50,378	101.78
8	Kuruvikulam	27,053	27,870	103.02
9	Manur	85,001	96,007	112.95
10	Melaneelithanallur	25,411	28,233	111.11
11	Nanguneri	29,713	30,590	102.95
12	Palayamkottai	1,04,525	1,01,863	97.45
13	Pappakudi	22,691	22,464	99.00
14	Radhapuram	37,087	36,412	98.18
15	Sankarankoil	42,982	46,880	109.07
16	Shencottai	31,932	30,717	96.20
17	Tenkasi	49,653	54,202	109.16
18	Valliyoor	41,388	46,380	112.06
19	Vasudevanallur	54,421	59,575	109.47
	Total	**8,15,258**	**8,53,060**	**104.64**

Source: District Supply Officer, Tirunelveli

The reason may be that as census is taken once in ten years and the number of households considered in the report is based on census 2011, the actual households will be more since people begin to live with separate kitchen in the same household due to marriage or some other reason. Migration also contributes to the increase in the number of card holders. Nomads also become a cause for the hike in card holders.

Therefore, the blocks which are identified as backward, which have got low rank in HDI, which are geographically disadvantaged in terms of rain and water, are highly vulnerable and therefore, it is suggested that every household is provided with family card in the district to ensure food security.

CHAPTER 4

DEMOGRAPHY, HEALTH AND NUTRITION

Chapter

4

Demography, Health and Nutrition

Introduction

The population of Tirunelveli in 2001 was 27,23,988 and it has increased to 30,77,233 in 2011 with an increase of 12.97%. On the other hand, the growth rate of population in India in the last decade was 17.64% and for Tamil Nadu, it was 15.61%. Tirunelveli has registered a lesser growth rate than India and Tamil Nadu. However, when compared to 1991 census, the population of the district has increased by 8.93% in 2001. Therefore, it clearly points out that the growth of population in the district in the last decade is greater than the previous decade.

Demographic Trends and Health Indicators

The study on population is relevant in human development, as a productive population is necessary for economic growth and for the well being of the people. On the other hand, excess growth of population acts as an obstacle to economic development. Hence, in the study on HDI and MPI, the trends in demographic features and the health and nutrition conditions of the country, state, district and the blocks are included.

Population and Demographic Transition

The twentieth century witnessed an unprecedented rapid growth in population in India and around the world. This may be largely attributed to increased longevity and fertility and also due to fall in mortality. As a result, the population of India was 121 crore in 2011, an increase of 17.64% over 2001. Similarly, the population of Tamil Nadu was 7,21,38,958 in 2011 with an increase of over 15.6%. Thus, Tamil Nadu registered a lesser growth rate in the last decade. The share of population of Tamil Nadu in the total population of the country is 5.96 % in 2011.

As per 2011 census, the male and female population were 15,20,912 and 15,56,321 respectively. With regards to sex ratio, Tirunelveli has 1,023 per 1000 male as against the national sex ratio of 940 and the state sex ratio of 996. This is an unique phenomenon of the district which is to be welcomed by the civilized society. Tirunelveli District population constituted 4.27% of total Tamil Nadu population in 2011 as against 4.36% in 2001. In regard to urban/rural population, out of the total Tirunelveli population, 49.40% live in urban regions and 50.60% population live in rural areas.

Table: 4.1 - Demographic Profiles

Sl. No.	Blocks	Population		Density		SC Population %		ST Population %	
		2001	2011	2001	2011	2001	2011	2001	2011
1	Alangulam	1,16,981	1,30,928	360	403	13.48	14.18	0.07	0.08
2	Ambasamudram	1,42,187	1,47,038	193	200	13.98	15.42	0.13	0.51
3	Cheranmahadevi	1,23,848	1,35,326	626	684	17.12	18.59	0.4	0.41
4	Kadayam	9,77,28	1,11,369	500	570	16.36	17.5	0.11	0.17
5	Kadayanallur	1,40,933	1,67,846	532	634	20.04	20.41	0.1	0.29
6	Kalakadu	98,400	1,12,761	223	256	15.43	16.09	0.39	0.39
7	Keezhapavoor	1,61,631	1,86,784	778	899	9.21	9.57	0.05	0.08
8	Kuruvikulam	1,08,768	95,357	232	236	32.19	35.59	0.08	0.18
9	Manur	5,08,364	6,05,495	1030	1227	15.87	16.83	0.35	0.27
10	Melaneelithanallur	87,168	95,104	274	299	15.11	15.99	0.01	0.03
11	Nanguneri	1,05,981	1,12,841	211	225	18.02	18.8	0.23	0.2
12	Palayamkottai	98,185	1,28,516	264	346	22.77	24	0.12	0.37
13	Pappakudi	71,124	83,326	438	513	14.75	14.84	0.12	0.23
14	Radhapuram	1,16,576	1,46,605	261	329	11.94	13.36	1.36	1.08
15	Sankarankoil	1,46,648	1,59,683	500	544	25.67	27.56	0.23	0.2
16	Shencottai	1,01,957	1,18,273	539	625	21.60	23.25	0.52	0.7
17	Tenkasi	1,71,638	1,87,778	792	867	19.64	19.71	0.33	0.23
18	Vallioor	1,48,019	1,58,047	348	371	13.85	14.39	0.46	0.47
19	Vasudevanallur	1,77,852	1,94,156	313	341	23.23	24.32	0.48	0.48
District Total		**27,23,988**	**30,77,233**	**399**	**455**	**17.66**	**18.51**	**0.31**	**0.33**
Tamil Nadu		**6,24,05,679**	**7,21,38,958**	**403**	**460**				

Source: Arrived from available census village-wise figure.

Among the blocks, the population of Vasudevanallur got a greater share of about 6.53% in 2001 and 6.31% in 2011, standing next only to the Corporation, while Pappakudi block has the least share in the district population both in 2001 and 2011 (2.61 and 2.71%). Since the geographical area of the block is the lowest, the share of population of Pappakudi block is found to be low. This is reflected in the density of population in the block which is 513.

Crude Birth Rate and Crude Death Rate

Crude Birth Rate (CBR)

The crude birth rate indicates the number of births per 1,000 people. In the district, CBR has decreased from 16.1 to 15.6 during the years 2009 to 2011. Among the blocks, Kadayanallur has the highest CBR of 17.8 and Ambasamuthram the lowest CBR of 13.2 in 2011. It is interesting to note that Ambasamuthram which has a low poverty rate (27.04%) also has low birth rate, showing the impact of economic attainment. When compared to the CBR of Tamil Nadu (15.9%), CBR of Tirunelveli is marginally lower.

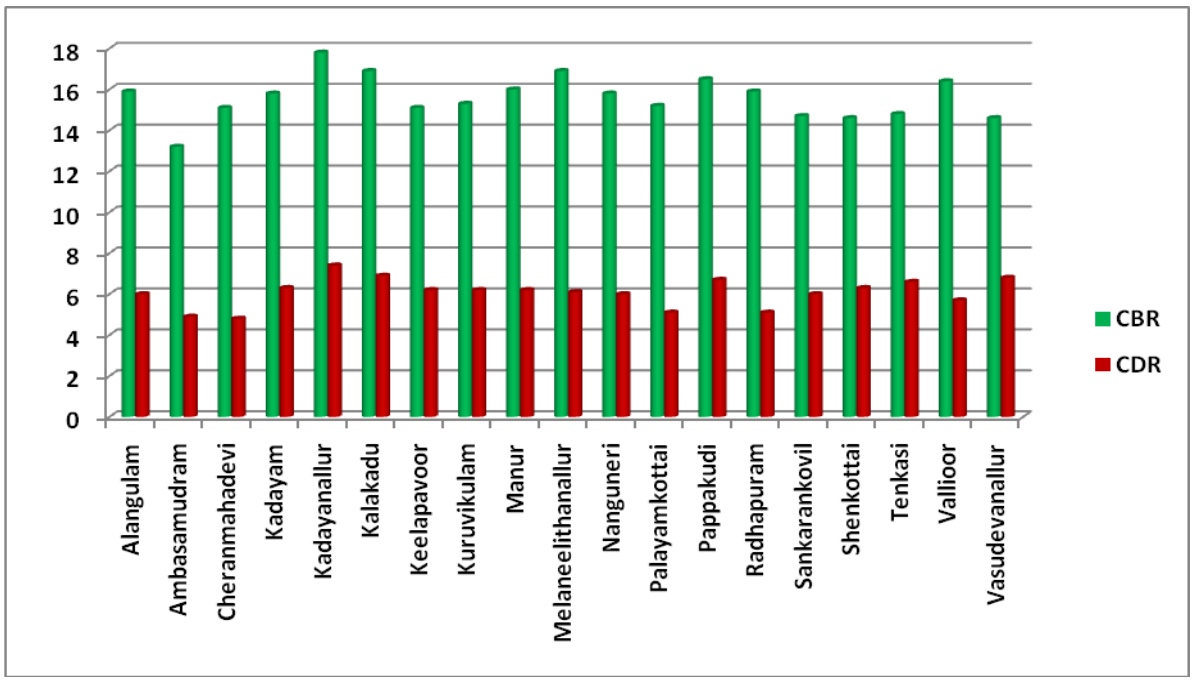
Generally, literacy has a close association with crude birth rate. To know the influence of literacy on CBR in the district, a correlation analysis is employed. The result shows low negative value implying no significant negative relationship exists between the two factors. It has to be examined with more data.

Crude Death Rate (CDR)

The crude death rate indicates the number of deaths per 1,000 people. The low Crude Death Rate implies high human development in terms of health. The advanced countries have very low death rate. In the district, the death rate has fallen slowly from 6.3 to 6.1 during 2009 to 2011. Recently, the district has been affected by dengue fever and efforts need to be taken to contain such fatal diseases. In the case of CDR, Tirunelveli has a lower value of 6.1 than Tamil Nadu's 7.4. Here, Tiunelveli fares better both in CBR and CDR and Tamil Nadu fares better in both the rates. Hence, it is crystal clear that the State of Tamil Nadu and the district of Tirunelveli have effectively implemented the small family norms and have comparatively better health care facilities than in most of the other parts of India.

Among the blocks, Ambasamudhram has the lowest CBR of 13.2, but it has stagnated over three years from 2009 to 2011. On the contrary, Kadayanallur has the highest CBR of 17.8 in 2011. In regard to CDR, Kadayanallur block has the highest value of 7.4, underlining the importance of providing good health care and sanitary conditions. Recently, the people of the block were affected by dengue fever which led to death in some cases. Hence, a special thrust on health aspect is to be given in the block. While analysing the low CDR in the district, Cheranmahadevi and Ambasamudhram blocks have 4.8 and 4.9 respectively. It is interesting to note that Ambasamudhram has low CBR and CDR signifying the features of the last stage of the demographic transition. It is recommended that the success story of Ambasamudhram may be replicated in other blocks. In contrast, Kadayanallur has the highest CBR and CDR in the district characterizing the features of the first stage of demographic transition. This leads to the logical conclusion that Kadayanallur is backward and people are to be educated with regard to the significance of small family. This also points out the necessity for improving the public health services.

Figure 4.1 – Bar digram of CBR and CDR



Sex Ratio

Sex ratio refers to the number of female per thousand males. While in Western European countries and in other advanced countries, the sex ratio is mostly more than thousand but in India, it is less than thousand. Moreover, there has been a steady decline in the sex ratio from 978 in 1901 to 930 in 1971. In 2011, it has increased to 940 and in Tamil Nadu, it is 995. Sex ratio higher and above 1,000 reveals the absence or reduction in the infanticide and it also points out women empowerment.

Table: 4.2 - Sex Ratio

Sl. No.	Blocks	General		% of Increase or Decrease	SC		% of Increase or Decrease	ST		% of Increase or Decrease
		2001	2011		2001	2011		2001	2011	
1	Alangulam	1,059	1,040	-1.79	1,093	1,070	-2.10	907	1,018	12.24
2	Ambasamudram	1,035	1,038	0.29	1,077	1,067	-0.93	1,181	936	-20.75
3	Cheranmahadevi	1,052	1,030	-2.09	1,099	1,050	-4.46	1,000	978	-2.20
4	Kadayam	1,063	1,030	-3.10	1,075	1,037	-3.53	963	969	0.62
5	Kadayanallur	1,033	997	-3.48	1,033	1,020	-1.26	1,177	840	-28.63
6	Kalakadu	1,089	1,034	-5.05	1,122	1,069	-4.72	1,021	1,142	11.85
7	Keezhapavoor	1,018	1,009	-0.88	1,065	1,029	-3.38	1,344	1,000	-25.60
8	Kuruvikulam	1,033	1,043	0.97	1,035	1,046	1.06	1,289	867	-32.74
9	Manur	1,033	1,027	-0.58	1,042	1,044	0.19	1,117	967	-13.43
10	Melaneelithanallur	1,030	1,022	-0.78	1,059	1,030	-2.74	857	846	-1.28
11	Nanguneri	1,083	1,034	-4.52	1,099	1,045	-4.91	953	1,073	12.59
12	Palayamkottai	1,014	1,010	-0.39	1,044	1,005	-3.74	1,018	955	-6.19
13	Pappakudi	1,063	1,034	-2.73	1,069	1,027	-3.93	933	1,265	35.58
14	Radhapuram	1,116	1,032	-7.53	1,111	1,053	-5.22	1,049	1,027	-2.10
15	Sankarankoil	1,018	1,015	-0.29	1,032	1,033	0.10	1,123	1,050	-6.50
16	Shencottai	1,000	1,004	0.40	1,015	991	-2.36	1,090	1,020	-6.42
17	Tenkasi	1,016	1,004	-1.18	1,048	1,014	-3.24	933	926	-0.75
18	Vallioor	1,086	1,023	-5.80	1,110	1,037	-6.58	1048	1,000	-4.58
19	Vasudevanallur	1,031	1,032	0.10	1,065	1,059	-0.56	968	996	2.89
District		**1,042**	**1,023**	**-1.82**	**1,059**	**1,037**	**-2.08**	**1,049**	**990**	**-5.62**

Source: Census of India 2001 and 2011.

In Tirunelveli, the sex ratio was 1,023 in 2011 whereas it was 1,042 in 2001registering a fall in the sex ratio by 1.82%. Among the blocks, Radhapuram had 1,032 in 2011 which is 7.53% lesser than 2001 sex ratio. Vallioor and Kalakudu registered a greater fall in the sex ratio during the same period. Of the 19 blocks, Kuruvikulam(0.97%), Shencottai(0.4%), Ambasamdharam(0.29%) and Vasudevanallur (0.1%) registered an increase in the sex ratio. As far as Kuruvikulam is concerned, the people are giving importance to the women and therefore it reflected in GII also in which it has got the third rank. It is an example for other blocks.

Child Sex Ratio

Child sex ratio means the number of female children in the age group of 0-6 in India, the child sex ratio has been declining greatly from 945 in 1991 to 914 in 2011. On the other hand, Tamil Nadu has recorded a marginal increase from 942 in 2001 to 943 in 2011. In the district, between the blocks Ambasamudram has got 999 and Kadayanallur has got 991 as child sex ratio, Manur has the lowest child sex ratio of 920 and Charanmahadevi is with 930. The low child sex ratio may be attributed to high mortality and malnutrition.

Table: 4.3 - Child Sex Ratio

Sl. No	Blocks	Population in the age group of 0-6		Sex Ratio (2001)	Population in the age group of 0-6		Sex Ratio (2011)
		2001			2011		
		Male	Female		Male	Female	
1	Alangulam	7,716	7,409	960	7,152	6,962	973
2	Ambasamudram	7,314	7,120	973	6,996	6,992	999
3	Cheranmahadevi	6,999	6,508	930	7,364	6,850	930
4	Kadayam	6,024	5,861	973	6,196	5,917	955
5	Kadayanallur	9,089	8,654	952	9,073	8,987	991
6	Kalakadu	6,078	5,825	958	6,136	5,829	950
7	Keezhapavoor	10,639	10,326	971	10,306	9,847	955
8	Kuruvikulam	6,067	5,805	957	4,846	4,689	968
9	Manur	5,956	5,637	946	7,518	6,915	920
10	Melaneelithanallur	5,187	4,911	947	4,968	4,844	975
11	Nanguneri	6,582	6,231	947	6,243	5,895	944
12	Palayamkottai	6,140	5,812	947	7,008	6,837	976
13	Pappakudi	4,709	4,445	944	4,802	4,722	983
14	Radhapuram	7,659	7,495	979	8,530	8,212	963
15	Sankarankoil	8,897	8,344	938	8,183	7,875	962
16	Shencottai	5,945	5,654	951	6,170	5,885	954
17	Tenkasi	10,109	9,629	953	10,077	9,545	947
18	Vallioor	9,519	9,068	953	8,914	8,437	946
19	Vasudevanallur	10,295	9,987	970	9,781	9,560	977
20	Corporation	22,700	21,830	962	23,894	22,730	951
District		**1,63,624**	**1,56,551**	**957**	**1,64,157**	**1,57,530**	**960**
Tamil Nadu		**37,25,616**	**35,09,544**	**942**	**35,42,351**	**33,52,470**	**943**

Note: Arrived from available census village-wise figure

The juvenile sex ratio can be increased through education. To know whether literacy can be related with the 0-6 population, correlation is again employed and the result shows a negative relationship (-0.228) which is insignificant.

Life Expectancy at Birth

The trends in demographic features are explained by life expectancy at birth, crude birth rate, crude death rate and infant mortality rate. High level of the life expectancy at birth indicates high human development. The life expectancy in Tamil Nadu in the year 2011 was 70.20 years and in this, males have 68.6 and females 71.8 years. This status of Tamil Nadu has to be commended. Here, the average life expectancy of the people of Tirunelveli district may hover around the figures of Tamil Nadu.

Table: 4.4 - Life Expectancy at Birth

Sl. No.	State / All India	2013-14		
		Male	Male	Combined
1	State	71.80	75.20	73.40

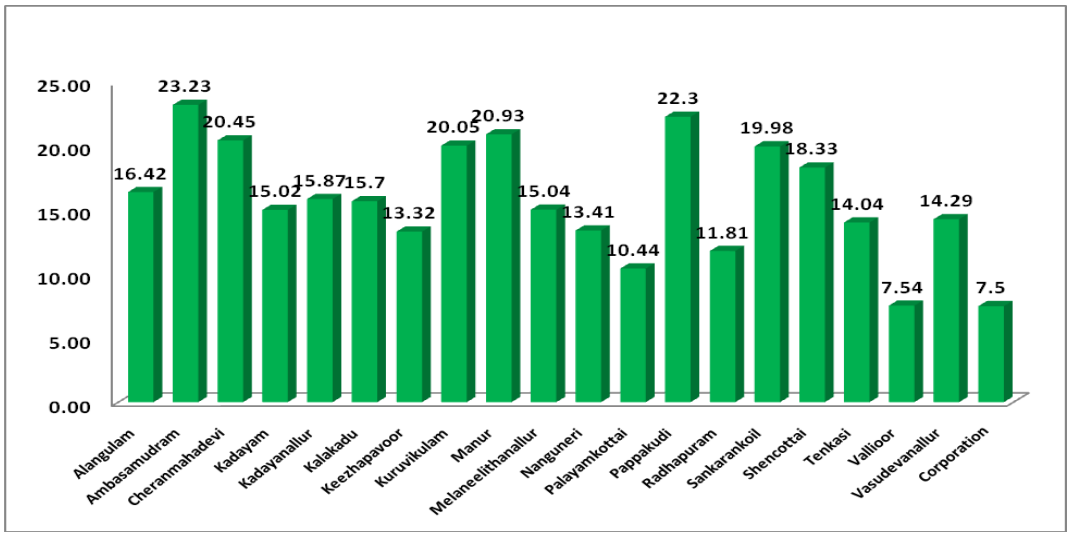
Source: SPC 2014, Deputy Director, Health, Tirunelveli

Infant Mortality Rate

Infant mortality rate is a sensitive indicator of health and the social and economic attainment of the people. It reflects the probability of a child dying within one year. In India, the infant mortality had declined from 134 in 1947 to 47 in 2010. The main causes of this tragedy are pre-mature birth, respiratory infections and diarrhea. With a view to reducing the IMR and strengthening the health care system, the National Rural Health Mission was launched in 2005. Even then it is estimated that there is a shortage of 19,590 sub-centres and 4,252 primary health centres in India.

Tamil Nadu has made a tremendous progress in reducing the IMR. It has been reduced from 113 in 1971 to 24 in 2010, which is well below the all India figure of 47 during the year. As regards the gender gap in IMR, Tamil Nadu did well and almost it was equal between boys(23) and girls (24) in 2010.

Figure 4.2 – Infant Mortality Rate



Source: Health Department, Tirunelveli, 2013-14

Tirunelveli scores a better position in IMR since it has a lower rate in all the years from 2007. However, the IMR in 2011 (19.3) was greater than the IMR in 2010. Now in 2013-14, the IMR has reduced to 15.78 which is a great feat for the district. However, this needs to be reduced further. Tirunelveli Corporation has the lowest value in IMR in 2013-14 and Ambasamudram has the highest IMR value of 23.23. This is contrary to its achievements in standards of living. Here, it has to be probed. Further, the difference in IMR between sex and region should be attended to and reduced in the district.

Maternal Mortality Ratio

Generally, the MMR is the annual number of female deaths per 1,00,000 live births from any cause related to or aggravated by pregnancy or its management. The MMR includes deaths during pregnancy, child birth, or within 42 days of termination of pregnancy for a specified year (http://www.cia.gov.world-factbook). Globally, the MMR has decreased from 400 in 1990 to 210 in 2010. The major causes for maternal death are hemorrhage, sepsis and anaemia. The other reasons are being toxaemia and malposition of foetus. This pinpoints inadequate health facilities. It also shows the lack of knowledge and delayed medical attention in the rural areas and in inaccessible places. The MMR also varies between various social groups. The antenatal coverage has to be increased to the poor and the socially under privileged women.

Table: 4.5 - Maternal Mortality Ratio - Tirunelveli District

Sl. No.	Name of the Block	MMR 2013-14
1	Alangulam	10.00
2	Ambasamudram	174.22
3	Cheranmahadevi	113.64
4	Kadayam	195.95
5	Kadayanallur	10.00
6	Kalakadu	10.00
7	Keezhapavoor	10.00
8	Kuruvikulam	10.00
9	Manur	56.56
10	Melaneelithanallur	10.00
11	Nanguneri	60.94
12	Palayamkottai	20.32
13	Pappakudi	82.58
14	Radhapuram	118.26
15	Sankarankoil	10.00
16	Shencottai	10.00
17	Tenkasi	10.00
18	Vallioor	10.00
19	Vasudevanallur	10.00
20	Corporation	98.74
District Total		**51.56**

Source: Deputy Director, Health, Tirunelveli and State Planning Commission, Chennai.

As regards the MMR in Tirunelveli, it was 51.56 in 2013-14. Among the blocks, Kalakadu, Kuruvikulam and Shencottai blocks have performed well in eliminating the MMR and Ambasamudram, Kadayam and Radhapuram blocks have performed poorly. Kuruvikulam outshines other blocks, which has to be appreciated and it has to be considered as role model for other blocks in this aspect. Ambasamudram has to be given thrust in health programmes for reducing MMR and IMR.

In the district, although 100% institutional delivery is ensured and 100% antenatal coverage is there in most of the blocks, maternal death occurs due to the following reasons:

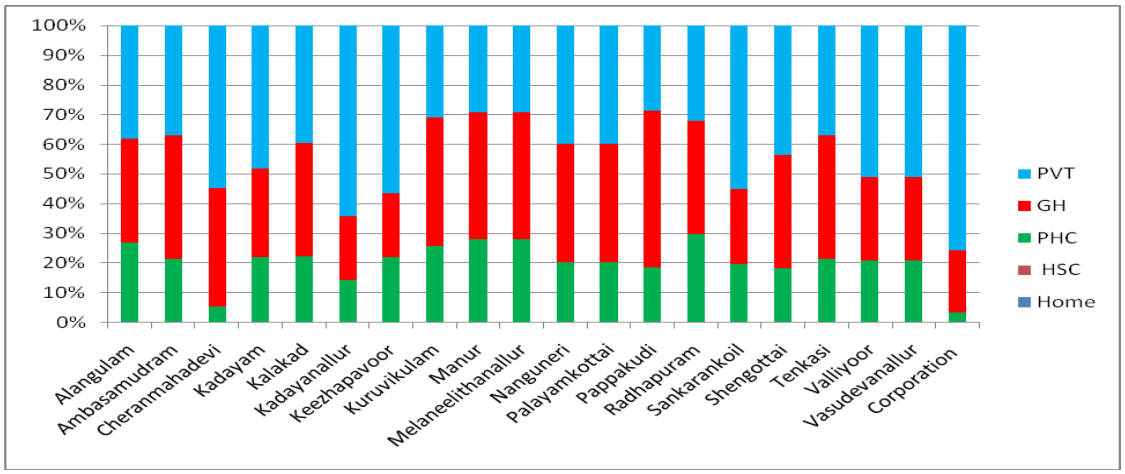
1. Reaching the hospital in time during crucial stages may be difficult for the rural women.
2. Moreover, it is highly expensive to stay in the private hospitals well in advance.
3. Hospital infrastructure facilities in the primary and secondary health centres are also inadequate.
4. Specialist service is not available in rural hospitals. The services of specialists may be utilized at least at the time of emergency and exclusively for this, a wing may be created at every taluk hospital.
5. Blood bank is not established in all the secondary hospitals.

Here, it is suggested to rectify all these difficulties to curb MMR.

Place of Delivery

In India and especially in Tamil Nadu a total transformation has taken place in the place of delivery from home to hospitals. This has led to a considerable reduction of MMR and also IMR. The pre-natal and post- natal coverage is almost 100% in all the blocks. The place of institutional delivery comprises primary health centres, government hospitals and private hospitals.

Figure: 4.3 - Place of Delivery



Source:Deputy Director, Health Tirunelveli and Commissioner, Corporation

It is evidently found that there is strong link between institutional delivery and mother's health and safety. Therefore, it is natural that in the block where 100% institutional delivery takes place, the MMR is likely to be low. Thus, every effort is to be taken to create awareness among vulnerable sections like tribal, migrant and poverty stricken people to go for institutional delivery. People preferring private hospitals may be provided with financial assistance to cover the medical expenses connected with the delivery.

Still Birth Rate

A stillbirth occurs when a foetus dies in the uterus. Most of the stillbirths occur at or during the end of the pregnancy period. The major causes for stillbirth may vary from bacterial infection to high blood pressure, maternal diabetes to postdate pregnancy. As stillbirth is very complicated, it is

highly difficult to understand the problem by ordinary people. Hence, the stillbirth rate is higher in India compared to other advanced countries.

Table: 4.6- Still Birth Rate

Sl. No.	Name of the Block	2007	2008	2009	2010	2011	2013-2014
1	Alangulam	15.2	12.3	12.4	14.9	20.5	16.6
2	Ambasamudram	15.3	15.5	1.8	17.3	14.3	15.1
3	Cheranmahadevi	23.9	14.6	12.9	15.1	15.1	10.23
4	Kadayam	15.6	16.4	16	16	7.9	10.45
5	Kadayanallur	17	15	10.5	13.1	7.2	12.7
6	Kalakadu	13.1	11.3	7.1	8.2	7.1	8.45
7	Keelapavoor	17.3	15.8	11.1	16	13.8	8.4
8	Kuruvikulam	17.5	10.7	18.5	16.5	17	13.4
9	Manur	11.7	12.2	12.5	11.7	7.8	9.05
10	Melaneelithanallur	15.6	12.6	7.4	14.7	20	5.5
11	Nanguneri	9.5	5.5	6.2	8.8	11.8	7.31
12	Palayamkottai	13.2	9.5	7.4	6.6	5.3	11.65
13	Pappakudi	19.8	19	22.5	31.6	26.7	9.91
14	Radhapuram	7.5	10.5	7.7	3.7	4.7	6.49
15	Sankarankoil	19.6	18.2	19	14.4	17.6	13.9
16	Shencottai	17.7	15.1	19.3	14.3	16.3	11.6
17	Tenkasi	17.1	12.1	9	8.8	16	8.9
18	Vallioor	8.5	6.6	4.7	1.7	2.1	2.66
19	Vasudevanallur	14.6	7.8	13.1	14.1	12.4	9.6
20	Corporation	10.2	10.1	8.9	6.9	8.6	6.52
	District Total	**15**	**12.5**	**11.4**	**12.7**	**12.6**	**9.92**

Source: Deputy Director, Health, Tirunelveli

In Tirunelveli district, the stillbirth rate in 2013-14 is high in Alangulam with 16.6 and low in Vallioor. In the district, while perusing the data from 2007-2011, although it has come down to 12.6from 15, the fall is not even and steep. Vallioor block has made a remarkable achievement in reducing the stillbirth to 2.1 in 2011 from 8.5 in 2007 and it has slightly increased to 2..66. This figure has out beaten the Corporation. Pappakudi has the highest stillbirth of 26.7 in 2011 and the worrisome fact is that it has increased from 19.8 in 2007. But, in 2013-14 it has remarkably come down to 9.91. It is suggested that greater prenatal care is to be provided free of cost to all the

pregnant women in all the blocks and in the district. It will go a long way in reducing the stillbirth rate and in improving the MMR. Special attention may be given to strengthening the paramedical staff in the secondary hospitals. It could reduce the stillbirth in the district.

Immunization

If the children of India are to lead a life without any disease, immunization plays a vital role. The World Health Organization (WHO) recommends three doses of polio vaccine, three doses of DPT - diphtheria, pertussis, tetanus - one dose of BCG (Bacillus, Calmette, Guerin) and one dose of measles vaccine within the first year of the child. In Tamil Nadu, Immunization Programme against six vaccine preventable diseases was launched as early as 1978. Annually around 12.5 lakh pregnant women and 11.5 lakh infants have benefited from Immunization Programme. Because of effective implementation of immunization services, there is a drastic reduction in the incidence of vaccine preventable diseases. There is no case of diphtheira, pertusis, neonatal tetanus and poliomyelitis for the past 5 years.

Table 4.7 Immunization (below 5 years) 2013-2014

Sl. No.	Name of the Block	Total No. of Children below 5 years	Total No. of Children Immunized	% of Children Immunized
1	Alangulam	2,016	2,018	100.1
2	Ambasamudram	1,781	1,780	99.9
3	Cheranmahadevi	1,793	1,792	99.9
4	Kadayam	1,638	1,637	99.9
5	Kadayanallur	1,215	1,219	100.3
6	Kalakadu	1,771	1,769	99.9
7	Keelapavoor	2,625	2,630	100.2
8	Kuruvikulam	1,367	1,369	100.1
9	Manur	1,968	1,967	99.9
10	Melaneelithanallur	1,648	1,651	100.2
11	Nanguneri	1,752	1,750	99.9
12	Palayamkottai	2,456	2,454	99.9
13	Pappakudi	1,263	1,261	99.8
14	Radhapuram	2,092	2,090	99.9
15	Sankarankovil	1,285	1,286	100.1
16	Shenkottai	1,175	1,179	100.3
17	Tenkasi	1,611	1,617	100.4
18	Vallioor	2,522	2,521	100.0
19	Vasudevanallur	1,695	1,699	100.2
20	Corporation	5,529	4,796	86.7
District Total		**39,202**	**38,485**	**98.2**

Source : DD Health, Tirunelveli

In 2013-14, the immunization coverage in Triunelveli is 98.2% and in Tenkasi block and in nine other blocks, it has crossed 100%. Children up to five years of age were administered polio drops at various booths set up across the districts. Parents along with their children queued up in the booths. 1, 667 booths were setup for the purpose and, as many as 2.66 lakh children benefited recently.

At the country level, as part of polio eradication initiatives, during the year 2008-09, two rounds of Pulse Polio Immunization Campaign were conducted on 21December 2008 and on 1 February 2009. About 72 lakh children were benefited. Hepatitis B vaccination programme was launched on 6.1.2008, and the programme was implemented in all the districts. Annually, 11.5 lakh infants will be protected from Hep-B virus causing jaundice, liver cancer, by giving three doses of Hep-B vaccination.

Female Infanticide

In the district, female infanticide has not been reported in recent times. However, when the child sex ratio is considered, it is only 960, whereas the sex ratio for entire population is 1023 in the district in 2011. To highlight it further, the share of female children (0-6 years) is only 48.97% against the male (51.03%). This shows that there is a strong social preference to male child among the Indians. This is found invariably in all the sections and regions of the country. This discrimination against female sex starts from birth to death. This social injustice is to be rooted out from Indian soil and to what extent it is practised or reduced is to be understood. This will also promote the women empowerment.

In Tirunelveli district, the top three blocks -Ambasamudram (999), Kadayanallur(991) and Pappakudi (983) - have greater child sex ratio and the bottom three blocks - Nanguneri (944), Cheranmahadevi(930), Manur (920) - have lower child sex ratio. This shows a greater intra block variation. All the points highlight the importance of taking care of the female children from conception to delivery and even beyond.

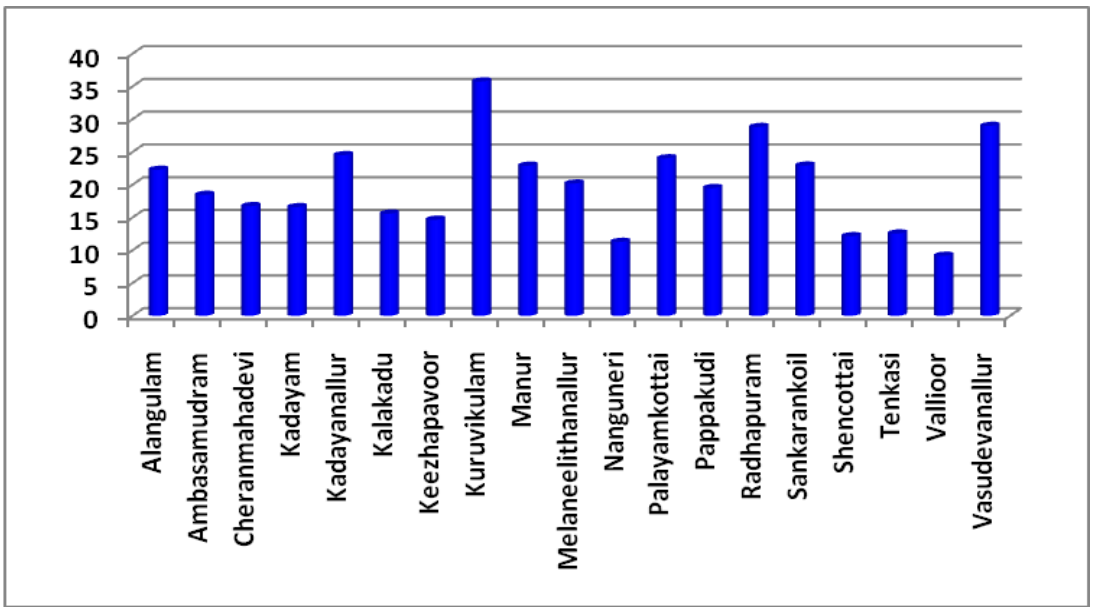
Nutritional Status

Proper nutrition lays foundation for the proper psychological, physical and social development of the children and adults, improves nutritional and health status of children below six years, reduces incidence of mortality, morbidity, malnutrition and school dropouts and enhances the capabilities of the mother to look after the normal health and nutritional needs of the child. In India, frequent outbreak of infectious and contagious, diseases along with under nutrition pose a serious health issue. Sometimes it also affects the other sectors like education and more so income earning capacity of the individuals. Thus, it is a vicious circle starting from poverty to under nutrition, to low educational status, to low productivity, to low income and ending again in poverty, culminating in low human development.

Nutritional Level and Trend

It is vital to understand the nutritional level of the people, especially of the children in the district. The statistics regarding the nutritional status of the children show an increasing trend of thenormal children from 2001 to 2011 which is an achievement of the district due to various health and nutritional programmes. This is automatically reflected in the falling trend in malnutrition. Of this, grade I has a steep decline whereas grades III and IV are more or less the same. It has to come down to zero to eliminate severe malnutrition in the district.

Figure 4.4 – Trend in Nutritional Status



Source: District Project Officer, ICDS, Tirumelveli 2011.

Nutritional Status of Children below 5 Years

In spite of the rising trend of normal children in the district, there is malnourishment prevailing among the children below 5 years. In the district, about 19.21% of children are malnourished. In Kuruvikulam about 35.77% of the children are found in the category. This shows a great association between poverty and low agricultural activity due to lack of irrigation. This block, which is already identified as backward, should be given priority in nutritional programmes and also in food security. Vallioor has the low percentage (9.15) of children under malnourished category.

The nutritional status of the district shows an improvement in 2011 over 2001. In the district, the percentage of normal children has increased from 54.52 to 65.95 and there is a drastic fall in the percentage of grade II from 6.03 in 2001 to 1.77 in 2011. And the children affected by malnutrition greatly (grades III and IV) has become almost zero in 2011 which is a marvelous achievement by the district under the present regime of the Government of Tamil Nadu.

Nutritional Programmes - Provision of IFA Tablets

Adolescent and growing girls in the age group of 11 to 18 are to be looked after and provided with enough iron content in their food to eliminate the anaemia problem which is one of the major causes for high MMR. Pregnant women are also to be provided with IFA tablets to have safe delivery. The distribution of this IFA tablet assumes importance as there is high MMR in India as well as in the district. Table 4.7 presents the distribution of IFA tablets to various sections in the district.

Table: 4.8 - Provision of IFA Tablets 2013-14

Sl. No	Name of the Block	% of women took IFA	% of children taking IFA	%of adolescents taking IFA
1	Alangulam	83.3	49.6	93.9
2	Kadayam	96.7	0	81
3	Pappakudi	96.7	0	87
4	Nanguneri	97.5	0	89
5	Cheranmahadevi	95.5	0	87
6	Palayamkottai	97.7	0	88
7	Kalakadu	96.8	0	83
8	Radhapuram	97.1	0	82
9	Manur	97.8	0	82
10	Vallioor	96.6	0	84
11	Ambasamudram	97.7	0	86
12	Kadayanallur	77.2	49.8	88.6
13	Shenkottai	77.4	43.2	89.1
14	Sankarankovil	70	49.7	85.3
15	Kuruvikulam	75.5	49.1	57.6
16	Keelapavoor	76.9	43.2	89.7
17	Melaneelithanallur	75	50.8	82.5
18	Tenkasi	75.6	45.9	84.6
19	Vasudevanallur	75.2	39.7	83.9
20	Corporation	90.5	0	75

Source: Deputy Director, Health Service, Tirunelveli

In 2013-14, 97.8% of the women in Manur block were provided with IFA tablets and in Sankarankovil, only 70% of the women were given IFA tablets. In the Corporation area, only 90% of women and 75% of adolescent girls have got the tablets. This figure has to be increased to 100% including those who consume the tablets privately. A special care in the distribution of the tablets to the women of Sankarankovil is given. In the district, a total of 82.6% of the pregnant women are supplied with IFA tablets and 78.9% of adolescent girls got the tablets in 2011.

In order to verify the impact of the distribution of tablets on the reduction of MMR, a correlation between MMR and distribution of IFA tablets to women is employed and there is no significant negative correlation between these two, in the district as shown in the table. It is suggested that ensuring of consumption of the tablets by the women is equally important as that of the distribution itself. It is also suggested that an awareness programme on the importance of the IFA tablets may be undertaken in the district.

Correlation- Result

Variables		MMR	IFA Tablets
MMR	Pearson Correlation	1	0.294
	Sig. (2-tailed)	.	0.208
	N	20	20
IFA Tablets	Pearson Correlation	0.294	1
	Sig. (2-tailed)	0.208	.
	N	20	20

The main programme of nutrition is Integrated Child Development Services under which children in the age group of 0 to 6 years are given nutritive food through establishing anganwadi centres. The programme was launched on 02 October 1975and in Triunelveli district the programme is implemented since 1984. The scheme of distributing iron tablets to the adolescent and growing girls in the age group of 11to18 is also being implemented in the district. Puratchi Thalaivar M.G.R. Nutritious Meal Programme for the children in the age group of 25 to 60 months provideschildren with daily noon-meal to boost their vigor and vitality. Other schemes included under the nutrition programme are ante-natal and post-natal care of the women. Old age pensioners are also given noon-meal to supplement their food and nutrition.

In Triunelveli district, in 2012-13 there are about 2,562 Anganwadi centres catering to the needs of the children. A total of 1,80,959 children in the age group of 0 to 5 years have benefited and 73,283beneficiaries in the age group of 6 to 36 months receive supplementary nutritive food. Under pre natal and post natal care programmes, 25,905 women have benefited. From 23 March 2013 mixed nutritive rice meals are distributed in model blocks. The food containing tomato rice with egg, mixed rice and channa and green gram, vegetable pulav with egg, lemon rice with egg and dhal rice with potato are given on different days.

As rice, dhal, oil, salt are supplied by the government, the increase in the price level costs the government treasury. The impact of inflation on vegetables varies from season to season as vegetables are perishable. The fuel cost is more or less the same, if fire wood is used for noon meal scheme.

In the district, among the blocks, Vallioor has the greatest number of beneficiaries under supplementary nutrition progeamme and Kuruvikulam has a low number of beneficiaries. As the block is agriculturally backward and where human development index is low, children and pregnant women are prone to malnutrition and are likely to face health-associated problems. Hence, more attention is to be paid to the block with additional efforts on nutrition to cover more children. Similarly, under the scheme covering old age pensioners in many blocks, no one has benefited. Therefore, it is suggested to provide knowledge on nutrition through awareness programmes.

Box 4.1 - Nutrition Programmes of Government

Integrated Child Development Service Scheme, Tirunelveli District

The main object of the Nutritious Meal Programme is to provide adequate nutrition to the economically downtrodden to combat malnutrition among the children, increasing their literacy rate and to act as a potent incentive for increasing the enrolment to school and reducing dropout from schools.

The Scheme ICDS was started in Tirunelveli District in the year 1984. Now there are 2,562 Anganwadi Centres which are serving noon-meal to 46,550 beneficiaries which include pre-school children covering the age group of 24-60 months and also AN/PN mothers and old age pensioners.

Sl. No.	Schemes	Age Group	Total No.of Beneficiaries	
			2014-2015	Weaning food in gms.
1.	Provision of supplementary Nutrition Food(Weaning Food)	06-36 months Normal MUW SUW Growth problem	74478 63546 10755 124 53	 130 gms. “ “ 190 gms.
2.	AN/PN mothers receiving supplementary food	AN / PN Mothers	26296	160 gms.
3.	Nutritious Meal Programme	25-60	46550	-
4.	Egg Target	12-24 Months 25-60 Months	23319 46550	Every Wednesday Every Monday Wednesday & Thursday
5.	Potato	25-60 Months	46550	20 gmsPotato 20 gmsGreengram 20gms Bengalgram
6.	Adolescent Girls receiving IFA Tablets	11-18 years	59006	-
7.	No.of O.A.P receiving Noon Meal	-	653	-

8	*Ingredients in weaning food.*	*Wheat* *Ragi* *Canegur* *Maize* *Bengaldhall* *Vitamines* *Calcium* *Ferrous*	*42%* *58%* *Per Kg of Weaning foodRs.34.50*	*in Per Kg.*
9.	*Per day Noon-Meal for a Child and a OAP (Variety Rice) in all Centres*			
S.No	***Commodities***	***25-60 Months Children***	***OAP***	
1.	*Rice*	*80 g*	*200 g*	
2.	*Dhall*	*10 g*	*15 g*	
3.	*Oil*	*2 g*	*1g*	
4.	*Salt*	*1.9 g*	*90 mg.*	
Modernization of Anganwadi Centres *I. Total No.of Anganwadi Centres* *II. Gas Connection Provided* *III. To be Provided*			*2,562* *1,593* *969*	
No. of Centres functioning in Govt. Buildings			*1,654*	
No. of Centres functioning in Rented & Rent-Free Buildings			*908*	
Multi Grain biscuits (3 – 5 year children only) (Every Tuesday, Friday and Saturday).			*28,818*	

Non - Nutritional Factors and their Impact on Nutrition

Water Supply

Water is important for the development of the major sectors like, agriculture and industry. In contrast to the western countries, the developing countries including India need water mainly for agriculture sector. According to CPCB (2009), in India, the demand for water for irrigation was 84.6% in 2010, for drinking it was 6.89% and for industry it was 1.48%. And the demand for water is expected to grow in all the sectors by 2050 and on the other hand, the per capita availability of water has declined from 5177 m^3 in 1951 to 1820 m^3 in 2001 and it will further decline in the future. Therefore, judicious use of water is all the more essential in India. (Mahendra Dev, p.183)

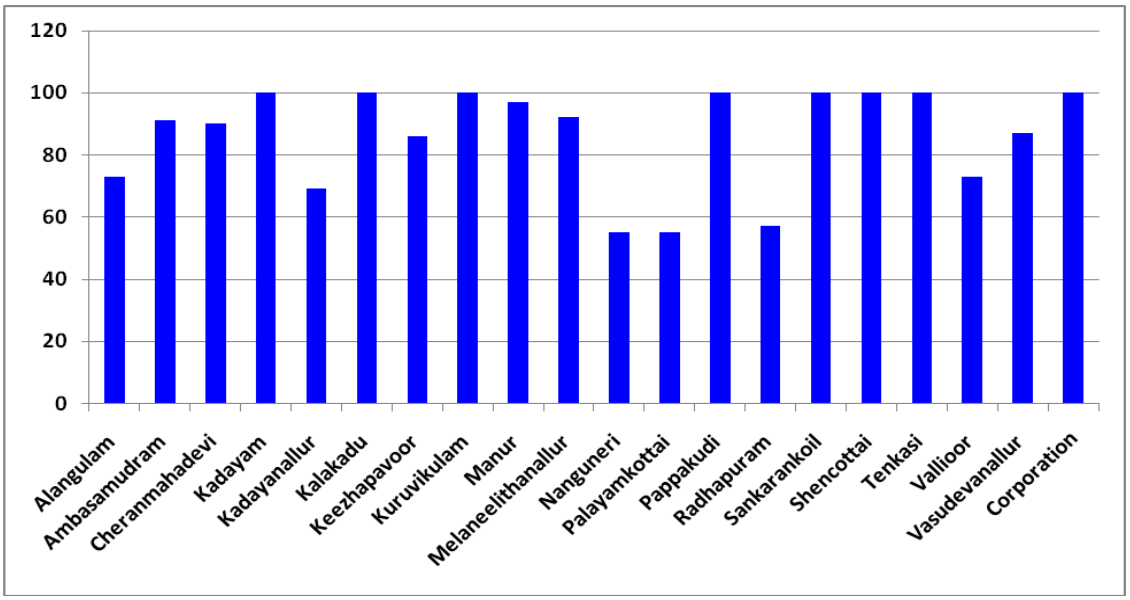
The 69th round of the National Sample Survey found that over 46% of households in rural India and 77% of households in urban India had drinking water sources within their premises. On the other hand, Census data had found that just 35% of rural households and 71% of urban households had drinking water within the premises. (The Hindu, December 25, 2013, p.22)

In Tamil Nadu supplying safe drinking water is crucial for people and it is directly and indirectly linked to the livelihood of the people. Providing safe drinking water is one of the priorities of the panchayats.

A comparison of consumption of safe drinking water among the households of different blocks is presented in the table. In the district, only 92% of the people are covered under safe drinking water schemes and this is well above and just below the national average as per the census data. As the consumption of the safe dirking water reflects the people's living standards, its index value for water supply for habitation-wise is considered for MPI measurement.

From the table and figureon safe drinking water, it is understood that Radhapuram, Vasudevaanallur and Corporation have outstripped other blocks and Nanguneri, Palayamkotttai and Tenkasi fall behind other blocks. The coverage of drinking water supply is comparatively low in Cheranmahadevi and Ambasamudram, although the blocks are on the banks of Thamirabarani. This may be due to difficult terrain of the region because of the Western Ghats. Here, it is suggested that water supply is to be ensured within the premises.

Figure: 4.5 - Access to Drinking Water



Source:www.mdws.gov.in, Commissioner Corporation, RDMA, and AD Town Panchayat, 2013-14.

As Tamil Nadu is at the tail end of India and most of the rivers flowing in State originate from other States, supplying of water as suggested is a daunting task. Hence, it is necessary to augment the supply of water in the State. As stressed by National Water Policy 2002, transferring water from surplus river basin to water shortage areas might be a sound solution. Here, linking of river Ganges with Cauveri is to be seriously considered in the coming Five Year Plans.

Sanitation

In most of the developing countries including India, especially people living below poverty go for open defecation. A study conducted by theWorld Health Organization (WHO) and the United Nations Children's Fund (UNCF) estimates that there are more than 620 million people, that is, over 50% of the population practise open defection in India. The Water and Sanitation Programme has calculated that the impact of the poor sanitation condition cost about Rs.2,40,000crore. The major

cause for child death in India is diarrhoea and respiratory infections. With over 50% of population defecating in the open and 44% mothers disposing their children's faeces in the open, endangers the infants in the country by increasing the risk of microbial contamination (bacteria, viruses, amoeba) of water. Children weakened by frequent diarrhea episodes are more vulnerable to malnutrition and opportunistic infections such as pneumonia (The Hindu, November 20, 2013, p.18). This also affects the school going children. Hence, providing sanitary toilet facilities is a must and is an indicator of development.

Table: 4.9 - Provision of Toilet

Sl. No.	Name of the Block	Total No. of HH	Total No. of HH having Toilet	Toilet %
1	Alangulam	35,253	14,919	42
2	Ambasamudram	56,808	39,641	70
3	Cheranmahadevi	50,103	28,419	57
4	Kadayam	31,341	19,179	61
5	Kadayanallur	49,069	30,125	61
6	Kalakadu	34,835	23,583	68
7	Keezhapavoor	46,969	29,101	62
8	Kuruvikulam	37,023	17,013	46
9	Manur	36,550	16,250	44
10	Melaneelithanallur	24,156	8,453	35
11	Nanguneri	34,381	23,258	68
12	Palayamkottai	43,598	22,936	53
13	Pappakudi	23,146	15,766	68
14	Radhapuram	37,043	26,159	71
15	Sankarankoil	44,196	22,541	51
16	Shencottai	35,460	21,453	60
17	Tenkasi	64,000	43,802	68
18	Vallioor	44,516	36,275	81
19	Vasudevanallur	45,585	25,604	56
20	Corporation	1,27,552	1,22,586	96
District Total		9,01,584	5,87,063	65

Source: MDWS site for blocks and EO (TP) and Municipal Commissioner, Tirunelveli, 2014.

Table 4.9 shows that urban population has more toilet facilities and 96% of the people in Tirunelveli corporation use modern toilet facilities. Among the blocks, Vallioor tops the rank (81%) and Melaneelithanallur is the lowest with only 35%. In the index value for this item, Corporation, Vallioor and Tenkasi secure top three ranks and the bottom three are Melaneelithanallur, Sankarankovil and Manur. In this, Melaneelithanallur and Manur find low literacy value. Therefore, people in these blocks apart from low income, due to low literacy rate, do not know the importance of sanitation. Here, awareness is to be created about the impact of open defecation on health, especially the vulnerable sections including children. Further, it is suggested to build more toilets with

water facilities in the rural areas. And thus the rural community is to be declared free from open defecation at least before the end of the twelfth plan.

Box: 4.2 - Utilization of Public Health Services and Health Programmes

Dr.Muthulakshmi Reddy Maternity Benefit Scheme

In the Government order No.296, Health and Family Welfare dated: 03.12.2012, financial assistance for the poor pregnant women was enhanced from Rs.6,000 to Rs.12,000 (Rs.4000 each in three Installments) under Dr.Muthulakshmi Reddy Maternity Benefit Scheme.

Palli Sirar Kannoli Kappom Thittam

Spectacles were provided to all those children with refractive error. 2010-11.10844 nos.(6th,9th,10th,11th,12th).

Menstrual Hygiene Programme

Objective of the Programme is to increase awareness among adolescent girls on menstrual hygiene, build self-esteem and to empower girls for greater socialization and the Department of Public Health and Preventive Medicine, Education Department and ICDS Department are involved in the programme. One teacher will be responsible to distribute the sanitary napkins to school students. The Village Health Nurse along with Anganwadi worker will distribute napkins on every Saturday to the girls who are not covered in the Government schools.

Palli Sirar Dental Health Programme

Palli Sirar Dental Health Programme is conducted for school students studying from 3rd std to 8th std. Camp has been conducted by the Dental Surgeon after the identification of dental diseases by the trained teachers in the school. Dental cavities in the permanent and temporary teeth have been treated. If needed, cases will be referred to Primary Health Centre and Government Hospital.

Chief Minister's Health Insurance Scheme

In this scheme, the poor people who are in need of special surgery and special medical treatment have been identified and referred to embedded hospital including government hospitals for special surgery and further treatment.

In the district, the people have benefited from various health services such as Immunization, Revised National Tuberculosis Control, Leprosy Eradication, National Vector Borne Disease Control Dr.Muthulakshmi Reddy Maternity Benefit, Palli Sirar Kannoli Kappom, Menstrual Hygiene, Honorable Chief Minister Specialty Camp, Pallai Sirar Dental Health and District Blindness Control Programmes. These health programmes are carried out through an Allopathy Medical College Hospital, a Siddha Hospital, a District Head Quarter Hospital, 6 Taluk Hospitals, 7 Non Taluk Hospitals, 69 Primary Health Centres and 383 Health Sub Centres. Various other health Schemes implemented in the district are listed below.

Special Programmes

AIDS Control

AIDS is a disease caused by human immuno deficiency virus, which affects the human immune system. HIV is transmitted through unprotected sexual relationship, blood transfusion and needles. It is fast spreading in the developing countries and is there is no medicine for a permanent

relief from the disease, it has to be controlled. As the disease has economic and social impact apart from the health impact and as it largely affects the vulnerable sections who find it difficult in getting access to health care facilities, the disease has to be controlled with 100% success.

Table: 4.10 - HIV Positive Cases

Sl. No	Age - Group Wise	Positive cases in 2011			Positive cases in 2014		
		Male	Female	Total	Male	Female	Total
1	0-14	14	8	22	5	4	9
2	15-19	0	2	2	3	6	9
3	20-24	12	27	39	16	11	27
4	25-29	41	31	72	20	21	41
5	30-39	123	91	214	70	105	175
6	40-49	107	54	161	54	105	159
7	50+	67	24	91	34	69	103
	Total	364	237	601	202	321	523

Source: District HIV Unit, Tirunelveli

In Tirunelveli district, this has been partially achieved as there were only 523 cases in 2014 and 601 HIV positive cases reported in 2011 as compared to 688 in 2010. The figure for 2011 is reduced when compared to 2010 and it is further brought down to 523. This shows the beneficial impact of the AIDS awareness programme in the district and it also pinpoints the stellar performance of the health department.

When scanning through the age group of the people with HIV, both in 2010, 2011and in 2014, the people who fall in 30-39 group are the worst affected. Hence, it is suggested to target the middle aged as far as AIDS control programme is concerned.

Tuberculosis Cases

Tuberculosis is an infectious disease which affects mainly the lungs. The danger of the disease is that it spreads through air. In the developed countries, like in United States only 5 to10% of the population is tested positive whereas, in Asian countries the figure goes up to 80%. In Tirunelveli district, the TB cases reported in 2007 were 3,792 and in 2011, the cases reported were 3394 and in 2014, the cases reported were 3108. Of the 19 blocks in the district, Palayamkottai has 280 TB cases in 2007 and in 2011, it is with 263, and in 2014 the figure has been 241, the highest among the blocks. Corporation has the greatest number in 2007(382), 2011(427)and in 2014 (271). Therefore, the city life which is congested causes the disease,TB and sufficient health and awareness programmes need to be conducted to eradicate the disease.

Table: 4.11 Tuberculosis and Leprosy Cases

Sl. No.	District	Positive TB cases				Leprosy			
		2007	2011	2013	2014	2007	2011	2013	2014
1	Alangulam	190	129	161	129	1	12	1	0
2	Ambasamudram	168	166	156	188	0	5	2	1
3	Cheranmahadevi	179	176	148	145	1	4	0	0
4	Kadayam	162	120	106	123	1	3	0	0
5	Kadayanallur	249	182	164	147	1	0	1	0
6	Kalakkadu	102	83	101	78	0	2	0	0
7	Keelapavoor	195	185	139	136	0	2	0	0
8	Kuruvigulam	160	169	101	161	0	2	0	0
9	Manur	164	162	135	148	1	5	1	0
10	Mela Neelithanallur	129	132	122	134	0	2	0	0
11	Nanguneri	124	108	75	72	2	3	0	0
12	Palayamkottai	280	263	238	241	0	4	2	0
13	Pappakudi	103	96	109	125	1	4	0	1
14	Radhapuram	133	94	76	79	0	0	0	0
15	Sankarankovil	253	203	176	237	0	3	0	0
16	Shenkottai	162	106	146	234	0	2	0	0
17	Tenkasi	261	195	202	204	0	1	0	0
18	Valliyoor	132	153	107	111	0	1	0	0
19	Vasudevanallur	264	245	203	145	0	5	0	0
20	Corporation	382	427	295	271	2	16	0	1
	District	3,792	3,394	2,960	3,108	10	76	7	3

Source: Deputy Director, Tuberculosis, Tirunelveli and Deputy Director, Leprosy, Tenkasi, 2013-14.

Leprosy Cases

Leprosy is a chronic infection and it affects nerves, respiratory tract and skin. The disease is commonly found among the poverty stricken, but it can be cured with proper treatment. In India as well as the world, the number of people with the disease has been falling. However, India accounts for 50% of the new cases in the district. It is heartening to note that in many of the blocks only a few people are reported to have been affected by leprosy. On the whole, only 76 people have the disease and Corporation has 16 and Alangulam is with 12. However, in 2014 the district has only three cases which is to be appreciated.

CHAPTER 5

LITERACY AND EDUCATION

Chapter
5
Literacy and Education

Introduction

The United Nations Educational, Scientific and Cultural Organization (UNESCO) has defined literacy as -"ability to identify, understand, interpret, create, communicate, compute and use printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society-". In India after Independence, the literacy rate went up from 18.33% in 1951 to 64.8% in 2001 (http://www.censusindia.gov.in) and 74.04% in 2011. In this, the male literacy was 82.14 and the female literacy 65.46. In 2001, the respective figures were 75.3 and 53.7%. Tamil Nadu has literacy rates above the national average. The census indicates that the gender gap in literacy has come down for the country and for the State.

Education

In Tirunelveli district, in 2011 the total literacy rate is 82.50%. The total population of 7+ age group in the district is 27,55,546 and the total literate comes to 22,73,457. The male literacy in Tirunelveli district is 89.24% which is 2.43% over Tamil Nadu State male literacy rate. Similarly, the female literacy rate in the district is 2.12% (75.98%) over Tamil Nadu's 73.86%.

The gender gap in literacy in the district is 17.78% in 2001 against the gap (13.26%) in 2011. The gender gap has decreased by 4.52% in the last 10 years in the district. For the State, the male literacy rate was 72.64% in 2001 which has increased to 86.81% in 2011. Thus, male literacy is up by 14.17% during the decennial period. During the same period, the female literacy has shot up by 16.72% in the State. However, there exists the gender gap in literacy in the State in 2011 to the tune of 12.95% whereas the gap is 15.5% in 2001.

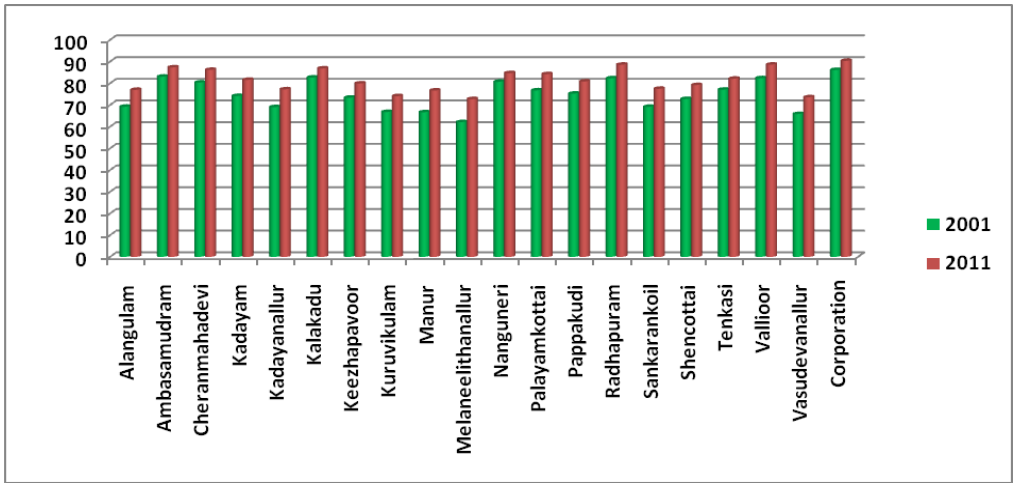
The district has greater literacy rate both in male and female rates in 2001 and 2011. So the district has performed better than the State literacy. With this, the district should not be complacent as the gender gap in literacy is greater in the district (13.26%) than in the State (12.95%). Therefore, it is suggested that the district has to concentrate on female literacy. The above facts on literacy bring to light an interesting point that both in the State and in the district, the gender gap reduced between 2001 and 2011. This is good for women empowerment as there is an inverse relationship between the gender gap in literacy and the status of women in society.

Literacy Performance of District

The literacy rate in the corporation is high in 2011 with 90.39% and Melaneelithanallur is with 72.74%. This gap in the literacy between the rural and urban areas necessarily needs to be addressed immediately. In the district, as expected the Tirunelveli city has the highest literacy rate in

the district. The male literacy is 94.75% and the female literacy rate is 86.18% in 2011. Among the blocks, Radhapuram is with 85.25% and Vallioor 84.76%.

Figure: 5.1 - Literacy Rate - 2001 and 2011



Source: Census 2001 and 2011.

Melaneelithanallur has the least literacy rate in the district with 63.75%. The poor literacy rate is one of the significant factors which obtain low human development index in Meelaneelithanallur and Kuruvikulam blocks. In the district, the total literacy rate has increased in all the blocks from 2001 to 2011 and the total literacy in the district has increased from 76.09% to 82.50% during the same decade.

Elementary Education

In today's world every country has prioritized universal access to primary education. Ever since India attained Independence in 1947, it strives to increase the GER in primary education. In the Constitution of India, education was recognized as a basic individual right. Directive Principles of State Policy, Article 45, states that "the state shall endeavour to provide within a period of ten years from the commencement of this Constitution, for free and compulsory education for all children until they complete the age of fourteen years". In accordance with priority, Tamil Nadu and Tirunelveli focus on primary education and thus, the State and the district have almost attained universalization of primary education.

In the district in 2013-14, the GER at primary education was 102.10 and the GER at primary education for girls was 102.38 and for the boys it was 101.82. Here, the girls' enrollment is marginally higher than the boys' enrollment, which is a good sign for the district in which female literacy is lower than the male literacy as just pointed out above. Among the blocks, Tenkasi has higher GER of 127.89 and Melaneelithanallur, Manur and Kuruvikulam have the GER of just around 86. This low GER at primary level for three blocks, has a great impact on pulling down the human development index of the blocks (vide Chapter 2).

Table: 5.1 - Gender wise Enrollment in Primary Education

Sl. No.	Name of the Block	Boys		Girls		Total	
		2012-13	2013-14	2012-13	2013-14	2012-13	2013-14
1	Alangulam	94.21	94.51	100.08	100.59	97.15	97.53
2	Ambasamudram	114.55	114.88	115.38	115.99	114.96	115.43
3	Cheranmahadevi	97.5	97.80	94.85	95.33	96.17	96.54
4	Kadayam	97.13	97.42	98.05	98.58	97.59	98.00
5	Kadayanallur	99.02	99.31	100.18	100.69	99.6	100.00
6	Kalakadu	110.9	111.25	115.35	115.93	113.13	113.57
7	Keezhapavoor	111.6	111.95	110.88	111.44	111.24	111.67
8	Kuruvikulam	85.06	85.33	85.79	86.25	85.42	85.76
9	Manur	84.94	85.17	85.96	86.38	85.45	85.78
10	Melaneelithanallur	86	86.25	84.94	85.37	85.47	85.84
11	Nanguneri	97.17	97.44	96.91	97.41	97.04	97.42
12	Palayamkottai	103.05	99.03	99.26	97.93	101.15	98.48
13	Pappakudi	98.51	98.81	97.42	97.91	97.97	98.39
14	Radhapuram	98.06	98.33	99.39	99.90	98.73	99.12
15	Sankarankoil	94.11	94.41	94.85	95.33	94.48	94.84
16	Shencottai	97.29	97.60	100.99	101.50	99.14	99.52
17	Tenkasi	127.47	127.84	127.29	127.95	127.38	127.89
18	Vallioor	93.23	93.52	90.77	91.24	92	92.35
19	Vasudevanallur	122.74	123.12	121.48	122.09	122.11	122.61
20	Corporation	109.9	112.40	109.63	111.12	109.76	111.76
District Total		**101.54**	**101.82**	**101.82**	**102.38**	**101.70**	**102.10**

Source: Sarva Shiksha Abhiyan, Tirunelveli

As girls' GER is important, an analysis is made on it and it has revealed that Alangulam and Kalakadu have greater girls' enrollment than boys' enrollment to the level of 5.87 and 4.45 respectively in 2012-13. On the contrary, Palayamkottai has lesser GER (-3.79) and Cheranmahadevi follows it with -2.65. In Palayamkottai, girls' GER is further down in 2013-14. Therefore, Palayamkottai and Cheranmahadevi should try to enroll more girls in the primary education and Melaneelithanallur, Manur and Kuruvikulam should try to enroll both boys and girls.

Box 5.1- Female and Male Literacy

To find out the reasons for low female literacy and low male literacy in Melaneelithanallur and to recommend suitable measures for increasing the rates, the case study is undertaken. It is said if a women has got education, then it means the entire generation has got education. Such impact has been created by female literacy. But in India, women are not normally sent to schools for education due to social oppression and discrimination. In the district, it seems that Melaneelithanallur and Kuruvikulam prove to be tradition oriented. The share of female literacy in these two blocks is very low with 63.75% for Melaneelithanallur and 64.76% for Kuruvikulam block.

The index value for the share of female literacy is 0.640 for Melaneelithanallur and 0.650 for Kuruvikulam. Whereas, it is above 0.850 for Vallioor, Radhapuram and Corporation. Higher the index value for female literacy, lesser is the gender inequity index. Thus, a field study on female literacy is undertaken in Melaneelithanallur and it has revealed that in Vellalankulam only 16 women are educated out of which 3 are graduates, 4 are diploma holders, 2 have passed SSLC and 7 are educated below SSLC level, out of the female population of around 3,000. Similarly, in Chinnakovilangulam, only 19 women are educated. In contrast, in Devarkulam 940 women are educated and in Melaneelithanallur 582 women and in Echanda 531 are educated.

Literacy is equally important for both males and female. Higher literacy rate for males decides the country's human development and if males and females are equally educated, it increases the status of both the sex and thus leads to greater GDI and lesser GII. Therefore, male literacy has also to be increased as that of the female rate of literacy. On the contrary, Melaneelithanallur and Kuruvikulam have low male literacy rates of 81.97 and 83.92%, respectively. The urban sector as usual has high male literacy rate of 94.75%.

As far as the index value for share of male literacy is concerned, Melaneelithanallur block has 0.820 and Kurivikulam block has 0.840. To further study the causes of low male literacy rate in Melaneelithanallur block, a field study is carried out. As in the case of female literacy, it is peculiar that Vellalankulam and Chinnakovilangulam have low male literacy. In Vellalankulam, the male population is around 3000, but only 32 males are educated. Of the 32, 6 are qualified below SSLC, 13 have passed SSLC, 8 are graduates and 5 are diploma holders. Likewise in Chinnakovilangulam only 35 men are educated. As in the case of female literacy in Devarkulam, male literacy is also high and about 1165 people are educated. In Achampatti (950), Kulasekaramangalam (919), Sendamaram Kasbha (673), Echanda (663), Pattadaikatti (560), Kurukkalpatty (500) and Melaneelithanallur (491) are educated.

The case study in female literacy shows that there is extreme inter-village panchayat difference. This has to be addressed. The cause for female literacy is both social and economic. Therefore, enough awareness programmes on the importance of female literacy is to be created among the people and sufficient educational infrastructure is also to be created. In villages like Melaneelithanallur, the female literacy is high because of the availability of the educational institutions. From this, it is inferred that accessibility to education at every stage determines the female literacy, especially in rural and backward areas like Vellalankulam.

To promote male literacy in the villages where it is low, creation of education infrastructure is inevitable. Moreover, to prevent the dropout and to prevail engaging the children in child labour, poverty eradication programmes are to be implemented in full swing. For example, under MGNREGP out of the 20,659 registered, only 14,939 (72%) households are provided with jobs. It is suggested here, to enhance education, poverty is to be addressed and under MGNREGP programme at least all the registered households are given jobs. Thus, additional educational facilities and additional employment opportunities will go hand in hand to promote literacy and especially male literacy.

GER primary and upper primary in the district vary from block to block as seen in the table. The major reason for the difference may be due to migration of the families in search of better jobs or in search of better schools. In the district, number of schools including the aided and matriculation

schools in each block also varies. Hostel availability also seems to determine the difference in GER. Transport facility is yet another factor causing the difference.

Completion Rate and Dropout Rate in Primary Education

In regard to primary education, completion rate is also equally important as that of the enrollment. Children who are enrolled should be given enough attention and incentives to continue the education. Children who come from poverty stricken families are likely to find difficulty in completing the primary education. Here, parents should also be counseled for engaging their children in education.

In 2013-14, in the district the completion rate was 98.44% and the rate is same for 2012-13. All the blocks have more than 98% completion rate in both 2012-13 and 2013-14, except in Shencottai. Here, Manur, Kuruvikulam and Melaneelithanallur have over 99% completion rate, although they have only 85% in GER. Valliyoor has only 98.2% both in 2013-14 and in 2012-13 and therefore, additional efforts are to be taken to increase the completion rate. Since Valliyoor is the block with high rate of poverty in the district, the completion rate is poor and is the last in the district. So, it is suggested that the poverty is to be addressed in the block to increase the completion rate of primary education automatically.

Table: 5.2 - Completion and Dropout Rate in Primary Education

Sl. No.	Blocks	Completion (Primary)						Dropout (Primary)					
		Boys		Girls		Total		Boys		Girls		Total	
		2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14
1	Alangulam	99.09	99.04	98.78	98.83	98.94	98.94	0.11	0.51	0.09	0.825	0.1	0.67
2	Ambasamudram	99.99	100.00	99.9	99.95	99.89	99.95	0	0.175	0	0.36	0	0.265
3	Cheranmahadevi	99.81	99.76	99.51	99.56	99.66	99.66	0.25	1.255	0.39	0.355	0.32	0.805
4	Kadayam	99.28	99.23	99.4	99.45	99.34	99.34	0.54	0.395	0.1	0.35	0.32	0.375
5	Kadayanallur	99.87	99.82	99.67	99.72	99.77	99.77	0.11	1.265	0.08	0.1	0.09	0.68
6	Kalakadu	99.87	99.82	99.56	99.61	99.72	99.72	0	0.08	0.11	0.295	0.06	0.19
7	Keelapavoor	99.76	99.71	99.78	99.83	99.77	99.77	0.15	0.365	0	1.06	0.07	0.71
8	Kuruvikulam	99.25	99.20	99.52	99.57	99.38	99.38	0.32	0.51	0.25	0.585	0.28	0.545
9	Manur	99.25	99.20	99.21	99.26	99.23	99.23	0.99	0.465	0.69	0.48	0.84	0.47
10	Melaneelithanallur	99.99	100.00	99.78	99.83	99.94	99.94	0	0.605	0.12	0.84	0.06	0.72
11	Nanguneri	99.99	100.00	99.78	99.83	99.94	99.94	0	0.105	0.12	0.14	0.06	0.12
12	Palayamkottai	99.99	100.00	99.9	99.95	99.87	99.94	0	1.245	0	1.38	0	1.31
13	Pappakudi	98.23	98.18	99.26	99	98.72	98.72	2.27	2.02	0.64	0.78	1.46	1.405
14	Radhapuram	99.99	100.00	99.9	99.95	99.87	99.94	0	0.83	0	0.8	0	0.815
15	Sankarankovil	99.88	99.83	99.75	99.80	99.81	99.81	0.2	0.79	0	1.625	0.1	1.21
16	Shencottai	97.59	97.54	97.82	97.87	97.71	97.71	3.13	2.15	2.08	1.78	2.61	1.97
17	Tenkasi	99.91	99.86	99.58	99.63	99.75	99.75	0	0.44	0.06	0.19	0.03	0.315
18	Valliyoor	97.45	97.40	99.02	99.07	98.2	98.20	0.17	0.915	0	0.78	0.09	0.85
19	Vasudevanallur	99.55	99.50	99.7	99.75	99.62	99.62	0.13	0.12	0.05	0.105	0.09	0.11
20	Corporation	99.33	99.28	99.37	99.42	99.35	99.35	1.43	1.195	0.8	0.655	1.11	0.925
	District	**98.29**	**98.24**	**98.58**	**98.63**	**98.44**	**98.44**	**0.12**	**0.77**	**0.1**	**0.67**	**0.11**	**0.72**

Source: Sarva Shiksha Abhiyan, Tirunelveli

Dropout

Dropout means leaving a school without completing the education. The major reason for drop out in primary education in India is poverty. It has deterred the pursuit of primary education as it is not the highest priority among the poverty stricken families as compared to other basic necessities of life. The parents out of sheer necessity send the children as child labourers to earn. Another reason for dropping out of school by girl children is gender discrimination. Parents are prepared to send the male children to school and retain the girl children for household activities. Social inhibitions are also another cause for this drop out. Therefore, a dropout recovery initiative is

to be taken immediately to make the children of India especially the girl children more productive and efficient in future.

In the district, the dropout rate for girls' was 0.67% in 2013-14 and it is almost the same for boys 0.77%, which is very marginally higher than the girls. Hence, the district is unique in taking care of girl's education. To get the facts of drop out across the blocks, Shenkottai has the highest dropout rate of 2.61 in 2012-13, against 1.97 in 2013-14. This is an achievement for the block for the drop in the dropout. As against this, Palayamkottai with zero dropout rate in 2012-13 has 1.31 dropout rate in 2013-14 which has to be addressed. Same is the case with Radhapuram and Ambasamudram. They have achieved zero rate of drop out in 2012-13 for boys and girls, but now they have greater dropout rate in 2013-14. In Ambasamudram, the incidence of poverty is high in 2013-14 with 31.61. The high poverty would have been the reason for the increase in the rate of drop out in the block. In Shenkottai block which has the highest drop out rate has high poverty percentage in the district in 2013-14 with 23.15. Another reason for the high dropout rate in Shenkottai may be due to high concentration of tribal population. Hence, the poverty alleviation programmes may be implemented with much more care in the blocks where dropout rate is high and special attention is to be given to the children of vulnerable section like tribals.

On 21 February 2005, the Prime Minister of India said that he was pained to note that "'only 47 out of 100 children enrolled in class I reach class VIII, putting the dropout rate at 52.78%.'" It is estimated that at least 35 million, and possibly as many as 60 million children aged 6–14 years are not in school. (http://en.wikipedia.org/wiki/)

Upper Primary / Middle School Education

Education has been accorded an important role in human development. The National Policy on Education 1986 has explicitly pointed out the role of universal enrollment in elementary education. The upper primary education includes VI, VII and VIII standards. Ever since the policy was announced, attempts are being made to increase the elementary education both quantitatively and qualitatively. The enrollment in upper primary education is also important in making progress in education.

In Tirunelveli district, the enrollment in upper primary education for 2013-14 was 94.06 and in 2012-13 it was 94.68, for the State it was 93.83 in 2013-14. Between boys and girls, there is not much variation in the enrollment of upper primary education as it stood between 93.01 and 95.10 in 2013-14. In fact girls' enrolment in upper primary is higher than the boys'. This feat is remarkable for the district. Among the blocks, Pappakudi has the lowest enrollment of 93.7 in 2013-14 and actually an educator has to worry over the decline in enrollment (94.29) from 2012-13 to 2013-14.

Table: 5.3 - Gender wise Enrollment in Upper Primary Education

Sl.No.	Blocks	Upper Primary					
		Boys		Girls		Total	
		2012-13	2013-14	2012-13	2013-14	2012-13	2013-14
1	Alangulam	98.03	97.46	99.31	98.59	98.67	98.02
2	Ambasamudram	98.25	97.67	99.90	99.60	99.07	98.62
3	Cheranmahadevi	94.56	94.01	98.07	97.36	96.32	95.68
4	Kadayam	95.98	95.41	98.49	97.77	97.23	96.60
5	Kadayanallur	99.85	99.27	98.89	98.16	99.37	98.71
6	Kalakad	97.84	97.27	99.64	98.91	98.74	98.07
7	Keelapavoor	98.01	97.44	99.81	99.36	98.91	98.40
8	Kuruvikulam	97.98	97.41	99.87	99.51	98.93	98.43
9	Manur	96.79	96.22	98.76	98.04	97.78	97.13
10	Melaneelithanallur	99.98	99.39	99.89	99.65	99.93	99.52
11	Nanguneri	97.04	96.47	99.41	98.69	98.23	97.58
12	Palay Rural	99.23	98.64	99.91	99.51	99.57	99.06
13	Pappakudi	92.04	91.50	96.54	95.84	94.29	93.70
14	Radhapuram	99.84	99.92	99.91	99.96	99.88	99.94
15	Sankarankovil	98.98	98.40	99.79	99.06	99.39	98.73
16	Sengottai	99.53	98.95	99.97	99.55	99.75	99.25
17	Tenkasi	99.57	98.99	99.84	99.25	99.71	99.11
18	Valliyoor	98.51	97.93	99.94	99.53	99.22	98.71
19	Vasudevanallur	98.01	97.44	99.62	98.89	98.81	98.15
20	Palay Urban	97.88	97.31	99.87	99.40	98.88	98.38
21	Tirunelveli Urban	98.91	98.33	99.84	99.41	99.38	98.87
	District	**93.56**	**93.01**	**95.80**	**95.10**	**94.68**	**94.06**

Source: Sarva Shiksha Abhiyan, Tirunelveli

To enhance the enrollment in upper primary education, interventions in the form of opening up of new schools and provision of additional teachers, academic resource support in the form of textbooks and establishment of smart class room with e-learning material are to be made.

Completion Rate and Dropout in Upper Primary/Middle School Education

In upper primary education, completion rate is important as that of its enrollment. In the district, the completion rate for upper primary education was 94.68% in 2012-13 and it was 94.06 in 2013-14 and for the State it was 93.83%.

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

Sl. No.	Blocks	Completion (Upper Primary)						Dropout (Upper Primary)					
		Boys		Girls		Total		Boys		Girls		Total	
		2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2011-12	2012-13	2011-12	2012-13	2011-12	2012-13
1	Alangulam	98.03	97.46	99.31	98.59	98.67	98.02	2.44	2.44	1.63	1.63	2.04	2.04
2	Ambasamudram	98.25	97.67	99.90	99.60	99.07	98.62	2.14	2.14	0.71	0.71	1.44	1.43
3	Cheranmahadevi	94.56	94.01	98.07	97.36	96.32	95.68	3.42	3.42	2.02	2.02	2.72	2.72
4	Kadayam	95.98	95.41	98.49	97.77	97.23	96.60	1.59	1.59	2.13	2.13	1.86	1.86
5	Kadayanallur	99.85	99.27	98.89	98.16	99.37	98.71	0.97	0.97	1.2	1.2	1.08	1.09
6	Kalakadu	97.84	97.27	99.64	98.91	98.74	98.07	1.82	1.82	1.14	1.14	1.49	1.48
7	Keelapavoor	98.01	97.44	99.81	99.36	98.91	98.40	2.69	2.69	0.97	0.97	1.83	1.83
8	Kuruvikulam	97.98	97.41	99.87	99.51	98.93	98.43	2.22	2.22	0.17	0.17	1.24	1.2
9	Manur	96.79	96.22	98.76	98.04	97.78	97.13	4.21	4.21	2.54	2.54	3.37	3.38
10	Melaneelithanallur	99.98	99.39	99.89	99.65	99.93	99.52	1.05	1.05	0.45	0.45	0.75	0.75
11	Nanguneri	97.04	96.47	99.41	98.69	98.23	97.58	2.87	2.87	1.63	1.63	2.25	2.25
12	Palay Rural	99.23	98.64	99.91	99.51	99.57	99.06	1.94	1.94	0.89	0.89	1.45	1.42
13	Pappakudi	92.04	91.50	96.54	95.84	94.29	93.70	5.14	5.14	3.86	3.86	4.48	4.5
14	Radhapuram	99.84	99.92	99.91	99.96	99.88	99.94	0	0	0	0	0	0
15	Sankarankovil	98.98	98.40	99.79	99.06	99.39	98.73	2.09	2.09	1.67	1.67	1.89	1.88
16	Shencottai	99.53	98.95	99.97	99.55	99.75	99.25	1.64	1.64	0.87	0.87	1.25	1.26
17	Tenkasi	99.57	98.99	99.84	99.25	99.71	99.11	0.26	0.26	0.35	0.35	0.3	0.31
18	Valliyoor	98.51	97.93	99.94	99.53	99.22	98.71	2.53	2.53	0.75	0.75	1.67	1.64
19	Vasudevanallur	98.01	97.44	99.62	98.89	98.81	98.15	2.34	2.34	1.36	1.36	1.87	1.85
20	Corporation	98.40	97.82	99.86	99.41	99.13	98.63	2.54	2.54	0.93	0.93	1.715	1.74
	District	**93.56**	**93.01**	**95.80**	**95.10**	**94.68**	**94.06**	**1.62**	**1.62**	**1.44**	**1.44**	**1.53**	**1.53**

Source: Sarva Shiksha Abhiyan, Tirunelveli

Here, the district has a lower figure for 2013-14 than the completion rate for 2012-13. But, the district has improved its rate by 1.25% in 2012-13 over 2011-12 rate of 93.43%. Therefore, an effective programme is needed to arrest the fall in the transition rate of this category. The completion rates for boys and girls are 93.01% and 95.1%, again the girls' completion rate is higher than the boys' rate. In a tradition ridden society in which girls are not permitted to go for education, a district which is located in down south and far from cities like Chennai, this is a no small achievement. More so in the case of Melaneelithanallur and Radhapuram, the completion rate is high for boys and girls in 2013-14. The same success is not found in other blocks. Pappakudi block has the least completion rate of 93.7 and this is a great concern for policy makers. The district has made a tremendous achievement in bridging the gender gap in education and in upper primary completion rate.

Dropout

In the district, the dropout rate in upper primary education is 1.53% in 2012-13 and for the State it is 1.7% and Tenkasi has the lowest dropout rate of 0.31% and Manur has the highest dropout rate of 3.38%. Manur is the biggest by area and the backward by human development and therefore, better administrative measures are most needed to have a paradigm shift in education and in living standards. Radhapuram has a good example of achieving zero dropout rates in upper primary education.

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

Transition rate in education from stage to stage is important in determining the human development index. High transition rate from primary to upper primary and upper primary to secondary is all the more important for labour productivity and for economic development. High transition rate in all stages including higher secondary to college education will reflect upon the human development of the country. In India, as the population is very young, transition rate is significant to make economic progress.

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

Sl. No.	Blocks	Primary to Upper Primary		Upper Primary to Secondary	
		2012-13	2013-2014	2012-13	2013-14
1	Alangulam	99.44	98.64	89.40	94.01
2	Ambasamudram	99.99	99.14	94.75	94.13
3	Cheranmahadevi	99.22	98.27	87.58	95.75
4	Kadayam	99.38	99.17	80.49	94.95
5	Kadayanallur	99.03	98.87	89.04	94.55
6	Kalakadu	99.34	99.07	98.84	93.61
7	Keezhapavoor	99.03	98.81	88.21	92.42
8	Kuruvikulam	99.03	98.72	89.21	97.36
9	Manur	99.55	99.04	90.93	94.52
10	Melaneelithanallur	99.39	98.89	97.17	97.23
11	Nanguneri	99.42	98.91	80.73	91.33
12	Palayamkottai (Rural)	99.21	98.91	86.44	95.15
13	Pappakudi	99.9	99.04	92.33	93.16
14	Radhapuram	99.29	99.04	84.16	91.69
15	Sankarankoil	98.82	98.81	87.95	94.79
16	Shencottai	99.46	98.88	98.92	97.61
17	Tenkasi	99.44	99.17	92.58	96.23
18	Vallioor	99.42	99.03	95.50	95.35
19	Vasudevanallur	99.53	99.04	86.20	93.68
20	Corporation	98.87	98.88	91.38	94.41
District Total		**99.34**	**98.92**	**90.09**	**94.60**

Source: Sarva Shiksha Abhiyan, Tirunelveli

In Tirunelveli, the transition rate in most of the blocks from primary to upper primary is high. When transition rate from primary to upper primary school is considered, all the blocks of the

district recorded almost above 99% during the year 2012-13 excluding Sankarankoil (98.82%) and Corporation (98.87%)whereas during the year 2013-14, transition rate from primary to upper primary was quite less. On the whole, the transition rate of the district from upper primary to secondary during 2013-14 was 94.60 comprising 92.49 for boys and 96.58 for girls. Hence, the district is proving that it is not only the Oxford of the South but also the district with exemplary example for increasing female education. The transition rate for girls is higher by 8.74% than the boy's transition rate. This is one of the significant achievements of the district.

While analysing the transition rate from upper primary to secondary in the district, Shenkottai has 97.61% which is the highest rate in the district between the blocks. What is to be noted is that the block which has low completion rate and high dropout rate of 1.97 in 2013-14 in primary education, has the greatest transition rate of 97.61 in upper primary to secondary in 2013-14. From this it can be understood that once the children complete the primary education in the block they are assured of completing the upper primary and entering into the secondary education. Therefore, it is again suggested that the block has to concentrate on primary education and take measures to curb drop out at primary level. Kadayam, is the block which has the least transition rate of 80.49 has improved it to 94.95. And another interesting feature is that Melaneelithanallur, a backward block had 97.17 transition rate in 2012-13 has an increased rate (97.23) in 2013-14. One of the reasons would be the higher rate of the availability of higher educational institutions in the block. However, in the same block, gender gap is found between boys (101.01) and girls (93.85) in the transition rate. This may be due to the social barrier and conservative attitude of the different social groups. Therefore, to improve the girls' transition rate in the block, intervention is required to transform the mindset of the people.

Access to Schools

The availability of education after Independence has no doubt increased to a greater extent. The schools for primary education, for upper primary education, for secondary and higher secondary education have increased since Independence in India, Tamil Nadu and in the district. The growth of the schools has enabled the Indian children to acquire education. However, the availability of school infrastructure seems to be skewed acrossthe nation. Moreover, theavailability has not been incommensuration with increase in the population.

Table: 5.6 - Availability of Schools

Sl. No.	Blocks	2001			2011				
		No. of habitations	No. of primary schools	No. of upper primary schools	No. of habitations	No. of primary schools	No. of upper primary schools	High schools	Higher sec. schools
1	Alangulam	66	77	24	74	85	26	5	11
2	Ambasamudram	105	56	16	117	73	16	10	12
3	Cheranmahadevi	151	76	16	168	87	18	8	9
4	Kadayam	145	69	13	162	82	17	10	4
5	Kadayanallur	82	44	23	92	72	24	9	15
6	Kalakadu	158	80	29	176	82	29	3	13
7	Keelapavoor	158	55	19	176	99	24	11	13
8	Kuruvikulam	135	110	27	151	123	29	4	8
9	Manur	141	24	10	157	113	23	6	11
10	Melaneelithanallur	81	78	34	90	41	35	5	6
11	Nanguneri	229	150	23	255	83	26	11	9
12	Palayamkottai	196	43	11	218	158	12	12	12
13	Pappakudi	79	101	80	88	119	84	2	6
14	Radhapuram	160	110	36	178	53	36	11	17
15	Sankarankovil	112	100	22	125	52	23	7	14
16	Sengottai	60	24	10	67	122	12	8	5
17	Tenkasi	144	64	21	161	103	25	11	23
18	Valliyoor	162	27	11	181	41	17	14	22
19	Vasudevanallur	127	103	32	142	72	35	17	17
20	Corporation	206	60	18	230	239	19	20	42
	District	**2707**	**1451**	**475**	**3008**	**1899**	**530**	**184**	**269**

Source: Sarva Shiksha Abhiyan, Tirunelveli.

In States like Bihar rural areas are neglected in this regard. Because of this, girls' education has been affected much. As regards to the number of primary schools in the country in 2002-03 it is 6.02 lakhs and it has increased to 8.1 lakhs in 2009-10, whereas there are 4.94 lakhs upper primary schools in 2009-10 (Mahendra Dev, 2013). In the district, there are about 3,008 habitations and 1,899 primary schools and 530 upper primary schools in 2011. This means, one primary school serves 1.58 habitations and one upper primary school for 5.68 habitations on an average. Between the blocks, Palayamkottai has the highest number of primary schools of 158 and Meelaneelithanallur and Vallioor have 41 each. This less availability of schools in Meelaneelithanallur has resulted in the lowest GER of primary education (85.45) and Vallioor is just above with 92 as GER at primary level. Therefore, it is inferred that the children of this two blocks have less access to primary education. Hence, it is suggested that additional primary schools should be established in the villages and hamlets of these two blocks. As regards the upper primary education, the Corporation has only 19

schools whereas for primaryeducation it has 239 schools and Shenkottai and Palayamkottai has only 12 upper primary schools. Here, also the number of upper primary schools has to be increased to enhance the enrolment. It is also suggested, taking the population and geographical area into consideration, high schools and higher secondary schools are to be established to increase the enrollment ratio not only in the segment but also at tertiary education.

It is all the more necessary to make education available to the poor section of the society. The people at the lowest strata of the society, especially the women – the most vulnerable section of the society, face many challenges and barriers to pursue school education on account of poverty and thus affecting the enrolment. Therefore, new schools may be established closer to the place where poverty stricken people live.

Pupil-Teacher Ratio in Primary and Upper Primary

Pupil teacher ratio decides the quality of education and also the success rate of passing. Low ratio benefits the student because there is more time for one-to-one care. Low student to teacher ratio is important because a teacher will be more effective. Small classrooms provide students to develop a better cooperative spirit.

In India, the pupil teacher ratio is 40 for lower primary (Class I-V) schools, if the classroom strength exceeds 200. The same has been fixed at 35 in upper primary (Class VI-VIII) schools, if the classroom strength exceeds 105 (Express News Service, 2013).

Pupil Teacher Ratio

In Tirunelveli, the pupil teacher ratio for the district was 38 in 2001 and 24 for 2011 in primary schools and in upper primary the respective rates are 36 and 31. The statistics points out that the ratio in both primary and upper primary education is becoming smaller, thus paving way for quality education and greater success rate.

Table: 5.7 - Pupil Teacher Ratio 2012-13 and 2013-14

Sl. No.	Blocks	2013-14				2013-14			
		Primary School		Upper Primary School		Primary School		Upper Primary School	
		Pupil Teacher Ratio	Pupil School Ratio	Pupil Teacher Ratio	Pupil School Ratio	Pupil Teacher Ratio	Pupil School Ratio	Pupil Teacher Ratio	Pupil School Ratio
1	Alangulam	26.99	89.98	32.27	235.86	22.11	118.22	26.76	425.89
2	Ambasamudram	26.36	63.05	30.29	161.82	22.26	124.30	23.39	330.35
3	Cheranmahadevi	26.31	75.43	29.79	198.71	25.00	115.93	22.99	438.00
4	Kadayam	29.01	80.20	34.33	174.13	23.72	102.85	19.18	438.79
5	Kadayanallur	27.56	84.49	32.74	259.45	25.48	146.47	30.96	370.63
6	Kalakadu	28.26	63.30	26.98	151.60	17.71	102.40	28.80	397.31
7	Keelapavoor	30.33	105.10	33.22	218.64	25.85	152.13	29.89	430.20
8	Kuruvikulam	23.59	131.56	27.78	207.51	17.20	56.59	30.28	342.33
9	Manur	23.26	122.55	23.51	226.86	21.96	69.51	26.89	276.65
10	Melaneelithanallur	24.31	69.12	27.7	130.79	20.97	76.53	24.86	320.21
11	Nanguneri	21.36	194.34	29.83	284.35	16.64	54.00	26.81	248.14
12	Palay Rural	24.49	64.59	26.14	101.39	19.98	95.94	22.24	323.54
13	Pappakudi	31.04	50.09	25.98	163.29	29.51	115.69	25.09	439.56
14	Radhapuram	28.62	142.33	30.29	135.92	20.52	101.35	20.04	338.60
15	Sankarankovil	26.16	96.77	29.2	90.12	21.64	113.23	26.82	441.84
16	Sengottai	22.36	51.78	26.82	219.33	27.24	125.95	29.93	332.43
17	Tenkasi	28.8	82.36	31.96	182.85	25.23	170.51	25.44	361.50
18	Valliyoor	26.39	93.68	29.7	150.83	18.43	112.13	26.69	293.35
19	Vasudevanallur	32.02	128.45	41.02	174.31	23.81	141.89	27.68	346.91
20	Corporation	27.32	80.96	31.02	181.62	23.21	189.68	27.11	452.92
	District	26.73	93.51	30.03	182.47	22.42	114.27	26.09	367.46

Source: Sarva Shiksha Abhiyan, Tirunelveli.

Of the 19 blocks, Nanguneri with 16.64 and Kuruvikulam with 17.2 and Kalakadu with 17.71 are the ratios for primary education. For upper primary education, the pupil-teacher ratio for Kadayam has the lowest pupil teacher ratio in 2013-14. This has to be addressed. In Melaneelithanallur, the pupil teacher ratio for upper primary education is slightly high (24.86) and this could be one of the reasons for better education in the block.

Secondary Education

Students in the adolescent age should be properly nurtured and shaped so as to become the future builders of the country. In this regard, the role of secondary education is imminent. In the district across the blocks, the GER secondary varies from 98.68 in Manur to 105.65 in Ambasamudram. Between boys and girls, the variation in the GER secondary is smaller, highlighting gender equity in secondary education.

Table: 5.8 - Enrolment in Secondary Education

Sl .No.	Blocks	Boys	Girls	Total
1	Alangulam	104.45	104.41	104.43
2	Ambasamudram	105.67	105.62	105.65
3	Cheranmahadevi	102.02	102.03	102.03
4	Kadayam	99.78	99.82	99.80
5	Kadayanallur	101.18	101.57	101.38
6	Kalakad	101.01	101.03	101.02
7	Keelapavoor	102.18	102.18	102.18
8	Kuruvikulam	101.27	101.28	101.28
9	Manur	98.95	98.71	98.68
10	Melaneelithanallur	102.04	102.04	102.04
11	Nanguneri	102.28	102.28	102.28
12	Palay Rural	103.18	103.16	103.17
13	Pappakudi	100.14	100.17	100.16
14	Radhapuram	100.25	100.28	100.27
15	Sankarankovil	102.82	103.34	103.08
16	Shencottai	100.63	100.67	100.65
17	Tenkasi	100.83	101.10	100.97
18	Vallioor	103.38	103.36	103.37
19	Vasudevanallur	105.27	105.23	105.25
20	Corporation	102.30	102.38	102.34

Source: RMSA, Tirunelveli

The high enrolment in secondary education for boys and girls is mainly due to the promotional programmes of the government in terms of availability of schools and free transport facility. Other programmes such as supply of free books, cycle and noon meals definitely caused higher enrolment in all segments including at secondary education.

However, there is GER gap between rural and urban areas for example Manur is a rural block and Tirunelveli Corporation is an urban area. The students studying in Manur migrate to urban areas. Therefore, the GER in Manur is low. Moreover, the school infrastructure in urban area is better. This is another reason for low GER in Manur block. In addition, people prefer English medium to Tamil medium and schools offering secondary education through English medium is located in urban areas. Hence, the GER in rural block (Manur and rural areas in other blocks) is comparatively low. Here it is suggested to provide better school infrastructure facilities in rural areas.

Dropout in Secondary Education

. **Table: 5.9 – Dropout in Secondary Education**

Sl. No.	Name of the Block	Boys		Girls		Total	
		2012-13	2013-14	2012-13	2013-14	2012-13	2013-14
		8.77	5.53	5.56	2.35	7.32	3.94
2	Ambasamudram	10.08	8.31	5.59	5.20	7.91	6.76
3	Cheranmahadevi	13.01	4.25	6.88	1.92	9.97	3.09
4	Kadayam	10.93	5.35	7.47	2.49	9.23	3.92
5	Kadayanallur	7.09	6.79	2.42	3.07	4.75	4.93
6	Kalakadu	14.69	12.24	7.87	6.16	11.55	9.20
7	Keezhapavoor	7.47	6.21	5.75	2.57	6.65	4.39
8	Kuruvikulam	10.95	6.62	4.52	1.95	8.15	4.29
9	Manur	13.91	7.88	7.27	0.79	10.76	4.34
10	Melaneelithanallur	11.51	7.61	3.97	1.79	7.85	4.70
11	Nanguneri	17.60	8.64	9.25	3.99	13.51	6.32
12	Palayamkottai (Rural)	12.11	8.44	7.53	6.04	9.98	7.24
13	Pappakudi	12.23	10.88	3.99	3.63	8.23	7.26
14	Radhapuram	14.06	7.38	7.63	4.56	11.08	5.97
15	Sankarankoil	14.68	9.69	3.96	1.93	9.72	5.81
16	Shencottai	13.73	3.22	6.80	0.58	10.22	1.90
17	Tenkasi	11.34	7.20	4.59	5.00	8.14	6.10
18	Vallioor	7.44	5.92	3.51	2.49	5.50	4.21
19	Vasudevanallur	9.72	11.26	8.07	3.73	8.88	7.50
20	Corporation	8.33	7.15	7.52	2.23	7.96	4.69
District Total		**11.48**	**7.53**	**6.01**	**3.12**	**8.87**	**5.33**

Source: RMSA, Tirunelveli

In a country like India, continuous education is to be ensured to the people for increasing the productivity of the labour. Therefore, drop out at any stage more importantly at secondary education is to be minimal. The table (5.9) presented gives a picture on the drop out at secondary education at the block level. In 2013-14, the drop out is low (1.9) in Shencottai and high in Vasudevanallur (7.5). In Shenkottai drop out of girls is only 0.58, the attempt is to be emulated by other blocks. To compare the drop out between 2012-13 and 2013-14, except Kadayanallur, all other 18 blocks including the corporation have reduced the drop out. It is a commendable achievement of the district.

Box: 5.2 - Initiatives for Improvement in the Quality of Education

The concept of quality is largely linked to the efficiency of the teaching – learning process. There are various agencies like NCERT, DTET, NGOs and Universities are involved in improving the quality of education especially at elementary level. Quality requires both infrastructure and good teachers in schools and innovative teaching. Innovative interventions are introduced in India under Sarva Shiksha Abiyan (SSA) and the major programmes include Children Language Improvement Programme (CLIP), Integrated Learning Improvement Programme (ILIP) and Computer Aided Learning (CAL). The Activity Based Learning (ABL) introduced recently in Tamil Nadu is also quality oriented. District Institute of Education & Training (DIET) is formed at district level to ensure quality education at elementary education. Curriculum is also framed and further developed to address the quality issues. To improve the quality of teaching in Tamil Nadu in–service training programme are given to the teachers.

Box: 5.3 - Reading and Writing Skill among Primary and Upper Primary Students

Reading is a part of gaining knowledge and language even after the school years. Reading helps to make progress in all academic subjects. Reading is the key to the storehouse of information and it leads to language skill and development. Reading skill is imparted mainly for the quick comprehension of the subject. But the skill imparted at the primary and upper primary schools are not up to the global standard and only the basics are taught. Students are not sufficiently trained enough in reading so as to comprehend the subject quickly. Therefore, they should be trained to develop reading habit so as to make the students understand the cause and effect, compare and contrast and try to answer questions about main ideas, details, essential information, vocabulary and overall theme. Similarly, writing skills are to be developed among the students at school levels in making sentences in both Tamil and English and should be trained on how to begin and conclude an essay. They should also be given knowledge of how to condense the passage. Further, the writing skills at school level are to be imparted to write a summary about the important points in the text book. Students independently should be able to write their opinion or choice, and then explain it. Under DIET programmes in Tamil Nadu, necessary steps for improving the reading and writing skills are included.

Access to Higher Secondary Schools

In India, the growth of population is very fast compared with other developed countries and the percentage of youth is also very high, which is called the demographic dividend. However, the population is to be properly educated to enhance the productivity. For this, the access to high school and higher secondary school education is important and this will further result in the increase of

enrolment in higher education which in the country has to be shot up to at least 20%. In the district, the enrolment ratio for high school is 91.18 and almost it is equal for boys and girls in 2012-13.Among the blocks, Kuruvikulam has 48.11 as the gross enrolment ratio at secondary education, which is the least in the district. It is a well-known fact that Kuruvikulam is one of the backward blocks with low human development index and has only four high schools. Hence, poverty coupled with poor infrastructure has resulted in low enrolment ratio. This will have a snow ball effect in the enrolment at higher secondary and higher education. Therefore, it is suggested to increase the educational infrastructure in Kuruvikilam and special incentives may be given to the school going children.

Basic School Infrastructure

To increase the Gross Enrolment Ratio and to improve the quality of education in Tamil Nadu, the infrastructure plays a key role. In the district, there are about 2,705 schools as of now, catering to the needs of education. However, all the schools do not have the entire facilities essential for proper school atmosphere. For example, there are schools with only three class rooms which may not be sufficient to provide learning environment. In the district, schools with more than three class rooms constitute 74.68%. In Pappakudi and Shencottai and Kalakadu, the school infrastructure appears to be low since the blocks have less percentage of schools in both the categories, with three class rooms and with more than three class rooms. Hence, it is suggested that more class rooms may be provided for the schools in the district, especially the three blocks with top priority for girls.

Table: 5.10 - School Infrastructure: 2013-14

Sl. No.	Blocks	Total no. of Schools	With 3 Class Rooms	More than 3 Class Rooms	Without Toilet	Without Girls Toilet	With-out Electri city	Without Compo-und Wall	Without Drinking Water
1	Alangulam	115	7	83	0	1	5	21	0
2	Ambasamudram	111	24	98	0	8	5	24	0
3	Cheranmahadevi	120	14	87	0	1	14	37	0
4	Kadayam	105	13	89	0	0	8	23	0
5	Kadayanallur	122	8	109	0	2	5	25	1
6	Kalakad	105	9	67	0	1	10	15	0
7	Keelapavoor	140	12	128	0	1	10	27	0
8	Kuruvikulam	137	13	69	0	6	11	74	1
9	Manur	142	22	96	0	46	15	48	0
10	Melaneelithanallur	106	12	79	4	16	15	43	1
11	Nanguneri	189	17	78	2	20	21	67	1
12	Palay Rural	170	12	101	0	17	19	51	1
13	Pappakudi	65	10	55	0	0	8	11	0
14	Radhapuram	155	15	106	0	9	19	42	0
15	Sankarankovil	143	16	111	0	3	14	51	0
16	Sengottai	70	8	63	0	2	1	9	1
17	Tenkasi	136	8	120	0	1	8	15	0
18	Valliyoor	172	13	129	1	7	14	25	1
19	Vasudevanallur	180	20	157	1	2	15	52	0
20	Corporation	222	10	195	1	7	2	32	0
District		**2705**	**263**	**2020**	**9**	**150**	**219**	**692**	**7**

Source: Sarva Shiksha Abhiyan, Tirunelveli

Again another important facility for the students is to provide toilet facility in the schools. This is of utmost importance because the students are to stay in the school from morning to evening and they stay in a congested environment and therefore, they are prone to diseases. Proper toilet facility is to be provided as a preventive measure and also to give a comfortable learning experience. In the district, 94.94% of the schools have toilet facilities and Kuruvikulam block has only 85.4% in this regard. Therefore, more toilet facilities are to be created with water availability. Actually, one may think that the toilet is not an important factor in determining the GER. On the contrary, the results of the regression reveal otherwise.

Regression Results of GGEP and GIRTIOL

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.608[a]	0.370	0.336	9.345411

a Predictors: (Constant), GIRTOILE

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	972.826	1	972.826	11.139	.003[a]
Residual	1659.398	19	87.337		
Total	2632.223	20			

a Predictors: (Constant), GIRTOILE
b Dependent Variable: GGERP

Coefficients

	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
Constant	60.470	12.459		4.854	.000
GIRTOLIE	.577	.173	.608	3.337	.003

a. Dependent Variable: GGERP

In order to find out the impact of toilet facilities on GER at primary level, a linear regression model is employed, taking girls GER at primary level as predictor variable and percentage of schools with toilet facilities as explanatory variable. The result shows that the toilet facility determines the GER as R^2 value is 0.37 and't ' value for girls' toilet is 3.337 which is significant. Hence, it is reiterated that toilet facility with water availability may be created in all the schools and the facility should be functional always. On the other hand, in regard to safe drinking water and desk and chair, there are 100% achievements in the district, which has to be commended.

Hostel Facilities

With the increase in the importance of education, there is also an increase in the number of schools. But still these schools are mostly restricted to town panchayats, municipalities and corporation. Due to these reasons students who come from distances, especially those who have no learning environment at home have to stay in a hostel. Residing in hostels have some advantages. The children learn to be self- dependent when they live in the hostel. Hostel life can help them become self- dependent as they provide them with necessary freedom. Campus hostels offer many advantages which attract the parents to get their children admitted in it. The distance to the learning point becomes less and the preference to educational activities is more and thereby leading to concentration on studies.

Table: 5.11 Hostels Facilities

Sl. No.	Block wise/District/State	No. of Schools	Total No. of Students	Number of Students in Hostels
1	Tirunelveli District	307	2,37,905	4,152

Source: Chief Educational Officer, Tirunelveli.

In Tirunelveli, out of 2,37,905 students only 4,152 stay in the hostels. This small proportion of students are staying in the hostel will come from scheduled caste and most of them also come from rural areas where there is no opportunitiy for them to go to high school anywhere close by. This may also add the GER of the district.

Box: 5.4 - Technology Initiatives in Education

Present society is passing through the information age. This information explosion has made it imperative to Indian Universities, colleges and schools to develop the new methods for transforming the Information into knowledge. The ICT technologies have changed the mode of information generation, organization, storage, retrieval and dissemination. With these latest information resources, the learners can analyze, evaluate, and synthesize the knowledge they gain. The applications of technology have been stressed in both the National Policy Education – 1986, and in revised NPE-1992. Integration of technology with pedagogy improves both quality and quantity in education. The ICT include the Educational Video and Television, Videoconferencing, E-mail, Computer Aided Teaching and E-Books and E-Journals. This new technology oriented teaching will attract both the instructors and the students. The students' understanding of core concepts will be improved. Even difficult subjects like mathematics can be taught easily with calculators, computers, spread sheets and with internet sources. Computer, like a teacher presents the lessons to the learners in a systematic and understandable mode and will penetrate deep into the mind. The student will master the subject with audio visual effects. And the learning will be complete and thorough and may lead to the frontier research in the respective fields and thereby the technology initiatives and adoption help to widen the horizon of knowledge.

Higher Education

Higher education in India has been growing phenomenally over the past 60 years, providing greater access to the people. In 2010-11, there were about 33,023 colleges in the country and 564 universities consisting of central, state and private, including deemed universities. However, the enrollment of higher education in India is still low and below the threshold level of 20%, which China achieved in 2004-05. It is all the more necessary to make higher education accessible to the poor sections of the society. The people at the lowest strata of the society, especially the women – the most vulnerable section of the society, face many challenges and barriers to pursue higher education on account of poverty and thus affecting the enrolment.

In the district, Manonmaniam Sundaranar University was established in 1990, by the Government of Tamil Nadu, as a teaching-cum-affiliating University. The University is named after the Tamil poet literateur Prof. P. Sundaram Pillai (1855-1897) who is the author of the famous verse drama, Manonmaniam. The University caters to the needs of the three southern districts of Tamil Nadu, viz., Tirunelveli, Thoouthukudi and Kanyakumari. The University was re-accredited by National Assessment and Accreditation Council (NAAC) with B grade in 2010.

The University is located in a campus of 550 acres at Abishekapatti (on Tirunelveli – Tenkasi Road) at a distance of 8 kilometers from Tirunelveli. There are around 28 Departments in the University and in 2014-15, three departments (Plant science, Animal science and Energy science) were introduced. Besides the Directorate of Distance and Continuing Education and Directorate of Vocational Education, Community Colleges are functioning under the Directorate of Vocational Education. Sri Paramakalyani Centre for Environmental Sciences is functioning at Alwarkurichi, and the Centre for Marine Science and Technology is functioning at Rajakkamangalam.

About 76,000 students are studying in the various University Departments and in the 62 affiliated colleges, 4 constituent colleges and 6 University colleges. The University is one of the pioneer institutions that offer Choice-Based Credit System (CBCS).

Collegiate Education

In 1878, the number of colleges in the district was two and they were the Madurai Diraviam Thayumanavar Hindu College and St. John's College. These are the oldest colleges in the district. The first college is for women and the third college of the district, Sarah Tucker College came up in 1895. The fourth college started in the district was the St. Xavier's college of Education and St. Ignatius college of Education (both are Training Colleges). They were established in 1950 and 1957respectively, and there are about 72 colleges offering arts and science courses. And apart from this, engineering, education, medical, law and veterinary education are offered in the district.

Gross Enrolment Ratio in Higher Education and Poverty

In the State of Bihar, people below the poverty line account for 425.64 lakh whereas in Kerala, it is estimated to be 41.04 lakh. The difference in poverty is reflected in the enrolment in higher education. Bihar with the population of 8.30 crores as per 2001 census has an enrolment of 5.24 lakhs (0.63%) and Kerala with the population of only 3.18 crores has 2.97 lakhs (0.93%) of people in higher education in 2001. Moreover, the National Sample Survey data for 2000 reveals that the enrollment of the poor in higher education is only 2.4 as against 13% for the non-poor (Sukdeo Thorat, The Hindu, December 7, 2006).

Gross Enrollment Ratio and Women and other Vulnerable Section

Women in India also suffer from many social and economic upheavals for pursuing higher education. In Indian culture, women's role is regarded as that of homemaker; therefore women are confined to home and not sent for higher education to distant places. It is evidenced from the low

enrolment of girls (8%) in higher education when compared with boys, which is 12% (NSS 2000). Poverty also causes inaccessibility of higher education to girls. It is revealed by the significant negative correlation (-0.352) between the percentage of population below poverty line in 32 States of India in 1999-2000 and the gross enrolment ratio of girls to higher education in 2001. Accessibility of the socially depressed classes to higher education is another important issue. The Gross Enrolment Ratio is only 6 to 7% for Scheduled Castes and Other Backward classes, compared with 17% for others.

Public Investment and Affordability

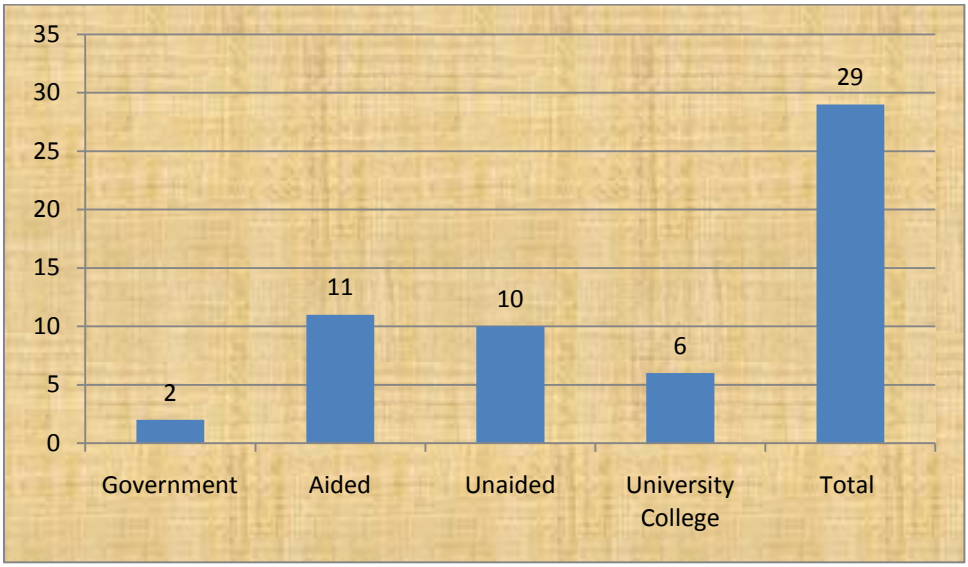
It is necessary to take into account the socio economic and the cultural barriers to higher education. The affordability of education largely depends on the income of the people, the cost of education, financial support in terms of loans and scholarship and inflationary pressure. It is to be remembered that the downtrodden sections of our population such as SCs and STs largely depend on agriculture for life. Since, during post-independent period, the average growth of the agricultural sector has been hovering around only 3%, the income of the agricultural labourers has not been increased at par with their counter parts in industrial sector.

The affordability of girls' higher education is largely dependent on the social practices. Girl children are discriminated and deprived of their legitimate right for higher education. Thus, the affordability of higher education is skewed and unfavourable to the vulnerable groups. Therefore, it is the moral obligation of the State to enhance the affordability of the subjugated. Towards this end, the public expenditure on higher education in India including Tamil Nadu has to be at least doubled, which the National Knowledge Commission also suggested, to achieve the three important foundations of higher education viz., accessibility, affordability and availability. Here, it is to be mentioned that according to Kothari Commission, a minimum of 6% of the GDP has to be allocated to education including higher education. This will provide India a launching pad and a win-win situation.

Arts and Science College

Manonmaniam Sundaranar University is doing yeoman service to the people of this district since 1990 and on the eve of silver jubilee celebrations, it serves the student community with its 28 university departments. In the district, there are about 29 arts and science colleges including government, aided, autonomous, self financing and university colleges. They cater to the needs of higher education with their commendable services in the field of education and the district is known as the Oxford of the South and there are about 75,000 students undergoing various courses in both under graduate and post graduate programmes in different, innovative subjects in arts, science and commerce. It is heartening to note that the alumni of these institutions bring laurels not only to the district but also to the State and to the country.

Figure: 5.2 Arts and Science Colleges

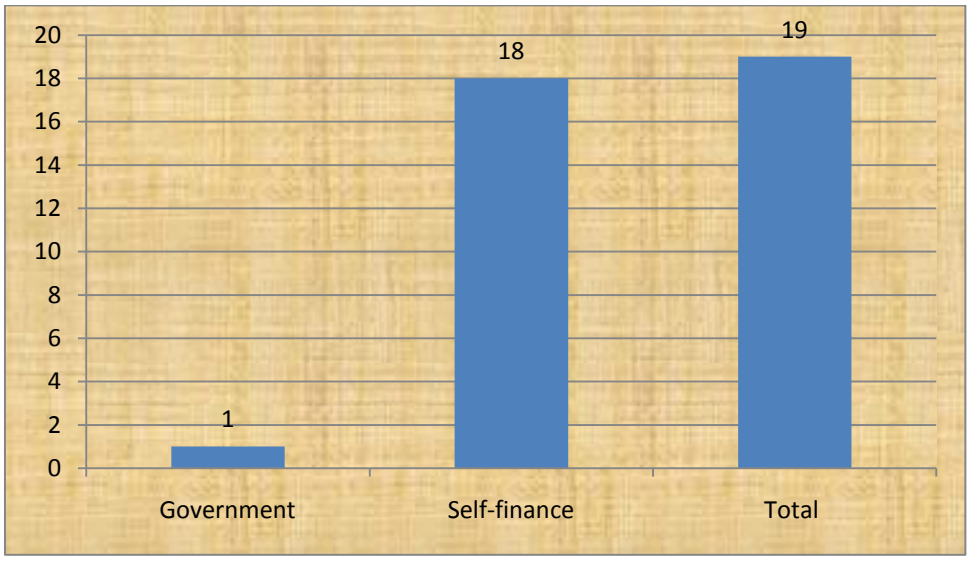


Source: Dean, College Development Council, Manonmaniam Sundaranar University, Tirunelveli-2013 and District Statistical Hand Book, 2011

Technical Education

Similarly, the engineering colleges provide technical education mainly in civil, mechanical, electrical, electronics and IT fields.

Figure: 5.3 Engineering Colleges



Source: District Statistical Hand Book 2011.

There are about 19 colleges' comprising government, aided and unaided colleges offering quality education in the respective fields. Students numbering around 73,666 benefited under these institutions. The alumni of these institutions find employment around the world and thus, the district has found its place on the educational map of the world.

To conclude, education is a never ending process and a person has to acquire knowledge and skills to sustain and compete in the knowledge era. And this has been made possible and has been achieved in India after the announcement of education policy in 1986. A number of programmmes have been launched to improve the education in general and in particular the transition rate from primary to upper primary and from upper primary to secondary. The programmes such as Operation Black Board, Shiksha Karmi Project, Lok Jumbish Programme, Mahila Samakhya, District Primary Education Programme and Sarva Shiksha Abhiyan (SSA) resulted in the increase in the GER at all levels. The SSA is the major programme dealing with the universalisation of elementary education which covered access and retention. Thus, the transition rate from upper primary to secondary has increased. Similarly, for higher education a similar programme has to be introduced to increase the GER at higher education. This is what is wanted to utilize fully the demographic dividend of the state and the country.

CHAPTER 6

GENDER

Chapter 6

Gender

Status of Women

Women feed the whole world. Their role in global, national and household food and nutrition security with multiple responsibilities of home making and housekeeping, child bearing, child care and upbringing and other economic activities, contributes to a greater extent for the well being of humanity. Women represent an important resource and means for the construction of new social order and a new approach to human productivity and welfare. The history of mankind reveals that women have been actively engaged in economic activities along with men. In fact, the economic functions have been the joint responsibility of both men and women in all ages.

Classification of Women's Work

It is a well-established fact that women carry out multiple jobs as a matter of routine. Besides attending to household works, women play a number of roles which are either preparatory or supportive to agriculture, animal husbandry and crafts (Savitha Singal and Kamala Srinivasan, 1990). But much of women's work is considered as an extension of their caring and nurturing functions and therefore does not appear in national statistics. This shows that, the demarcation between market sector and household sector is less clearly defined in developing countries as compared to developed countries. However, in India, women's economic tasks are classified into three types (Gaonkar, 1992) namely,

1. As an entrepreneur, as a self-employed worker, as a wage earning employee, producing goods and services for the market,
2. As a participant in return for a share in the living of the family's production activities whose products are at least partially meant for the market and
3. As a contributor to the family's real income by processing some goods which are available free, in order to supplement or replace its market purchases.

Household Activities

Women's primary role is still regarded as that of a home-maker. Whether they are employed or not, they are expected to be home-makers along with those who confine themselves exclusively to home-making activities. The household work consumes around half of their time and energy, which is unrecognized and unpaid. It is estimated that unpaid household work done by the women in developed countries constitute 25 to 40% of the GNP while much of the work done by the rural women of the developing countries does not carry any monetary value nor it is computed in GNP (Sabri, 1998). The average Indian woman spends about 3,041 days of her life in kitchen, which

remains absent from the national income figure. Preety Singh and Saroj Kashyap (1993) conducted a survey in Haryana and calculated the monetary value of women's household activities and animal-related activities. The estimated monetary value was Rs.2,909.91 in household activities and Rs. 1645.79 in animal-related activities and Rs.2,402.04 towards wage employment per year. This shows that if separate servants were to be employed for each job, a huge amount of money will have to be shelled out. The housewife saves this money. The annual average time spent by women in different activities is as follows; for being house servant- 1908 hours, for service-2208.15 hours, for labour-1920 hours and for being self-employed-1734 hours. As per ILO report, if the value of household work is calculated as equivalent to those services performed by cooks, cleaners and nurses it contributes upto half of the GNP in many countries.

Work Profile of Women

Women in India, since time immemorial have formed an organic component of the working force of the country. A large segment of women labour is engaged mainly in the unorganized sector. The employment of women in this sector is divided into agriculture, dairy, small animal husbandry, fisheries, social and agro forestry, khadi and village industries, handlooms, handicrafts and sericulture. Majority of the women workers are employed in the rural areas of which 87% are employed in agriculture as labourers and cultivators. Amongst women workers in urban areas, about 80% are employed in unorganized sectors like household industries, petty trades and services, building construction etc. The work participation rate of women is higher in rural areas than in urban areas. In 1981, the work participation rate of female was 23.1% in rural areas which increased to 27.21 in 1991 showing a significant increase by about 4%. While in the urban areas, it increased marginally from 8.3to 9.7% during the same period (Dutt and Sundaram, 2003). It is estimated that on an average, the Indian women especially in the poverty group, spend about 15 hours per day, more than the Indian man in work including the invisible burden of home making. The Human Development Report, 1990 published by the UNDP found that a woman labour spends 11.3 hrs whereas a male labour spends only 8.7 hrs. According to an assessment in the Indian Himalaya, a pair of bullocks works for 1,064 hours, a man for 1,212 hours and a woman for 3,485 hours, in a year on one hectare of farm. A woman's work is more than that of a man and two bullocks combined. Thus, the work-role profile of Indian women is that they put in 14-18 hours of manual work daily on farming operation, livestock raising, collecting and carrying fodder, fuel and drinking water from distant places. They perform 70 to 80% of manual farm operations for crop production or livestock rearing. This proves that women through their unending toil at home, farm and community contribute significantly towards economic development. This is also the situation of the women who belong to the economically and socially underprivileged and vulnerable section living with appalling conditions.

Table: 6.1 – Comparative Status of Women - 2011

Sl. No.		District	State
1	Total Number of women (in million)	1.56	36
2	Percentage in Total population	50.58	49.90
3	Sex-ratio	1023	995
4	Female literacy rate	75.98	73.86
5	School enrollment		
	1.Primary	101.86	--
	2.Upper Primary	99.4%	--
6	MMR	121.52	68.00
7	% of women workers in agriculture sector	35.60	41.61
8	% of women workers in non-agri. sector	58.00	45.15

Source: Census 2011, SSA, DD Health, Tirunelveli, Census of India 2011.

In the district, the total population of women is 15,56,321 constituting 50.58% of the district population. This higher percentage of population than the men signifies the proper recognition of women in the district and their status is understood by this. In the tradition ridden country in which dowry system is practised and women are considered for certain specific works and mostly confined to the household activities, the women population is always lesser than the male population. However, in the district, it is not the case and therefore, it is inferred that women's status in the district is better.

The sex ratio in the district implies that for every 1,000 males, 1,023 females reside as per 2011 census. But in the country, the sex ratio is 940 and in the State it is 995. The country has an extremely negative sex ratio and the State is with a marginally negative ratio. But the district is with 1,023 as sex ratio. It is a great thing and the district sets an example. However, while looking at the child sex ratio of the district, it is negative with 960 in 2011. This child sex ratio has to be reversed to the sex ratio of the district. While the reason for the juvenile sex ratio is to be studied, the fact may be attributed to the change in the attitude of the people. Preference in providing good diet to male children, sex selective abortion, neglect of female child in health care, poverty and dowry may all cause this decline in the juvenile sex ratio. High dependence on male child during old age by the parents may also contribute to this. At least this can be averted by providing social security to the aged parents.

Education also provides status to women. In a male dominated society, educating the female children is discouraged. Therefore, proper incentives and measures may be taken to promote the education of girls. In the district, the girls' enrolment for primary education is 101.86 and 99.4 for upper primary education. Hence, the district has a distinct status as far as women are concerned. This is also reflected in the low gender inequality index as explained in the box.

The status of women could also be understood by the health care programmes and health status of women. Special health care should be given to women at the time of pregnancy and this is explained by the MMR level. In the district, the MMR is 121.52 which is high and reflects the neglect of women. Hence, the women status is not uniform. Education wise, they are better off and health wise they are not.

In India, generally women are not sent for jobs in conservative families. This means they are discriminated in the job market. To understand the status in the district, percentage of women workers in agriculture sector and percentage of women workers in non-agriculture sector are considered and the respective percentages are 35.6 and 58.The respective figures for males are 58 and 59. As regards the agriculture female participation is very low compared to male. Therefore, enough job opportunities may be provided for female population in agriculture sector and to compensate it, women may be given priority in employment programmes like MGNREGP.

Box: 6.1 - Status of Gender Inequality Index in the District

To understand the status of women empowerment and the gender inclusiveness in the development process and their level of participation in the decision making bodies, Gender Inequality Index has been calculated for 19 blocks and for the Corporation in the district. The index values vary from 0.003 (Vallioor) and 0.067 (Corporation) and the lowest value indicates equity between gender in Vallioor. This is a great achievement for the block which the entire civilized world expects from the society. This great achievement is possible largely because of its achievements in health index. Again in the health index, Vallioor has a minimum IMR of 10, and the maximum share of ID (100%) and the maximum ante-natal coverage of 100%. On the other hand, Corporation has got great GII index of 0.067 among the blocks indicating greater gender inequity. The other blocks which fare well are Kalakadu and Kuruvikulam. Kuruvikulam is a backward block as per HDI, in contrast it has achieved third rank in GII. This is mainly due to low MMR (10) and 100% achievement in institutional deliveries and ante-natal coverage. Also in empowerment, Kuruvikulam has secured a good position in the share of female elected representatives. In the share of female children also, it did well and in female work participation rate, it ranks high. Therefore, it has a great GII value of 0.004 next only to Vallioor block. In this aspect, Kuruvikulam stands out in women empowerment. This is a great achievement for the block, which the entire civil society would expect from the outcome of social and economic development. To the surprise and shock of the stakeholders, corporation has secured last rank as far as GIIs concerned. To address the gender inequity an all out effort from health to education, from employment to empowerment has to be immediately taken at war footing speed and range

. Quite oppositely, Kuruvikulam has got somewhat a great GII index. This leads to the logical conclusion that Kuruvikulam block is with great gender inequity when compared with the other blocks in Tirunelveli district. It also finds the low rank in human development index and multidimensional poverty index. Normally, when there is poverty, women's participation in the economic activities, at least in agriculture sector will be great and there will be only a small discrimination found against women. But in Kuruvikulam, poverty is high, human development is low and gender inequity is high which portrays a different picture and this needs to be further studied.

Access and Control over Resources

Self Help Group (SHG) is a viable organization motivating women to develop into entrepreneurs, by disbursing micro credit to the needy women and thus boost up their self-confidence and consequently empower them. Thus, it plays a significant role in improving the socio economic status of the downtrodden.

Box: 6.2 - Self Help Groups

Self help groups is a group of rural poor who have volunteered to organize themselves into a group, agreed to save regularly and convert their savings into a common fund known as the group corpus. Generally a self-help group may consist of 10 to 20 persons. Membership of self help group comes mostly from the poorest section of the society. Generally, all members of the group should belong to Below Poverty Line (BPL) families. However, if necessary a maximum of 20-30 per cent of the members in a group may be taken from families marginally Above Poverty Line (APL) and such members will not be eligible for the subsidy under the schemes and they can never dream of becoming office bearers of the group. The group shall not consist of more than one member from the same family. Non Governmental Organisations (NGOs) have been playing a major role in ensuring training and coordination of the group. Fifty per cent of the groups formed in each block have run exclusively for the women. The groups begin to function after pooling the amount collected as subscription from each member. Periodically loans are sanctioned. With the seed money, the SHG women, after obtaining proper training and knowledge start the business and thereby they empower themselves.

In the district, in order to empower, especially the rural illiterate and the women from BPL families through micro credit and self employment, *Mahalir Thittam* and *Pudhu Vaazhvu* Project were launched. *Mahalir Thittam* is functioning in 13 blocks and *Pudhu Vaazhvu* Project is serving women in seven other blocks. A total of 19,367 SHGs were formed under *Mahalir Thittam* and under *Pudhu Vaazhvu* Project 3,853 SHGs are organized. In the district, a total of 23,220 SHGs are actively engaged in various activities including entrepreneurial endeavours. A total of 3,50,388 women members are enrolled in the SHGs out of 15,56,321 constituting 27%. More than one fourth of women are now participating in the economic activities. The percentage will go up when the population of female children (1,57,530) and the women aged above 60 are excluded from women population. Therefore, it is a marvelous achievement. To facilitate their economic activity, credit, particularly micro credit is provided to the tune of Rs.541.44 crores in the district through banking institutions. Thus, SHGs transform the lives of women in the district through income and employment generation culminating in women empowerment and gender equity.

Among the blocks, Palayamkottai is with 59,898 members of the SHGs numbering 3,997. The members of the group (SHGs) constitute 92.74% of the total female population in the block and they got credit facilities of Rs.82.06 crore. Keezhapavoor has only 16.52% as members and they availed credit to the level of Rs.27.51 crore. Hence, blocks with low percentage of members should be given priority in credit facilities. The blocks under *Pudhu Vaazhvu* Project should also be given

more credit. However, it should be verified as to whether a member in a group is also a member in other groups. This could really help the entire female population.

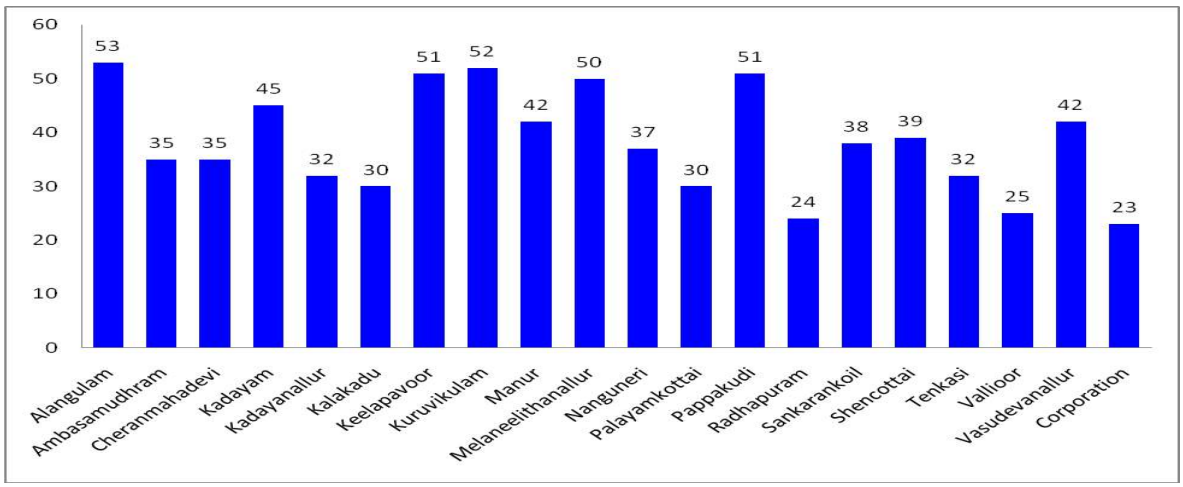
Employment

Trend in Employment

After the introduction of economic reforms in the country in 1990 in the form of Liberalization, Privatization and Globalization (LPG), the country especially Tamil Nadu has witnessed a greater economic growth resulting in greater job opportunities and the gloomy picture over the jobless nature of the Indian economy seem to have eased and correspondingly the employment opportunities for women generally increased and particularly in the subsidiary occupations.

The current trend of employment of women in urban metropolises has changed the attitude of the parents and the girls towards the labour market. Consequently the women labour force participation in rural areas also increased from 30% in 1999-2000 to 33% in 2004-05. The increase in women labour force could also be seen as an outcome of the higher educational attainment among urban girls. A bulk of the workers during 2004-05 was in the age group 15 to 44 years, with close to three fourths of all women workers who are usually employed in this age bracket in rural areas (71%). The status of female work participation rate for Scheduled Tribes and Scheduled Caste is also increasing at a greater level in rural areas and in Tirunelveli also.

Figure 6.1 - Female Work Participation Rate in Blocks



Source: Census of India, 2011.

In the district, generally, female workers' participation rate is more than 50 in a few blocks and this is largely due to the women engaged in household industrial activities such as beedi rolling. In addition, there are 7,711 women working under different sectors of the State governments accounting for 21% of the total employees in different sectors. Under quasi State government departments, about 810 women are employed constituting 2.1%. In central government, only 0.49% of the total employees work. About 15% of women employees belong to local bodies and a large

chunk of 58.94% work in private companies. Thus, the total women employees come to 36,922 which form 39.5% of the total employees including the male. Among the different sectors in the local bodies, women employees are more in number than the male counterpart with 63%. In the private companies also women marginally outnumber men with 51.6%. Hence, more women representation should be given in the other sectors including state and central governments.

Trends in Political Participation

The role of women in politics is not visible as that of men. In 2009 elections, women got 9.1% of the seats (73 out of 784) inRajya Sabha and Lok Sabha. In the Lok Sabha there are 59(10.9%) women members in the Parliament out of 543. However, women comprise around 50% of the population. Therefore, the representation of women in the parliament, in the State assembly and also in the panchayat raj institutions should be enhanced. Hence, as per September 1996 legislation for women, reservation is proposed under which 181 of the 543seats in the Parliament should be reserved for women. This would empower the women particularlyScheduled Castes (SC), Scheduled Tribes (ST) and Other Backward Classes (OBC) which would increase the political participation of women. 33.3% of seats are reserved for female representation in the Panchayat Raj institutions and in the country, over a lakh women now participate in the decision making process of the local bodies.

Table: 6.2 - Membership in Local Bodies

Sl. No.	Blocks	Male	Female	Total	% of Female Participation
1	Alangulam	197	115	312	36.86
2	Ambasamudram	120	71	191	37.17
3	Cheranmahadevi	139	79	218	36.24
4	Kadayam	161	96	257	37.35
5	Kadayanallur	133	77	210	36.67
6	Kalakadu	140	79	219	36.07
7	Keezhapavoor	185	107	292	36.64
8	Kuruvikulam	247	157	404	38.86
9	Manur	238	148	386	38.34
10	Melaneelithanallur	157	98	255	38.43
11	Nanguneri	198	124	322	38.51
12	Palayamkottai	201	107	308	34.74
13	Pappakudi	109	63	172	36.63
14	Radhapuram	178	128	306	41.83
15	Sankarankoil	210	105	315	33.33
16	Shencottai	97	56	153	36.60
17	Tenkasi	167	97	264	36.74
18	Vallioor	172	81	253	32.02
19	Vasudevanallur	195	115	310	37.10
20	Corporation	36	19	55	34.55
District Total		**3280**	**1922**	**5202**	**36.82**

Source: Block Development Officers, Commissioner Tirunelveli Corporation, RDMA, AD Town Panchayat, Tirunelveli.

Tirunelveli district has accorded proper recognition to women in local bodies at the time when the country is proposing to allocate 33% of MP seats to women in the Lok Sabha. The total women members in local bodies of Tirunelveli are 1922 making 36.82% of the total members (5202). Now, Radhapuram block has sent more women members (41.83) to local bodies and Vallioor has sent only 32.02% women members to represent in the local bodies. Manur, Meelaneelithanallur and Kuruvikulam, which are all backward blocks, have sent a fair (over 38%) female representation to the bodies. Hence, the district is marching ahead towards health, labour and empowerment leading to gender equity.

CHAPTER 7

SOCIAL SECURITY

Chapter
7
Social Security

Introduction

The International Labour Organisation (ILO) defines social security as protection against economic and social distress caused by a fall in income resulting from death, old age, sickness, employment injury, maternity and temporary unemployment. This protection implies preventing a fall in the living standard of the population. In the UN Summit on Millennium Development Goals (2010), the idea to provide social security to all was evolved. Now, as a matter of fact, social security is a fundamental right and the Constitution of India provides a right to have the means of livelihood [Article 39(a)]. In spite of all the assurances India has made only a small progress towards social security. However, Tamil Nadu tries to address some of the core concerns much better than most of the States in the country (Council for Social Development, 2013). In India, in the nine branches of social security proposed by ILO, in no case full coverage is given to the entire population.

However, pension and other retirement benefits are provided as part of social security scheme to the workers in the organized sector. In 2009, the union government has made a budgetary provision of Rs.57,405 crore in 2010-11 against the budgetary allocation of Rs.22,104 crore in 2006-07 with an increase of 160% during the period. In Tamil Nadu, the budgetary provision for pension and other retirement benefits came to Rs.5,430 crore in 2006-07 and Rs.11,768 crore in 2010-11 and it has increased by 117% over the budgetary allocation in 2006-07 (Council for Social Development, 2013). The pension benefits include monthly pension, gratuity and provident fund. On the other hand, the social security to the workers of unorganized sector is not fully satisfactorily covered. However, in Tamil Nadu, social security scheme for agricultural labourers, construction workers, differently-abled persons, widows, fishing people, traditional artisans and other eligible section is either in existence or under serious consideration. In Tamil Nadu, new health insurance scheme has been introduced. Through the scheme, health care is provided free of cost or at subsidized rate and under this scheme large section of poverty-stricken people benefited in 2011-12 and in the subsequent years. Hence, in Tamil Nadu, people in the unorganized sector with the social security coupled with food security and with health insurance, overcome the vulnerable spot in their lives. However, to make this programme a 100% success, effective supervisory and monitoring mechanisms are the need of the hour to make the benefits reach the targeted population promptly without any leakage and if this done, it is really the 'Golden Age' for the aged population.

Demographic Profile of the Aged

In Tirunelveli, as per 2001 census there are about 1,28,323 male and 1,42,482 female aged above 60, totaling 2,70,805 and constituting 9.94% of the district and this percentage of population is likely to be dependent on others.

Table: 7.1 – Demographic Profile of Aged

District Total Population	Population aged above 60								
	Total			Rural			Urban		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
30,77,233	349,038	161,693	187,345	176,884	81,546	95,338	172,154	80,147	92,007

Source: Census 2011

In 2011, there are about 3,49,038 people aged above 60 and in this males constitute 1,61,693 and females represent 1,87,345. They might also have problems associated with old age like falling income and increasing health expenditure due to frequent illness. Therefore, they should be given adequate social protection.

Financial Security

With great concern for the insecured people, who have no support in the form of social security that the organised sector provides, people like destitute widows and differently-abled persons are provided financial assistance in the district. Under old age pension scheme as of now, 35,867 receive benefits and under destitute widow scheme, there are about 14,045 beneficiaries and under differently abled scheme 2,958 get benefited.

Table: 7.2 - Financial Assistance to Old Age People

Sl. No.	**Category**	**Coverage**		**Coverage**	
		2001	**2011**	**2013**	**2014**
1	Indra Gandhi National Old Age Pension Scheme	14029	35867	51105	53187
2	Indra Gandhi National Disabled Pension Scheme	0	0	2053	2509
3	Indra Gandhi National Widow Pension Scheme	0	0	11786	14311
4	Destitute and Physically Candicapped pension Scheme	1437	2958	3312	5684
5	Destitute Widow Pension Scheme	7557	14045	10966	14130
6	Chief Minister's Uzhavar pathukappu Thittam	0	1890	4604	4874
7	Destitute and Deserted Wives Pension Scheme	0	2224	2936	3202
8	Unmarried Poor Women Pension Scheme	0	0	813	979
	District Total	23023	56984	87575	98876

Source: Office of the Social Security Scheme, Tirunelveli.

All the schemes have provided benefits to a greater number people in 2014 over 2013, 2011, and 2001. In the old age pension schemes, there has been an increase of 39.11% between 2011 and 2001. Similarly, an increase of 53.81 and 48.58% was found in the other two schemes. On the whole, the total beneficiaries have increased by 40.40% in the last decade in the district. In 2014, the total

beneficiaries had become nearly a lakh. The increase in the coverage shows that the district gives more attention to the social security of the vulnerable people.

Differently-abled

Differently-abled people should be given special attention with a view to bringing them into the main stream. Table 7.3 presents the number of beneficiaries in the district.

Table: 7.3 - Assistance to Differently-abled

Categories	Male	Female	Total
Locomotors Disability	69	47	116
Visually Impaired	12	08	20
Hearing Impaired	79	46	125

Source: Office of the District Differentlyabled, Tirunelveli.

In order to provide assistance specially required for helpless and vulnerable women, marriage and maternity assistance schemes are implemented in Tamil Nadu. As dowry system is still practised in India, arranging marriage for the girls of vulnerable sections becomes difficult and himalayan task.

Box: 7.1 - Marriages and Maternity Assistance Programme

Under this precarious condition the women are subjected to exploitation, hence, the State government has come forward with various assistance schemes. Moovalur Ramamirtham Ammaiyar Ninaivu Marriage Assistance Scheme provides assistance to poor parents in getting their daughters married and to promote the educational status of poor girls under two schemes. The first one provides Rs.25,000 and 4 grams gold for making 'Thirumangalyam'a for 10th passed brides and the second scheme provides Rs.50,000 and 4 grams gold for making 'Thirumangalyam' for graduate brides.

Marriage Assistance Schemes and Beneficiaries: 2013-2014

Sl. No.	Scheme	No. of Beneficiaries
1	Moovalur Ramamirtham Ammaiyar Ninaivu Marriage Assistance Scheme	4308
2	E.V.R.Maniammaiyar Ninaivu Widow Daughter Marriage Scheme	128
3	Dr.Muthulakshmi Reddy Ninaivu Intercaste Marriage Assistance Scheme	50
4	Annai Theresa Ninaivu Orphan Girl Marriage Assistance Scheme	18
5	Dr.Dharmambal Ninaivu Widow Remarriage Scheme	6
	Total	**4510**

Source: District Social Welfare Officer, Tirunelveli

Dr. Dharmambal Ammaiyar Ninaivu Widow Remarriage Assistance Scheme was introduced to encourage widow remarriage and to rehabilitate widows. E.V.R.Maniammaiyar Ninaivu Marriage Assistance Scheme for Daughters of Poor Widows, Annai Theresa Ninaivu Marriage Assistance

Scheme for Orphan girls and Dr.Muthulakshmi Reddy Ninaivu Inter-caste Marriage assistance schemes were also introduced as marriage assistance schemes. Under the schemes financial assistance and four grams of gold coin for making 'Thirumangalyam' are provided. A total of 6,601 women got benefited under the above schemes in 2011-12.

"'Healthy Women, Healthy World'"- is well said. In India, due to gender disparity at home, the women mostly eat the left over, leading to nutritional deficiencies. Moreover, biologically they lose blood at the time of menstruation. Hence, they become iron deficient and become anaemic. Consequently, it leads to many health problems associated with pregnancy and finally causing even death. This happens in rural areas and in poor families. Therefore, maternity assistance to women is essential.

In the district, as MMR is high, the maternity assistance scheme assumes significance in safeguarding the lives of pregnant women and the infants. With this view, the assistance was provided to 43.182 women in 2012-13 in 19 blocks of the district and in Tirunelveli Corporation 4,633 weregiven maternity assistance. Under the scheme, the pregnant women are given financial assistance to the tune of Rs.12,000 and they are also given free distribution of IFA tablets. Here, awareness on judicious utilization of the maternity assistance provided by the government of Tamil Nadu would create a positive impact on the reduction of MMR. However, additional efforts and medical aids have to be increased in the district to bring down the MMR.

Crimesagainst Women

Violence against women is a universal phenomenon and the origin for this can be traced to the gender disparity. It takes place in the family and in the society. Women are subjected to both physical and sexual violence. Domestic violence in the form of battering, torture and dowry death take place in India. Community violence like trafficking women, rape and sexual harassment are also occasionally taking place. Kidnapping and abduction are other crimes against women. What is worrying is day by day violence against women is growing instead of going down. The law enforcing authorities take all efforts to curb this violence in our society. In the year 2005, Domestic Violence Act was introduced to make a violation-free home in Tamil Nadu.

Table: 7.4 Crimes against Women

Sl. No.	Category	No. cases			
		2011	2012	2013	2014
1.	Rape	52	44	74	43
2.	Molestation	57	58	82	47
3.	Kidnapping & Abduction	46	43	112	46
4.	TNP Harassment of Women Act	254	485	655	584
5.	Dowry Death	8	3	6	5
6.	Cruelty by Husband and Relatives	120	266	486	147
7.	Importation of Girls	-	-	0	0
8.	Dowry Prohibition Act	-	-	4	4
Total		**537**	**899**	**1,419**	**876**

Source: Office of the Superintendents of Police, Tirunelveli

In Tirunelveli district, the violence against women is growing as it can be understood from the table. The total violence in 2014 accounts for 876 and it was 899 in 2012. Of this, domestic violence constitutes 30% of the total violence in 2012, which could be very easily reduced with intervention of the family, society and the State. With the help of the civil society, a change in attitude of the people and with assistance of the police officials, the violence against women shall be reduced in India and Tamil Nadu andeven in the district.

CHAPTER 8

INFRASTRUCTURE

Chapter
8
Infrastructure

Introduction

Development of infrastructure leads to economic development, which includes both economic and social overheads. In India, agriculture forms the backbone of the country and its development depends on the infrastructural facilities such as irrigation, storage and electricity. As the country is to pass through the take-off stage, fast industrial development is required and again it depends on the transport infrastructure including road and railways, electricity, communication, banks and insurance. The development of these facilities is a sine qua non of economic development. In India, during XII (2012-17) plan period, the investment on infrastructure has increased to 9% of GDP.

Roads

A well-developed system of transport plays a key role in the economic growth of a country. Generally, all over the world, transport system comprises rail, road, shipping and air. In the Twentieth and Twenty-first centuries, the transport has registered a phenomenal growth in network and in output. Road transport and construction of roads contribute to the growth of the GDP and employment. It is convenient for the movement of people and goods. As India is living in villages, the road connects the villages and collects passengers. In Tamil Nadu, it helps the farmers to transport the produce, particularly the perishable products to the market places. Hence, a better road system, apart from catalyzing the economic growth, provides fuel economy and efficiency.

In Tirunelveli economy, road facilities catapult its growth and as the economy is basically agrarian it promotes agricultural growth. Here, there are mostly five types of roads, earthen, WBM, BT, Mud and CC.There is about 8,560 km length of different types of roads and is being utilized for movement of people and goods.

Table: 8.1 Distribution of Road Types and Total Road Length: 2013-14 (in Km.)

Sl. No.	Blocks	Total						
		Earthern	WBM	BT	CC	Mud	Others	Total
1	Alankulam	97.441	28.05	224.244	3.376	-	-	360.116
2	Ambasamudram	6.656	2.939	57.231	1.869	-	-	68.695
3	Cheranmahadevi	23.71	3.935	62.665	2.53	-	-	92.84
4	Kadayam	48.975	3.264	119.589	6.201	-	-	179.629
5	Kadayanallur	10.87	12.18	101.055	2.85	-	-	133.865
6	Kalakadu	15.715	10.425	115.262	1.973	-	-	149.567
7	Keelapavoor	29.93	10.835	137.592	1.854	-	-	187.18
8	Kuruvikulam	58.068	13.282	265.762	3.833	-	-	412.83
9	Manur	163.625	54.422	237.831	4.42	-	-	475.648
10	Melaneelithanallur	16.4	0.2	206.453	1.81	-	-	234.663
11	Nanguneri	72.66	50.14	323.48	2.375	-	-	491.703
12	Palayamkottai	73.616	30.86	210.006	9.15	-	-	330.432
13	Pappakudi	36.886	6.266	110.689	1.849	-	-	156.472
14	Radhapuram	68.052	3.95	231.543	2.785	-	-	311.43
15	Sankarankoil	36.34	3.99	154.635	4.802	-	-	206.57
16	Shencottai	8.44	2.1	24.74	2.25	-	-	37.53
17	Tenkasi	4.78	2.32	52.873	1.702	-	-	62.025
18	Valliyoor	43.875	3.685	180.025	0.4	-	-	242.885
19	Vasudevanallur	31.797	15.862	125.287	1.39	-	-	179.136
	Rural Total	847.836	258.705	2940.962	57.419	-	-	4313.216
	Town Panchayats	163.81	42.97	672.66	351.64	-	59.07	1290.15
	Municipalities	1,136.88	329.64	4,151.18	419.60	-	59.07	6,096.37
	Corporation	0	6.12	671.78	242.03	1.4	-	921.33
Total		**2,996.362**	**896.14**	**11,377.44**	**1,128.108**	**1.4**	**118.14**	**16934.28**

Source: Project Director, DRDA, AD Town Panchayat, RDMA, Corporation and Highways, Tirunelveli

In 2013-14, among the types of roads, the length of the BT road in the district was 11377.544km. The earthen road catering to the needs of the rural people comes next with 2996.362 km. Nanguneri block has a total length of 491.703 km. Manur block has the next highest length of 475.648 km and Kuruvikulam has 412.83 km. Shencottai has only 37.53km length of earthen road accounting for the lowest facility in the district.

In Corporation and in Municipalities and in Town panchayats, WBM road covers the area. In regard to rural areas again in 2011, Manur has 79.75 km length of WBM road accounting for 16.77% of the district total. Although Manur is backward, its road length is great, it is because of the bigger geographical area of the block. There are six blocks with less than 1% of the district total in this type of road.

BT road also covers the larger area of the rural blocks like the earthen road. Kuruvikulam has a greater share of this type of road with 243 km and with 3.98% of the district total. Melaneelithanallur and Manur have 179 and 173 km with 3.23 and 2.83% respectively. Shenkottai has only 0.39% of BT road in the district in 2011 and the same continues in 2013-14.

Analysing the different road facilities within the block, Nanguneri has a total length of 511.63 km and of which 60.87% is BT road, 27.95% is earthen road and the rest 10.94% goes for WBM road. Manur has a total length of 384.77 km constituting 33.72% of earthen road, 20.73% of WBM road and 44.96% of BT road. Shenkottai has only a total of 38.22 km road length and BT road takes the lion share of 63.11% in 2011 and similarly in 2013-14.

The above analysis on road facilities points out that in rural areas in 2011, BT road accounts for greater share ranging from 44.96% in Manur to 90.97% in Tenkasi. Earthen road comes next with a coverage varying from 3.14% in Tenkasi to 35.53% in Kadayam. WBM road is the least available in rural blocks with 0.87% in Valliyoor and 20.73% in Manur. The road facility in 2013-14 is almost identical with 2011 in terms of percentage. The analysis further reveals that the urban area has a better road facility in the form of all weather roads. Therefore, it is suggested that the same type of facilities may be provided in rural areas also.

Electricity

Electricity is used for domestic, commercial, industrial and agriculture purposes. In 1950-51, consumption power in industry is as high as 62.6%, 12.6% is consumed by domestic sector, 7.5% is consumed for commercial purpose and only 3.9% is utilized in agriculture sector. In 2006-07 the distribution of power between the different sectors of economy is totally changed. The share of electricity to agriculture has increased to 21.7% and against this, the share of electricity to industrial sector has gone down to 37.6%. The main reason for increase in the consumption of electricity by agriculture sector can be attributed to the free supply of power to the sector. The National Electricity Policy (NEP), 2005 recognizes electricity as a human need (Manickam, 2010). However, in Tamil Nadu there is shortage of electricity owing to its greater demand than its supply. But this is a passing cloud for Tamil Nadu, since the former Honorable Chief Minister of Tamil Nadu took all efforts to increase the power supply in the State by augmenting the supply through both conventional and non conventional energy sources. Now, the State of Tamil Nadu is the leading producer of wind energy in India. Sincere attempts are made to tap the ocean resources for producing electricity to meet the galloping demand for energy in the State. Thus, in a couple of years Tamil Nadu will be self-sufficient

in electricity and it will shine and promote agricultural and industrial development and push Tamil Nadu to number one status in India.

Table: 8.2 - Status of Electrification (2013-14)

Sl. No.	District	Panchayats	Hamlets	Towns	Population Covered	No.of Street Lights
1	AD Village Panchayat	425	2,337	-	16,45,509	82,503
2	Town Panchayats	-	280	36	5,86,536	26,331
3	Municipalities	-	194	-	3,87,660	12,708
4	Corporation	-	55	1	4,74,838	20,980
DISTRICT		425	2,866	37	30,94,543	1,42,522

Source: Assistant Director, Village Panchayat, Assistant Director, Town Panchayat, RDMA and Commissioner, Corporation, Tirunelveli.

In Tirunelveli, there are 425 village panchayats with 2,866 hamlets in rural side and in urban area there are 37 town panchayats, 7 Municipalities and 1 Corporation. Almost 100% coverage of electricity is found in Tirunelveli district. What is interesting to note is that electricity is provided to a total population of 30,94,543 in 2013-14. Out of which, 16,45,509 people live in villages. In Town Panchayats, 5,86,536people have been provided with electricity. In Corporation, 4,74,838 people have been supplied with electricity and it comes to 15.34% of the population covered with electricity.

Street lights are important for safe travel during night and it protects the people from theft. Moreover, children play and enjoy under the street lights. The street lights help to light the life of the poverty stricken people who make use of the street light to study. In the district, there are about 142522 street lights driving out the darkness, especially in the rural areas. In this, 82,503 in village Panchayats, 26331 in Town Panchayats and 20,980 in Tirunelveli Corporation blow out light. This is a remarkable achievement for the district.

Communication System

In the development of a country, communication has an anchor role as it enables communication between production centres and marketing centres, between the exporters and importers, between people to people and between government and people. This two-way communication propels the economic growth and thereby accelerates the human development.

In communications, post offices offer inland postal communication services. Registered post and speed post are helpful for mailing important communication. The six-digit postal index number code (PIN) and computerization of postal operations in India have revolutionized the communication. In 2011, India had the largest Postal Network in the world with 1,54,866post offices. The greatest strength of the postal service is to serve the rural people with 1,39,040 (89.78%) and with 15,826 (10.22%) in urban areas. (Misra and Puri, 2013)

The telecommunication has also made tremendous progress in India in recent times. Wireless communication and mobile connections have also helped the communication to a greater extent. From 76.54 million subscribers in 2004, it has increased exponentially to 935 million in 2012. All this is possible due to satellite communication. BSNL and MTNL are the major service providers of government of India and Airtel, Tata telecommunication, Vodafone and Reliance communication are the major private service providers.

In Triunelveli district, there are 84 telephone exchanges with 80,813 landline serving 72,175 households in 2014. In addition, in the district there are 3,16,187 mobile connections provided to the people by BSNL accounting around 10% of the total population of the district. Over and above this, the private providers are connecting the people with mobile service.

Table: 8.3 Telecommunication Facilities - 2014

District	Tel. exchange	PCO	Landline	HH with Connection	Mobile Phone Towers	Mobile Phone Connection
Tirunelveli	84	2,819	80,813	72,175	290	3,16,187

Source: BSNL, Tirunelveli

Financial Institutions

Financial institutions are the engine of economic growth especially in developing countries. Traditionally, money lenders, friends and relatives offer loan at the time of requirements but they charged exorbitant interest. Under this circumstance, financial institutions occupy a vital responsibility. Finance is needed by individuals, business houses and the Government demand finance for meeting their consumption and capital requirements. Business people require money for meeting operational cost in the form of disbursement of wages and in the form of purchase of raw materials and for meeting the capital expenditure to buy new machinery and to construct new buildings. And in rural areas, farmers demand finance for cultivation purpose. Apart from this, people in urban and rural areas require loan facilities for consumption purpose and to celebrate social functions such as marriage.

Above all, the development of a country, which guarantees full employment and poverty alleviation, depends on its savings and capital formation and this has been done by the Indian banking system consisting of Scheduled and Non-scheduled Banks.

Table: 8.4 Commercial and Cooperative Banks: 2013-14

SI. No.	Block wise	No. of Cooperative Societies	Number of Members	Commercial Bank	Number of Account Holders
1	Alangulam	10	30,468	13	46,860
2	Ambasamudram	14	51,327	16	57,752
3	Cheranmahadevi	9	38,133	14	49,820
4	Kadayam	10	43,897	12	42,530
5	Kadayanallur	8	23,431	15	88,754
6	Kalakad	7	20,852	13	45,465
7	Keelapavoor	7	21,627	18	63,525
8	Kuruvikulam	15	34,529	16	85,468
9	Manur	19	31,648	14	80,125
10	Mela Neelithanallur	11	24,546	9	66,545
11	Naguneri	16	31,040	13	45,544
12	Palayamkottai	36	55,761	22	98,562
13	Papakudi	7	8,423	8	28,459
14	Radhapuram	11	24,742	17	59,548
15	Sankarankovil	19	45,007	14	95,468
16	Shencottai	4	15,127	12	65,458
17	Tenkasi	10	45,831	29	2,35,451
18	Valliyur	19	41,634	18	63,229
19	Vasudevanallur	23	47,567	13	75,465
20	Corporation			75	5,24,889
	District	**255**	**6,35,590**	**361**	**19,18,917**

Source: Lead District Manager, Joint Registrar Co-operative, Tirunelveli.

In Tirunelveli district, there are 361 commercial banks functioning and serving 19,18,917account holders reaching around 50% of the district's present population. Among the blocks, Palayamkottai has the highest number of account holders (98562) and the major reason for this could be the greater number of the members of SHGs. In Palayamkottai, about 92.74% of the females are the members of the SHGs. This has increased the saving habit of the women and developed the entrepreneurial skill. In Sankarankovil, there are 95,468 and in Kadayanallur, there are 88,754 account holders. In the backward block of Melaneelithanallur, only 66,545 account holders were with the commercial banks in 2013-14.

In the membership of the cooperative banks, again Palayamkottai comes with 41.31% of population as members and again Pappakudi has the least percentage of 8.93 as members to total population in 2011 and this can be largely associated with less number of banks in the block. The breakdown of the figures pertaining to the account holders further shows that among 361 branches of commercial banks, only 8 branches are in Pappakudi. Hence, it is suggested that more branches may be established in Pappakudi and in Melaneelithanallur, where only nine branches are there. On the whole, in all the blocks, the percentage of account holders to total population is to be increased at least to that of Palayamkottai level. As Tirunelveli is an industrially backward district, savings have to be mobilized in a bigger way to increase the capital formation and hence, more branches may be opened in the district.

Insurance

The main objective of insurance is to provide economic protection against the losses. The insurance of business organization is necessary to safeguard itself from adverse events. Similarly the individuals are to cover their risk like death and disability. The basic principles of insurance are to transfer the risk from individual to the group and share of the losses. By this way, it helps to reduce the tension. It has some economic effects such as mobilization of saving for investment purpose and thereby it results in the increase of GDP at large. Insurance fundamentally is of two types. One related to life (endowment, money back and pension) and the other related to non-life (property, liability and health).

Table: 8.5 Insurance Companies

Sl. No.	Name of the Companies	No. of Branches	Policies Issued	Percentage
1	LIC	8	96,248	36.57
2	Oriental	3	22,353	8.49
3	New India Assurance	3	75,940	28.85
4	United India Insurance	3	68,651	26.08
	Total	**17**	**2,63,192**	**100.00**

Source: District Statistical Hand Book, Tirunelveli, 2011.

In Tirunelveli district, there are 8 branches of LIC serving the people with life insurance and the total number of policies goes up to 96,248. With the population of over 30.77 lakh, the policy holders form only 3.13%. Certainly, the percentage has to be enhanced and for this one branch for one block may be the needed mantra. The other types of insurance companies like Oriental insurance company meant for covering vehicle, travel, health are also functioning in the district with only a fewer branches. Hence, here also it is suggested to increase the number of branches of these companies.

Transport Facilities

Public transport such as Railways and State Transport Services are essential for the mobility of people and especially the working class. In Tirunelveli, there are 286 town buses plying in the cities and municipalities and transporting the people between the heart of the cities and towns and suburbs. A total of 368 buses connect the district with other parts of the State and even cover the neighboring states like Kerala and Karnataka. The district transport system provides service on 654 routes and covers a distance of over 3 lakh km in a day and transports about 5.49 lakh passengers in a single day in 2013-14.

Public transport is established not merely for making profit, but its main purpose is to serve the people. In order to promote the enrolment of children in schools, over 97,000 children are provided with the transport facility free of cost. This is the greatest service that the public transport system can do for the citizens who are the makers of future India. Likewise, the student community numbering 4,691 is provided with the transport facility at 50% concession. The differently-abled people totaling 798 and 17 dependents of freedom fighters are given transport facility freely. Thus, the public transport system in Tirunelveli is doing a yeoman service for the public.

Tourist Places and the Required Infrastructure

A tiny village in the far south, Koothankulamin Nanguneri Taluk of Tirunelveli District is emerging as a new favourite of the migratory birds. It is just 38 km away from Tirunelveli. About 35 species of birds visit this calm but congenial village for breeding.

Courtallam is an excellent health resort. The picturesque surroundings against the backdrop of cloud-capped spurs of the Western Ghats lend an unusual charm to the falls. The rapturous scene of the falls gets heightened by the cool breeze that wafts during seasonal months (June to September) along with intermittent drizzle and sunlight. There are eight places where water pours down torrentially with varying velocity and force according to the height of the precipice. They are Main Falls, Five Falls, the Shenbhaga Falls, Honey Falls, Orchard Falls and Sitraruvi.

The Mundanthurai – Kalakad wildlife sanctuary in Tirunelveli district has been developed as a National Tiger Reserve from the year 1988 with a total area of 817 sq. km in the southern most ranges of Western Ghats.Tourism in the district is one of the sources of income to the people and to the district administration and the above places attract tourists from all over India and to promote it, it requires road and rail connectivity, boarding and lodging with good sanitation and other entertainment facilities.

Infrastructure Required for Mining

Lime stone, ilmenite and garnet sand are the mineral reserves found in the district. Limestone is a major industrial mineral found in the district and the requirements of M/s. India Cement, Talaiyuthu with a capacity of 2,550 tonnes per day are met from the crystalline limestone deposit located around Tirunelveli. There are large reserves of limestone of the crystalline, sedimentary,

corraline and tufaceous types amounting to 59 million tonnes in Nanguneri, Ambasamudram, Sankarankovil and Tenkasi taluks.

It is available at several places in the district. The major part comes from the crystalline limestone deposit occurring near Ramayanpatti, Talaiyuthu and Padmaneri. A total reserve of 4.06 million tonnes limestone up to a depth of 15.2 meter in Ramayanpatti band and 5.08 million tonnes up to a depth of 15.25 meter in Talaiyuthu band has been estimated. The limestone available here contains Calcium Oxide (Ca O) from 34.97 to 55.49%, Magnesium Oxide (Mg O) from 0.31 to 7.24%.

The Padmaneri band consists of six limestone lenses with an aggregate strike length of about 800 meter. The average width is 4.75 m0.199 million tonnes of cement-grade limestone is estimated from this band. The Singikulam band extends over a strike length of 17 km. It contains seven limestone lenses with an aggregate strike length of about 6.4 km. and average width of 13 m. About 3.160 million tonnes of cement-grade limestone is estimated from this band. Six bands of good-quality limestone occur near Pandapuli and 4,34,000 tonnes of limestone suitable for the manufacture of cement and chemical industries have been estimated.

Alluvial gypsum occurs in Sankarankovil taluk. The mineral is being utilized chiefly for manufacturing cement. White and buff coloured siliceous clay with lithomarge occurs around Tisayanvilai in Nanguneri Taluk. Although a reserve of five million tonnes has been estimated in this area, the clay has been found unsuitable for use in the ceramic, paper and other industries due to the non-plastic and highly ferruginous and siliceous nature.

Heavy mineral placer sands consisting of illuminate and associated minerals like garnet and zircon occur in the district in Nanguneri taluk along the coast. Garnet sands occur widely in the Uvari Navaladi area (Duraisingh, 2010). Other occurrences containing ilmenite, magnetite, rutile, sillimanite, monazite and garnet occur near the mouths of Vaippar and Vemba. The garnet sands are being mined and utilized for polishing optical glasses. A deposit of graphite containing about 1,350 tonnes occurs near Kurunjakulam near Sankarankovil, but it is not of economic significance. Other minor occurrences have also been recorded near Panagudi, Therku Kallikulam and Vijayanarayanam in Nanguneri taluk.

To promote the mining and industrial activities, the district has also been endowed with power infrastructure. Hydel power project (233 MW) including Pappanasam, Koodankulam atomic power project (2000 MW) are the major sources of the energy. Moreover, the district has wind energy project (1,555 MW) mainly in Alangulam and also in a few other blocks in the district. This power supply has to be ensured continuously without any interruption and for this additional infrastructure is needed atleast to tap the wind energy. Other infrastructure like road and rail connectivity is required. Here it is to be mentioned that rail connectivity is provided with single track in all the routes in the district and a second rail track connecting Madurai and Nagercoil via Tirunelveli would give a great fillip to the district economy.

CHAPTER 9

SUMMARY AND WAY FORWARD

Chapter
9
Summary and Way Forward

Introduction

""The real wealth of the country is its people and the purpose of development is to create an enabling environment for them to enjoy long, creative and healthy lives"' – UNDP. Economic development measured through GDP and per capita income form only a part of the human development. The human development index is more comprehensive measure of the development and it is composed of three dimensions namely, life expectancy, education and standard of living. The indicators of the three are generally not available in developing countries, especially at the bottom structure of the economy. Hence, many proxy indicators are included in the human development analysis. This measurement of human development at the state, district and block levels are important for proper planning of the regions. With this objective, the district human development report is prepared for Tirunelveli as per the methodology evolved by State Planning Commission, Tamil Nadu and in this chapter, the essential findings are summarized and suggestions are made for policy formulation and development planning at the block level.

Tirunelveli is a district located in the southern part of Tamil Nadu with a population of 30.77 lakh. The district is basically rural and comprises 19 blocks. Agriculture is the main stay of the district and the district is industrially backward. The development varies from block to block and wherever agriculture is flourishing due to Thamirabarani River, there agricultural activities are in full swing during most of the period of a year. The total gross district domestic product came to Rs.1774374 lakh in 2011-12 and this forms only around 3.5% of the state domestic product. This may be accounted due to the backwardness of the district, particularly the blocks such as Manur, Kuruvikulam and Melaneelithanallur, both agriculturally and industrially. Hence, with given natural endowments of the blocks, efforts are needed to improve the standard of living of the people.

Human Development Status

To understand the status of the human development in the district, the HDI has been constructed for 19 blocks and for one Corporation and the index value varies from 0.88 (Corporation) to 0.41 (Manur and Kuruvikulam). The high value for standard of living index and health index has determined to a large extent the HDI value of the corporation. On the contrary, the low value of standard of living index and education index pushed down the HDI value of Melaneelithanallur to the lowest one in the district and placing it at 20th rank. Tenkasi has an HDI value of 0.75 and is at the second spot because of its high positions in education index (0.78) and health index (0.76), Manur is at the 19th rank with 0.41 as HDI value because of its low rank in education index (0.36) and health index (0.42).

- The inquiry into the factors determining the HDI in the district reveal that primary education is the most important factor that increases the human development. The health determinants such as IMR, MMR and U5MR which explain the variations in HDI may also be improved through additional primary health centres with medical and paramedical staff. Since there is inter sectoral linkage between various indicators, better education leads to better health and better health leads to better education and thus HDI will also be increased.
- To know the loss in potential of human development due to inequality between male and female attainments, the GII has been calculated for 19 blocks and a Corporation in the district. Gender Inequality Index comprises reproductive health, empowerment and labour market sectoral indices.The index values vary from 0.003 (Vallioor) and 0.067 (Corporation) and the lowest value indicates equity between genders in Vallioor. This is a great achievement for the block which the entire civilized world expects from the society. This great achievement is possible largely because of its achievements in health index. Again in the health index Vallioor has a minimum IMR of 10, and the maximum share of ID (100%) and the maximum ante-natal coverage of 100%. On the other hand, Corporation has got great GII index of 0.067 among the blocks indicating great gender inequity. The other blocks which fare well are Kalakadu and Kuruvikulam. Kuruvikulam is a backward block as per HDI, in contrast it has achieved third rank in GII. This is mainly due to low MMR (10) and 100 per cent achievement in institutional deliveries and ante-natal coverage.
- The analysis on the linkage between HDI and GII indicates, although Corporation has achieved the greatest value in HDI, there is gender inequity in the human development. Here, the modern concept of inclusive economic growth is not found in the blocks and in the corporation since women are left behind.
- In the district, a few backward blocks such as kuruvikulam have greater GII than the HDI, which explains the block attaining gender empowerment. This kind of difference in the ranks really brings in development among women who have been subjugated in the Indian society for so long. This kind of development may lead to reduction of violence against women, reduction in the dependency of women on men and thereby resulting in the reduction of discrimination against women in the public and private life too.
- An interesting phenomenon is that the backward blocks in terms of HDI (Melaneelithanallur and Kuruvikulam) have greater ranks in GII implying the development and empowerment of women. This negates and disproves the common understanding that in backward region and especially in the Indian society there is more gender disparity with more backwardness.
- The results of HDI and GII calculations reveal that Manur has low value in both indices and it is a great concern for the society. It has to be corrected immediately both by public and private participation. Manur has to be given a special status both by the Central and State Government and thereby should allocate generous funds to the block for investment on

education and health. It should create other infrastructural facilities to increase employment opportunities for both men and women equally.

- In the comparative analysis on HDI and GII, the urban areas need to be given a package of programmes to boost the gender equity, since the general development (HDI) has not been totally translated into gender empowerment; rather it is skewed against women as in Tirunelveli Corporation. In the process, towards equity, the 'empowerment path' traversed by Kuruvikulam and Melaneelithanallur, the blocks having more GII than the HDI, may be emulated.
- Child development index is important in countries like India where exploitation of children is high. The child development index in the district differs widely from block to block ranging from 0.677 in Corporation to 0.395 in Cheranmahadevi. In the analysis of CDI also, Manur is the most underdeveloped block in terms of child development as in the case of HDI and MPI. The reason being that Manur has secured 19th rank due to low facilities in the indicators of health and education. So the block has to be given a booster dose in all the two major sectors, in child development.
- In the construction of the multidimensional poverty index, health consisting of IMR, high order birth rate, malnourished children; education consisting of drop out in primary and drop out in secondary and living standards consisting of cooking fuel, toilet, drinking water, pucca house and electricity are considered.
- The MPI value varies from 0.09 (Corporation) to 0.56 (Pappakudi). The high value for indicators of standard of living has largely influenced the MPI value for Corporation. The value for health and education also contributed for the Corporation securing first place in combating poverty. This point out the fact that only with the development of all the sectors, poverty could be effectively rooted out.

Employment, Income and Poverty

- The analysis on employment indicates that in Tirunelveli, there are about 1.28 million people in the work force in 2001 which has increased to 1.44 million workers in 2011, constituting the same (47%) percentage of population both in 2001 and 2011. This indicates there has been no increase in the work participation rate. This is a worrisome fact which stresses the creation of more employment opportunities both in agricultural and in industrial sectors and also in the tertiary sector.
- In the district, of the total workforce of 1,14,36,454, the rural takes a greater share of 55%. However, in rural areas the employment opportunities are mostly seasonal and also of unskilled and semi skilled in nature. Therefore, the productivity is also low leading to low income. In urban areas people work in organised sector and their income is also higher. Of the total workforce, males constitute 61% and femalesjust 39%. Here, the women in the rural

areas work in agriculture where wage is low. Therefore, women are to be given priority in employment in the organized sector.

- In the district, there are about 580 child labourers found in 2012 as against 2,750 in 2001. Among the blocks, corporation had great share of child labourers in 2012. Manur the least developed block has 6.7% of child labourers during the same year. In all the blocks including corporation, the child labourers have been declining since 2001 except in Kalakadu. The increase in child labour in Kalakadu is also reflected in the fall in GER primary from 113.13 to 93.68 in 2011. Hence, it is suggested that enrolment in upper primary has to be taken care of.
- Agriculture in dry region like Melaneelithanallur is not remunerative and Melaneelithanallur, a known dry region, produces mainly maize and ragi. It naturally offers low wage. Only the development of watershed in the region would provide more wage income and employment.
- In the district, in 2014, the registered youth in the employment exchange is 63,222 and in 2014 alone about 317 people obtained jobs through exchanges. Over the years from 2007 to 2011, the percentage of registered candidates who have obtained jobs has increased from 0.63% in 2007 to 1.61% in 2011. But later it has fallen down to 0.5% in 2014. This percentagehas to be increased at least upto 10% in the district. For this, SEZ at Nanguneri and IT Park at Gangaikondan should take off with flying colours. Training on job skills to the youth can be regularly provided with. Steps are also to be taken in the district to make it industrially advanced. Otherwise, it may lead to migration of labourers to Chennai and to other metropolitan cities
- In order to enhance the livelihood of the people on a sustainable basis by creating economic and social infrastructureespecially in rural areas and to address the drought, deforestation and soil erosion and to move one step towards realization of 'Right to Work' , MGNREGP has to be implemented properly.
- In 2013-14, Poverty in Tirunelveli district was estimated as 33.18%. Generally, urban poverty is lower than the rural poverty in the district. At block level, low percentage of poverty is found in Cheranmahadevi (19.03%). This points out that the blocks with high irrigation facilities have low incidence of poverty. Pappakudi (58.78%), Keelapavoor (54.49%), and Melaneelithanallur (48.88%) are stricken by high incidence of poverty. In Pappakudi, poverty is high due to its dry conditions. In Melaneelithanallur, the industrial and agricultural backwardness may be the reasons for it.
- In 2013-14 in Tirunelveli, the public distribution system was effectively implemented and in the district a total of 8,53,060 cards were provided, covering 104.6% of households. Between the blocks Shencottai has only coverage of 96.20%, the lowest in the district, and Kadayanallur has the coverage of 114.30%, the highest in the district, since more families live in a single household. In the district, in most of the blocks, the card holders are more than

the households and hence, food security in full measure is given to the vulnerable people in the district.

Demography, Health and Nutrition

- As regards the study on demographic trends in the district, although in 18 blocks the sex ratio is above 1000, it is falling and hence this has to be arrested by giving thrust on female health care activities. The decline is found more in the child sex ratio and Manur has the lowest child sex ratio of 920 and Charanmahadevi has 930. The low child sex ratio may be attributed to high mortality and malnutrition. This highlights the importance of taking care of the female children from conception to delivery and even beyond.
- In Tirunelveli, the IMR for Corporation is 7.5 in 2013-14 and in Ambasamudram, mostly a rural block; the IMR is 23.23, almost three times higher than the IMR in Tirunelveli city. Thus, the difference in IMR between sex and region should be attended to. The reduction in IMR is broad based.
- As regards the MMR in Tirunelveli, it is 51.56 in 2013-14. Among the blocks, Kalakadu, Kuruvikulam and Shencottai blocks have performed well in eliminating the MMR and Ambasamudram, Kadayam and Radhapuram blocks have performed poorly. Kuruvikulam outshines other blocks, which has to be appreciated and it has to be considered as role model for other blocks in this aspect. Ambasamudram has to be given thrust in health programmes for reducing MMR and IMR.
- As regards nutrition in 2013-14, 97.8% of the women in Manur block are provided with IFA tablets and in Sankarankovil, only 70% of the women are given IFA tablets. In the Corporation area only 90% of women and 75% of adolescent girls have got the tablets. This figure has to be increased to 100% including those who consume the tablets privately. A special care in the distribution of the tablets to the women of Sankarankovil is given.

Literacy and Education

- The analysis on the literacy rate shows that the gender gap in literacy is greater in the district (13.26 %) than in the State (12.95%). Therefore it is suggested that the district has to concentrate on female literacy.
- The poverty alleviation programmes may be implemented with much more care in the blocks where dropout rate is high and special attention is to be given to the children of vulnerable section like the tribals.
- It is worth to note that there is high transition rate in backward block, Melaneelithanallur and the reason is the availability of higher educational institution in the block. However, in the same block gender gap is found between boys and girls in the transition rate. This may be due to the social barrier and conservative attitude of the different social groups. Therefore, to

improve the girls' transition rate in the block, intervention is required to transform the mindset of the people.

- It is all the more necessary to make education available to the poor sections of the society. The people at the lowest strata of the society, especially the women – the most vulnerable section of the society, face many challenges and barriers to pursue school education on account of poverty and thus affecting the enrolment. Therefore, new schools may be established closer to the place where poverty stricken people live.
- As there is significant relationship between toilet and GER primary, found through the regression analysis, it is reiterated that toilet facility with water availability may be created in all the schools and the facility should be functional always.
- It is necessary to take into account the socio economic and the cultural barriers to higher education. The affordability of education largely depends on the income of the people, the cost of education, financial support in terms of loans and scholarship and inflationary pressure. The affordability of girls to higher education is largely dependent on the social practices. Girl children are discriminated and deprived of their legitimate right for higher education. Thus, the affordability of higher education is skewed and unfavourable to the vulnerable groups. Therefore, it is the moral obligation of the State to enhance the affordability of the subjugated. Towards this end, the public expenditure on higher education in India including Tamil Nadu has to be at least doubled, which the National Knowledge Commission also suggested.
- The ICT oriented teaching will attract both the instructors and the students. The students' understanding of core concepts will be improved. Even difficult subjects like mathematics can be taught. The student will master the subject with audio visual effects. And the learning will be complete and thorough and may lead to the frontier research in the respective fields and thereby the technology initiatives and adoption help to widen the horizon of knowledge.

Gender

- Education also provides status to women. In a male dominated society, educating the female children is discouraged. In the district, the girls' enrolment for primary education and upper primary education is high and satisfactory. But it is declining from secondary education onwards. Therefore, proper incentives and measures may be taken to promote girls' education.
- Tirunelveli districthas accorded proper recognition to women in local bodies at the time when the country is proposing to allocate 33% of MP seats to women in the Lok Sabha. The total women members in local bodies of Tirunelveli are 1922 making 36.82% of the total members (5202). Now, Radhapuram block has sent more women members (41.83) to local bodies and Vallioor has sent only 32.02% women members to represent in the local bodies. Manur, Meelaneelithanallur and Kuruvikulam, which are all backward blocks, have sent a fair

(over 38%) female representation to the bodies. Hence, the district is marching ahead in health, labour and empowerment leading to gender equity.

- The discussion on women representation in Panchayat Raj institutions leads to the conclusion that Tirunelveli Corporation, an urban area in this aspect is falling behind the rural blocks and this has to be increased at least in the future. An awareness campaign may be conducted for the women of urban sectors on the importance of their participation in decision making bodies. The same type of campaign should also be given to women to enhance their participation in the job market. Moreover since the index value for female worker in non agriculture sector is low in Melaneelithanallur, Kuruvikulam, the backward block in the district, women may be given priority in the employment generation programme and in State Balanced Growth Fund programmes.

Social Security

- The investigation on social security points out that in Tiurnelveli, as per 2011 census there were about 1,28,323 males and 1,42,482 females aged above 60, totalling 2,70,805 and constituting 9.94% of the district and this percentage of population is likely to be dependent on others. They might also have problems associated with old age like falling income and increasing health expenditure due to frequent illness. Therefore, they should be given adequate social protection.
- Biologically women lose blood at the time of menstruation hence they become iron deficient and become anaemic. Consequently, it leads to many health problems associated with pregnancy and finally causing even death. This happens in rural areas and in poor families. Therefore, maternity assistance to the women is essential and monetary assistance has to be enhanced due to higher health cost.

Infrastructure

- The analysis on road facilities points out thatin 2013-14, among the types of road, the length of the BT road in the district was11,377.544 km. The earthen road catering to the needs of the rural people comes next with 2,996.362 km. Nanguneri block has a total length of 491.703 km. Manur block has the next highest length of 475.648 km and Kuruvikulam has 412.83 km. Shencottai has only 37.53 km length of earthen road accounting for the lowest facility in the district.The analysis further reveals that the urban areas have better road facilities in the form of all weather roads. Therefore, it is suggested that the same types of facilities are provided in rural areas too.
- An analysis of the breakdown of the figures pertaining to the financial intuition shows that in Tirunelveli district, there are 361 commercial banks functioning and serving 1918917 account holders reaching around 50% of the district's present population. Among the blocks, Palayamkottai has the highest number of account holders (98562) and the major reason for

this could be the greater number of the members of SHGs. In Palayamkottai, about 92.74% of the female account holders are the members of the SHGs. This has increased the saving habit of the women and developed the entrepreneurial skill.

- The study pertaining to LIC shows that in Tirunelveli district, there are 8 branches of LIC serving the people with life insurance and the total number of policies has gone up to 96.248. With the population of over 30.77 lakh, the policy holders form only 3.13%. Certainly the percentage has to be enhanced and for this, one branch for one block may be the needed mantra. The other types of insurance companies like Oriental Insurance Company meant for covering vehicle, travel, health also functions in the district with only a fewer branches. Hence, here also it is suggested to increase the number of branches of these companies.
- Public transport promotes the enrolment of children in schools and over 97,000 children have provided transport facility free of cost. Likewise, the student community numbering 4,691 is provided with the transport facility at 50% concession. The differentlyabled people totalling 798 and 17 dependents of freedom fighters are given the transport facility freely. However, on seeing the plight of the children to board the bus at peak hours and in busy route, new bus service exclusively meant for children may be introduced and this will take public transport to a greater height.
- The field survey points out that of the 25 village panchayats in 2013-14, in Achampatti only 8.67% of the households use modern fuels and 82% of the households use wood and 9.25% use kerosene for cooking purposes, in Moovirunthali 18.35%, 74.77% and 6.88% of the households use modern fuel, wood and kerosene respectively. In Kulasekaramangalam, Melailanthaikulam and Thadiyampatti only around 23% of the households use modern fuel and over 50% of the households use fire wood for cooking purposes. The low consumption of cooking fuel is almost found in the most backward villages of Kuruvikulam.
- Thus, the people in Achampatti, Moovirunthali, Kulasekaramangalam, Melailanthaikulam and Thadiyampatti who use wood as cooking fuel may be provided with LPG at greater subsidy for making them to shift to modern fuels.
- The survey on toilet facilities in Melaneelithanallur block pinpoints that Achampatti, like in the case of fuel has the lowest percentage of the houses with toilet facilities, that is, 13.73%. Melailanthaikulam also has a low percentage of 10.89% with toilet facilities and the same village has low percentage of cooking fuel. Pattadaikatti and Kurukkalpatty have only 16.03 and 18.33% houses with toilet facilities.
- On the other hand, Moovirunthali has 49.59% of houses with toilet facilities and Kelaneelithanallur and Senthamaram Majara have 42.03 and 41.13% respectively. It seems that the type of houses determines the availability of the toilet facilities. In Moovirunthali, 48% of the houses are concrete and another 48% of the houses are tiled. In this block, a large number of houses are concrete and therefore toilet facilities are also great.

- In the villages of Melaneelithanallur, there are about 27 schools without toilet and in Vadakupanavadali village there are about six schools and all the schools do not have toilet facilities. Likewise, in Sendamaram Majara, Sendamaram Kasbha and Narikudi villages there are five, four, and four schools without toilet facilities respectively. In Sendamaram Kasbha, out of 10 Anganwadi centres 6 are without toilet and there is no community toilet facility for males. Hence, it is suggested that immediate budgetary allocation be made to create at least common toilet facility in those areas.
- Achampatti, which is backward in terms of LPG consumption and toilet facilities also has no high school facility. The children have to cover the distance of 6 to 14 kilometers for undergoing secondary and higher secondary education in private and government schools. Hence, it is suggested that the upper primary school in Achampatti may be elevated to provide secondary education. Likewise, the upper primary school in Narikudi, Ilanthaikulam, Moovirunthali and Thadiyampatti may be converted into high schools and higher secondary schools, as the children have to travel a distance of over 7 kilometers for secondary education. Similarly, the high school in Vellappaneri may be elevated to higher secondary school. These facilities along with poverty alleviation programmes will go a long way to increase the literacy rate in the block.
- In Melaneelithanallur, there are about 95 hamlets in 25 village panchayats and out of the 95 hamlets, 29 hamlets do not have education facilities. This is the major reason for low enrolment at primary level in Melaneelithanallur. Hence, it is suggested to increase the education facilities as per the requirement of the residents of the villages. It is also further suggested that if there is no sufficient population in the hamlets and if it is difficult for allocating fund for the creation of the educational facilities, a public transport support may be given to the vulnerable children to pick them up from their home to school. Like noon meal programme, a free transport programme may be introduced. Here, the assistance of the Self Help Groups of women may be utilized to take care of the children. The members of the SHGs may be given a loan to buy a small vehicle like triwheeler and this may be utilized for pickup purpose. Free transport facility may increase the GER at primary level in the educationally backward hamlets.
- Similarly, in Chinnakovilangulam only 19 women are educated. But in Devarkulam 940 women are educated and in Melaneelithanallur 582 women and in Echanda 531 are educated. This shows there is extreme inter-village Panchayat difference in female literacy. This has to be addressed. The cause for female literacy is both social and economic. Therefore, enough awareness on the importance of female literacy is to be generated among the people and sufficient educational infrastructure should also be created. In villages like Melaneelithanallur the female literacy is high because of the availability of the educational institutions. From this

it is inferred that accessibility to education at every stage determines the female literacy, especially in rural and backward areas like Vellalankulam.

- To promote male literacy in the villages where it is low, creation of educational infrastructure is inevitable. Moreover, to prevent the dropout and to prevent engaging the children as child labourers, poverty eradication programmes are to be implemented in full swing. For example, under MGNREGP out of the 20,659 registered, only 14,939 (72%) households are provided with jobs. It is suggested here, to enhance education, poverty is to be addressed and under MGNREGP programme at least all the registered households are given jobs. Thus, the additional educational facilities and additional employment opportunities will go hand in hand to promote literacy and especially male literacy.
- A field survey is undertaken to probe into the nature and causes of the low female worker participation in Non-Agriculture Sector in Melaneelithanallur. From the survey, it is clear that in Devarkulam there are 50 female workers in construction industry and 20 in tailoring. And apart from this, there are 255 female workers working in other areas, whereas in Vellalankulam, there is no female worker in construction and tailoring industries. And only 45 women are working in other areas. Therefore from the table, it is clear that women in rural areas who are unskilled find jobs in construction and tailoring industries other than agriculture. In Melaneelthanallur, there is no major industry located in village panchayats. Hence, it is suggested to increase employment opportunities for women in rural areas and according to their skill, garment industry may be started. Value addition industry such as fodder industries may also be promoted.
- In 2011, Pappakudi (37.42%), Cheranmahadevi (41.78%) and Tenkasi (49.70%) have high gross irrigated area and Ambasamudram (8.38%), Kuruvikulam (8.70%) and Melaneelithanallur (9.49%) have low gross irrigated area. Between 2001 and 2011, the gross cropped area for the top blocks has declined. Moreover, in 2011 itself, there is greater difference between the blocks in terms of irrigation facility. This indicates greater variations in the irrigation facility of the district. The blocks identified as backward by the State Planning Commission, Tamil Nadu have less gross irrigated area (Melaneelithanallur 10.79 and Kuruvikulam 9.88% in 2001 and 9.49 and 8.7 % in 2011). Thus, in order to increase the development of blocks, provision of irrigation facilities assumes importance.
- The cropping intensity in the district varies from 1.68 to 1 and the gross cropped area varies from 54.92 to 11.89% in 2011. The block which has more gross cropped area and crop intensity will be naturally providing more employment to the people depending on agriculture. Tenkasi block has 63.01% gross cropped area in 2001 and 54.92% in 2011 highlighting the fall in the gross cropped area in the block and on the other hand, there is no significant change in the crop intensity at the maximum level (Palayamkottai 1.67 in 2001 and Ambasamudarm 1.68 in 2011). Radhapuram is at the bottom in both the aspects (8.05 and 1)

in 2001 and (12.43 and 1) in 2011. Like irrigation intensity, crop intensity is also wildly divergent between the blocks. This leads to variation in agriculture production and the standard of living of the people in the district. Therefore, it is suggested to provide irrigation facility in the district to have a cropping pattern which will provide income and employment to the people of the district.

- In regard to the operation land holdings between various sections of the society, an analysis is made as to how far the land is distributed between communities. The land holding having a size of less than 1 ha of dry and 0.5 ha of wet, that is, Radhapuram (3.26%), Keezhapavoor (4.7%) and Vallioor (4.94%) have lesser number of SC population out of the total cultivators and Manur (26.21%), Sankarankoil (26.91%) and Kuruvikulam (27.53%) have greater number of SC population out of the total cultivators.
- Similarly, the land holding having a size of more than 1ha of dry and 0.5ha of wet, that is, Keezhapavoor (1.12%), Pappakudi (3.15%) and Vallioor (3.22%) have lesser number of SC population out of the total cultivators and Vasudevanallur (15%), Sankarankoil (18.1) and Manur (20.98) have greater number of SC population out of the total cultivators.
- In order to bring social and economic justice to the downtrodden section of the society, the land has to be distributed to the SC community in future. Here, distribution of purampokku land to SC population and transforming other uncultivable land to cultivable land and distributing it to the vulnerable community may be the solution for alleviating poverty among the people of the lower strata of the society.

Way Forward

- It is clear from the report that agriculture is the main stay of the people living in rural blocks. Although, River Thamirabarani and its tributaries provide water, the water supply for irrigation is limited to a few blocks such as, Ambasamudram and Cheranmahadevei. This leads to agriculture characterised by single crop and providing employment only for a few months in a year leading to poverty and backwardness.
- Agriculture is to be promoted by increasing the irrigation intensity and crop intensity and by the application of modern techniques in cultivation. To increase the irrigation intensity, it is suggested to take measures for insitu moisture conservation and for construction of check dams, percolation ponds, recharge shaft and farm pond for increasing irrigation facility.
- Increasing irrigation intensity along with conserving the available water will benefit the farmers. Therefore, farmers should be educated on water conservation so as to enable them to employ drip irrigation system and also water carrying pipes, sprinklers and rainguns should be provided.
- It is suggested that a judicious mix of agriculture with other activities such as dairy, poultry, piggery, fishery, sericulture and horticulture suited to the given agro-climatic conditions and socio-economic status of the farmers may be promoted.

- It is also suggested that the necessary inputs required for increasing agricultural productivity like distribution of hybrid seeds, fertilizers suited to the soil, solar pump set, hand sprayer, power sprayer, tarpaulin, power tiller, rocker sprayer, crow bar, iron pan and spade be ensured.
- All the above suggestions may increase the productivity of agriculture and thereby the income of the people. Moreover, in the district it will help to bring the current fallow lands to tune of 35,525 hacters of land accounting for 5.26% of total geographical area into cultivation. This will also increase the production of agricultural products and income and thus would lead to alleviate poverty in the district.
- To increase the health condition of the people, hospital infrastructure facilities in the primary and secondary health centres are to be strengthened to curb MMR, IMR and U5MR.Specialist service is not available in rural hospitals. The services of specialists may be utilized at least at the time of emergency and exclusively for this, a wing may be created at every taluk hospital. Blood bank is to be established in all the secondary hospitals.
- To increase the public health of the people, women sanitary complexes and men sanitary complexes, for providing toilet facilities and to discourage open defecation, may be constructed in the hamlets.
- To increase the gross enrolment ratio at primary and at secondary levels, school facilities with sufficient infrastructure may be created with special reference to upgrading primary to middle, middle to high schools, high schools to higher secondary schools in the important places. Moreover, conducting enrolment rally, distributing pamphlets on the importance of education, establishing dropout monitoring committee at school level, creating awareness on education in the *GramaSabha* meeting may result in increasing GER.
- To increase the industrial development of the district, construction of value added product firms like fodder industry (agriculture), titanium industry (ilmenite), common facilitation centre for manufacturing RCC poles and concrete blocks and construction of vertical shaft brick kiln for the brick manufacturers may be encouraged. The SEZ at Nanguneri and tidal park at Gangaikondan may be promoted to function to its full capacity.

Conclusion

The analysis on HDI, GII, MPI, CDI and the field survey undertaken for assessing the human development in the district notify that there is inter-block variation and inter-village variation in the economic and social achievements of the people. The way to push Tamil Nadu into the egalitarian society is largely found in the planning and developmental process from below and to start with the creation of 'Block Balanced Growth Fund'. It holds out a beacon of hope to Tamil Nadu to move into the 'Great Golden Age'.

ANNEXURES

Annexures

Human Development Index

Table 1.1 Block-wise HDI Indicators

Sl. No.	Block	Standard of Living					Health			Education		
		Cooking Fuel	Toilet Facilities	Drinking Water	Electricity	Pucca Houses	IMR	MMR	U5MR	Literacy Rate	GER Primary	GER Secondary
		Census	DRDA	DRDA	Census	DRDA	Health Department - Tirunelveli			Census	Education Department	
		2011	2013-14	2013-14 (habitations)	2011	2013-14	2013-14	2013-14	2013-14	2011	2013-14	2013-14
1	Alangulam	37	42	73	95	58	16.42	10.00	16.42	77.00	97.53	104.43
2	Ambasamudhram	55	70	91	96	63	23.23	174.22	26.10	87.38	115.43	105.65
3	Cheranmahadevi	50	57	90	94	39	20.45	113.64	22.80	86.23	96.54	102.03
4	Kadayam	34	61	100	95	55	15.02	195.95	17.10	81.63	98.00	99.80
5	Kadayanallur	53	61	69	97	65	15.87	10.00	15.87	77.24	100.00	101.38
6	Kalakadu	41	68	100	94	49	15.7	10.00	15.70	86.88	113.57	101.02
7	Keelapavoor	37	62	86	96	37	13.32	10.00	13.32	79.96	111.67	102.18
8	Kuruvikulam	25	46	100	95	59	20.05	10.00	20.05	74.10	85.76	101.28
9	Manur	29	44	97	93	81	20.93	56.56	20.93	76.70	85.78	98.68
10	Melaneelithanallur	23	35	92	95	51	15.04	10.00	15.04	72.74	85.84	102.04
11	Nanguneri	29	68	55	94	66	13.41	60.94	15.30	84.72	97.42	102.28
12	Palayamkottai	45	53	55	95	56	10.44	20.32	10.44	84.26	98.48	103.17
13	Pappakudi	39	68	100	96	30	22.3	82.58	22.30	80.88	98.39	100.16
14	Radhapuram	42	71	57	97	60	11.81	118.26	11.81	88.61	99.12	100.27
15	Sankarankoil	37	51	100	95	61	19.98	10.00	19.98	77.49	94.84	103.08
16	Shencottai	45	60	100	95	47	18.33	10.00	18.33	79.21	99.52	100.65
17	Tenkasi	55	68	100	95	61	14.04	10.00	14.04	82.16	127.89	100.97
18	Vallioor	41	81	73	95	64	7.54	10.00	14.60	88.64	92.35	103.37
19	Vasudevanallur	41	56	87	95	41	14.29	10.00	14.29	73.58	122.61	105.25
20	Corporation	64	96	100	97	100	7.5	98.74	7.50	90.39	111.76	102.34

Source: (1) Census of India, 2011, (ii) NBA, MDWS, New Delhi-2014, (iii) TNEB, (iv) Health and Education Department, 2013-14.

Cont…

Table 1.2 Block-wise Human Development Index

Sl. No.	Block	Standard of Living					Health			Education			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	Alangulam	0.38	0.17	0.47	0.85	0.42	0.51	1.00	0.58	0.46	0.40	0.93	0.40	0.66	0.56	0.53	11
2	Ambasamudhram	0.79	0.59	0.83	0.92	0.49	0.13	0.20	0.12	0.88	0.75	1.00	0.71	0.15	0.87	0.45	16
3	Cheranmahadevi	0.68	0.39	0.80	0.77	0.16	0.28	0.50	0.28	0.83	0.38	0.79	0.48	0.34	0.63	0.47	14
4	Kadayam	0.31	0.46	1.00	0.85	0.38	0.58	0.10	0.55	0.65	0.41	0.65	0.54	0.31	0.56	0.45	15
5	Kadayanallur	0.75	0.46	0.38	1.00	0.51	0.54	1.00	0.61	0.47	0.45	0.75	0.58	0.69	0.54	0.60	7
6	Kalakadu	0.47	0.56	1.00	0.77	0.30	0.55	1.00	0.61	0.86	0.72	0.73	0.57	0.69	0.76	0.67	4
7	Keelapavoor	0.38	0.47	0.72	0.92	0.13	0.68	1.00	0.73	0.58	0.68	0.79	0.43	0.79	0.68	0.61	5
8	Kuruvikulam	0.10	0.22	1.00	0.85	0.44	0.31	1.00	0.41	0.35	0.17	0.74	0.38	0.50	0.35	0.41	18
9	Manur	0.19	0.20	0.95	0.70	0.74	0.26	0.77	0.37	0.45	0.17	0.59	0.45	0.42	0.36	0.41	19
10	Melaneelithanallur	0.05	0.05	0.84	0.85	0.33	0.58	1.00	0.64	0.29	0.17	0.79	0.23	0.72	0.34	0.38	20
11	Nanguneri	0.19	0.56	0.11	0.77	0.53	0.67	0.75	0.63	0.77	0.40	0.80	0.34	0.68	0.63	0.53	12
12	Palayamkottai	0.56	0.33	0.12	0.85	0.39	0.84	0.95	0.86	0.75	0.42	0.85	0.37	0.88	0.65	0.60	8
13	Pappakudi	0.42	0.57	1.00	0.92	0.04	0.18	0.65	0.30	0.62	0.42	0.67	0.39	0.33	0.56	0.42	17
14	Radhapuram	0.49	0.61	0.15	1.00	0.45	0.76	0.47	0.80	0.93	0.43	0.68	0.46	0.66	0.65	0.58	9
15	Sankarankoil	0.38	0.30	1.00	0.85	0.47	0.31	1.00	0.41	0.48	0.35	0.85	0.54	0.50	0.52	0.52	13
16	Shencottai	0.56	0.45	1.00	0.85	0.27	0.40	1.00	0.49	0.55	0.44	0.70	0.57	0.58	0.55	0.57	10
17	Tenkasi	0.79	0.57	1.00	0.85	0.47	0.64	1.00	0.69	0.67	1.00	0.72	0.71	0.76	0.78	0.75	2
18	Vallioor	0.47	0.77	0.47	0.85	0.51	1.00	1.00	0.67	0.93	0.30	0.86	0.59	0.87	0.62	0.69	3
19	Vasudevanallur	0.47	0.38	0.75	0.85	0.19	0.62	1.00	0.68	0.33	0.90	0.98	0.46	0.75	0.66	0.61	6
20	Corporation	1.00	1.00	1.00	1.00	1.00	1.00	0.57	1.00	1.00	0.68	0.80	1.00	0.83	0.82	0.88	1

Source: Computed

Gender Inequality Index

Table 1.3 Block-wise GII Indicators

S. No.	Block	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 in Non-Agri	Male WPR in 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				Statistics Department	
		Rate	%	%	%	%	%	%	%	%	%	%	%	%	Rs.	Rs.
1	Alangulam	10.00	100	100	68.47	85.95	49.33	50.67	34.29	65.71	53.00	59.00	67	46	120	448
2	Ambasamudhram	174.22	100	100	81.90	93.10	49.99	50.01	38.44	61.56	35.00	58.00	74	70	150	381
3	Cheranmahadevi	113.64	100	100	80.67	92.02	48.19	51.81	38.43	61.57	35.00	59.00	63	61	150	383
4	Kadayam	195.95	100	100	74.84	88.69	48.85	51.15	39.07	60.93	45.00	58.00	77	55	150	375
5	Kadayanallur	10.00	100	100	68.34	86.11	49.76	50.24	33.45	66.55	32.00	57.00	46	54	130	439
6	Kalakadu	10.00	100	100	82.35	91.62	48.72	51.28	37.69	62.31	30.00	58.00	42	41	150	350
7	Keelapavoor	10.00	100	100	72.17	87.87	48.86	51.14	38.46	61.54	51.00	59.00	82	57	120	448
8	Kuruvikulam	10.00	100	100	64.76	83.92	49.18	50.82	37.42	62.58	52.00	61.00	19	30	150	379
9	Manur	56.56	100	100	69.54	84.15	47.91	52.09	37.60	62.40	42.00	59.00	43	43	125	383
10	Melaneelithanallur	10.00	100	101	63.75	81.97	49.37	50.63	40.14	59.86	50.00	59.00	31	26	120	369
11	Nanguneri	60.94	100	100	79.60	90.07	48.57	51.43	36.90	63.10	37.00	58.00	30	37	150	321
12	Palayamkottai	20.32	100	100	78.35	90.25	49.38	50.62	30.88	69.12	30.00	56.00	51	65	132	352
13	Pappakudi	82.58	100	100	73.88	88.16	49.58	50.42	42.16	57.84	51.00	59.00	83	56	150	400
14	Radhapuram	118.26	99	100	85.25	92.10	49.05	50.95	37.37	62.63	24.00	55.00	59	69	150	350
15	Sankarankoil	10.00	99	100	68.42	86.74	49.04	50.96	36.47	63.53	38.00	59.00	42	58	150	425
16	Shencottai	10.00	100	101	71.20	87.29	48.82	51.18	37.50	62.50	39.00	59.00	60	50	120	397
17	Tenkasi	10.00	100	100	75.24	89.16	48.64	51.36	39.39	60.61	32.00	58.00	67	62	132	500
18	Vallioor	10.00	100	100	84.76	92.65	48.63	51.37	37.59	62.41	25.00	56.00	58	60	150	350
19	Vasudevanallur	10.00	100	100	64.12	83.41	49.43	50.57	39.64	60.36	42.00	58.00	41	50	120	450
20	Corporation	98.74	100.00	71	86.18	94.75	48.75	51.25	34.55	65.45	23.00	55.00	84	90	125	383

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

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Table 1.4 Block-wise GII Index

S. No.	Block	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 in Non-Agri	Male WPR in Non-Agri	Female Agri Wage Rate	Male Agri Wage rate
									Female	Male						
1	Alangulam	1.00	1.00	1.00	0.68	0.86	0.49	0.51	0.34	0.66	0.53	0.59	0.67	0.46	0.29	0.75
2	Ambasamudhram	0.06	1.00	1.00	0.82	0.93	0.50	0.50	0.38	0.62	0.35	0.58	0.74	0.70	1.00	0.44
3	Cheranmahadevi	0.09	1.00	1.00	0.81	0.92	0.48	0.52	0.38	0.62	0.35	0.59	0.63	0.61	1.00	0.45
4	Kadayam	0.05	1.00	1.00	0.75	0.89	0.49	0.51	0.39	0.61	0.45	0.58	0.77	0.55	1.00	0.41
5	Kadayanallur	1.00	1.00	1.00	0.68	0.86	0.50	0.50	0.33	0.67	0.32	0.57	0.46	0.54	0.52	0.71
6	Kalakadu	1.00	1.00	1.00	0.82	0.92	0.49	0.51	0.38	0.62	0.30	0.58	0.42	0.41	1.00	0.29
7	Keelapavoor	1.00	1.00	1.00	0.72	0.88	0.49	0.51	0.38	0.62	0.51	0.59	0.82	0.57	0.29	0.75
8	Kuruvikulam	1.00	1.00	1.00	0.65	0.84	0.49	0.51	0.37	0.63	0.52	0.61	0.19	0.30	1.00	0.43
9	Manur	0.18	1.00	1.00	0.70	0.84	0.48	0.52	0.38	0.62	0.42	0.59	0.43	0.43	0.40	0.45
10	Melaneelithanallur	1.00	1.00	1.01	0.64	0.82	0.49	0.51	0.40	0.60	0.50	0.59	0.31	0.26	0.29	0.38
11	Nanguneri	0.16	1.00	1.00	0.80	0.90	0.49	0.51	0.37	0.63	0.37	0.58	0.30	0.37	1.00	0.15
12	Palayamkottai	0.49	1.00	1.00	0.78	0.90	0.49	0.51	0.31	0.69	0.30	0.56	0.51	0.65	0.57	0.30
13	Pappakudi	0.12	1.00	1.00	0.74	0.88	0.50	0.50	0.42	0.58	0.51	0.59	0.83	0.56	1.00	0.53
14	Radhapuram	0.08	0.99	1.00	0.85	0.92	0.49	0.51	0.37	0.63	0.24	0.55	0.59	0.69	1.00	0.29
15	Sankarankoil	1.00	0.99	1.00	0.68	0.87	0.49	0.51	0.36	0.64	0.38	0.59	0.42	0.58	1.00	0.64
16	Shencottai	1.00	1.00	1.01	0.71	0.87	0.49	0.51	0.38	0.63	0.39	0.59	0.60	0.50	0.29	0.51
17	Tenkasi	1.00	1.00	1.00	0.75	0.89	0.49	0.51	0.39	0.61	0.32	0.58	0.67	0.62	0.57	1.00
18	Vallioor	1.00	1.00	1.00	0.85	0.93	0.49	0.51	0.38	0.62	0.25	0.56	0.58	0.60	1.00	0.29
19	Vasudevanallur	1.00	1.00	1.00	0.64	0.83	0.49	0.51	0.40	0.60	0.42	0.58	0.41	0.50	0.29	0.76
20	Corporation	0.10	1.00	0.71	0.86	0.95	0.49	0.51	0.35	0.65	0.23	0.55	0.84	0.90	0.40	0.45

Source: Computed

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Table 1.5 Block-wise GII Index

S. No.	Block	Female Health Indices	Male Health Indices	Female Emp Indices	Male Emp Indices	Female LF Indices	Male LF Indices	GF	GM	GFM	Health Bar	Emp Bar	LF Bar	GFM Bar	GII	Rank
1	Alangulam	1.00	1	0.49	0.66	0.47	0.59	0.61	0.73	0.66	1.00	0.57	0.53	0.67	0.01	8
2	Ambasamudhram	0.39	1	0.54	0.66	0.64	0.56	0.51	0.72	0.60	0.69	0.60	0.60	0.63	0.05	18
3	Cheranmahadevi	0.44	1	0.53	0.66	0.60	0.54	0.52	0.71	0.60	0.72	0.60	0.57	0.63	0.04	16
4	Kadayam	0.37	1	0.52	0.65	0.70	0.51	0.51	0.69	0.59	0.69	0.59	0.60	0.62	0.06	19
5	Kadayanallur	1.00	1	0.48	0.66	0.43	0.60	0.59	0.74	0.66	1.00	0.57	0.51	0.67	0.01	11
6	Kalakadu	1.00	1	0.53	0.66	0.50	0.41	0.64	0.65	0.65	1.00	0.60	0.46	0.65	0.00	2
7	Keelapavoor	1.00	1	0.51	0.65	0.49	0.63	0.63	0.74	0.68	1.00	0.58	0.56	0.69	0.01	6
8	Kuruvikulam	1.00	1	0.49	0.64	0.46	0.43	0.61	0.65	0.63	1.00	0.57	0.44	0.63	0.00	3
9	Manur	0.56	1	0.50	0.65	0.42	0.48	0.49	0.68	0.57	0.78	0.57	0.45	0.59	0.03	15
10	Melaneelithanallur	1.00	1	0.50	0.63	0.35	0.39	0.56	0.62	0.59	1.00	0.57	0.37	0.59	0.00	4
11	Nanguneri	0.55	1	0.52	0.66	0.48	0.32	0.52	0.60	0.55	0.77	0.59	0.40	0.57	0.03	13
12	Palayamkottai	0.79	1	0.49	0.68	0.44	0.48	0.56	0.69	0.62	0.89	0.59	0.46	0.62	0.01	10
13	Pappakudi	0.49	1	0.54	0.64	0.75	0.56	0.58	0.71	0.64	0.75	0.59	0.65	0.66	0.03	14
14	Radhapuram	0.44	1	0.54	0.66	0.52	0.48	0.50	0.68	0.58	0.72	0.60	0.50	0.60	0.04	17
15	Sankarankoil	1.00	1	0.50	0.65	0.54	0.60	0.65	0.73	0.69	1.00	0.58	0.57	0.69	0.01	5
16	Shencottai	1.00	1	0.51	0.65	0.41	0.53	0.59	0.70	0.64	1.00	0.58	0.47	0.65	0.01	7
17	Tenkasi	1.00	1	0.52	0.65	0.50	0.71	0.64	0.77	0.70	1.00	0.59	0.60	0.71	0.01	9
18	Vallioor	1.00	1	0.54	0.67	0.53	0.46	0.66	0.67	0.67	1.00	0.60	0.49	0.67	0.00	1
19	Vasudevanallur	1.00	1	0.50	0.63	0.37	0.60	0.57	0.73	0.64	1.00	0.57	0.49	0.65	0.02	12
20	Corporation	0.42	1	0.53	0.68	0.43	0.60	0.45	0.74	0.56	0.71	0.60	0.52	0.60	0.07	20

Source: Computed

Child Development Index

Table 1.6 Block-wise Child Development Indicators and Index in Tirunelveli District

S. No.	Block	Indicator of Child Development							
		Health			Education				
		U5MR	% of Malnourished Children	0-6 Sex ratio	Enrolment Rate		Children never Enrolled in School	Transition Rate	
					Primary	Secondary		Primary to Upper Primary	Upper Primary to Secondary
		2013-14	2013-14	2011	2013-14				
1	Alangulam	16.42	973	22.29	97.53	104.43	0	98.64	94.01
2	Ambasamudhram	26.10	999	18.46	115.43	105.65	0	99.14	94.13
3	Cheranmahadevi	22.80	930	16.74	96.54	102.03	0.001	98.27	95.75
4	Kadayam	17.10	955	16.59	98.00	99.80	0	99.17	94.95
5	Kadayanallur	15.87	991	24.52	100.00	101.38	0	98.87	94.55
6	Kalakadu	15.70	950	15.59	113.57	101.02	0	99.07	93.61
7	Keelapavoor	13.32	955	14.67	111.67	102.18	0	98.81	92.42
8	Kuruvikulam	20.05	968	35.77	85.76	101.28	0	98.72	97.36
9	Manur	20.93	920	22.91	85.78	98.68	0	99.04	94.52
10	Melaneelithanallur	15.04	975	20.18	85.84	102.04	0	98.89	97.23
11	Nanguneri	15.30	944	11.28	97.42	102.28	0	98.91	91.33
12	Palayamkottai	10.44	976	24.04	98.48	103.17	0	98.91	95.15
13	Pappakudi	22.30	983	19.5	98.39	100.16	0	99.04	93.16
14	Radhapuram	11.81	963	28.82	99.12	100.27	0	99.04	91.69
15	Sankarankoil	19.98	962	22.93	94.84	103.08	0	98.81	94.79
16	Shencottai	18.33	954	12.15	99.52	100.65	0	98.88	97.61
17	Tenkasi	14.04	947	12.56	127.89	100.97	0	99.17	96.23
18	Vallioor	14.60	946	9.15	92.35	103.37	0	99.03	95.35
19	Vasudevanallur	14.29	977	28.98	122.61	105.25	0	99.04	93.68
20	Corporation	7.50	951	10.27	111.76	102.34	0	98.88	94.41

Source: i) Health Department and (ii) Education Department- 2013-14

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Table-1.7 Block-wise Child Development Indicators and Index in Tirunelveli District

S. No.	Block	Index value								CDI Index	Rank
		Health Index			Education Index						
		U5MR	%of Malnourished Children	0-6 Sex ratio	Enrolment Rate		Children never Enrolled in School	Transition Rate			
					Primary	Secondary		Primary to Upper Primary	Upper Primary to Secondary		
1	Alangulam	0.579	0.848	0.565	0.401	0.928	1.000	0.034	0.167	0.565	10
2	Ambasamudhram	0.123	1.000	0.692	0.754	1.000	1.000	0.080	0.174	0.603	6
3	Cheranmahadevi	0.279	0.596	0.749	0.382	0.785	0.091	0.000	0.275	0.395	20
4	Kadayam	0.547	0.743	0.754	0.410	0.653	1.000	0.083	0.226	0.552	14
5	Kadayanallur	0.605	0.953	0.491	0.450	0.746	1.000	0.055	0.201	0.563	12
6	Kalakadu	0.613	0.713	0.787	0.717	0.725	1.000	0.074	0.142	0.597	8
7	Keelapavoor	0.726	0.743	0.817	0.680	0.794	1.000	0.050	0.068	0.610	4
8	Kuruvikulam	0.408	0.819	0.118	0.169	0.740	1.000	0.041	0.376	0.459	18
9	Manur	0.367	0.538	0.544	0.169	0.586	1.000	0.071	0.199	0.434	19
10	Melaneelithanallur	0.645	0.860	0.635	0.171	0.786	1.000	0.057	0.368	0.565	11
11	Nanguneri	0.632	0.678	0.929	0.399	0.800	1.000	0.059	0.000	0.562	13
12	Palayamkottai	0.861	0.865	0.507	0.420	0.853	1.000	0.059	0.238	0.600	7
13	Pappakudi	0.302	0.906	0.657	0.418	0.674	1.000	0.071	0.114	0.518	16
14	Radhapuram	0.797	0.789	0.349	0.433	0.680	1.000	0.071	0.022	0.518	17
15	Sankarankoil	0.412	0.784	0.544	0.348	0.847	1.000	0.050	0.216	0.525	15
16	Shencottai	0.489	0.737	0.901	0.441	0.703	1.000	0.056	0.391	0.590	9
17	Tenkasi	0.692	0.696	0.887	1.000	0.722	1.000	0.083	0.306	0.673	2
18	Vallioor	0.665	0.690	1.000	0.299	0.865	1.000	0.070	0.250	0.605	5
19	Vasudevanallur	0.680	0.871	0.343	0.896	0.976	1.000	0.071	0.146	0.623	3
20	Corporation	1.000	0.719	0.963	0.682	0.803	1.000	0.056	0.192	0.677	1

Source: Computed

Multi-Dimensional Poverty Index

Table 1.8 Block-wise Multi-Dimensional Poverty Index in Tirunelveli District

S. No.	Block	Health			Education		Living Standards				
		IMR	Higher Order Birth Rate	Malnourished Children	Drop out in Primary	Drop out in Secondary	Cooking fuel	Toilet facilities	Drinking water	Electricity	Pucca House
		2014	2013-14	2014	2013-14		2011	2013-14		2011	2013-14
1	Alangulam	16.42	9.7	22.29	0.67	3.94	37	42	73	95	58
2	Ambasamudhram	23.23	10.3	18.46	0.265	6.76	55	70	91	96	63
3	Cheranmahadevi	20.45	12.9	16.74	0.805	3.09	50	57	90	94	39
4	Kadayam	15.02	12.0	16.59	0.375	3.92	34	61	100	95	55
5	Kadayanallur	15.87	7.1	24.52	0.68	4.93	53	61	69	97	65
6	Kalakadu	15.7	10.5	15.59	0.19	9.20	41	68	100	94	49
7	Keelapavoor	13.32	9.7	14.67	0.71	4.39	37	62	86	96	37
8	Kuruvikulam	20.05	6.6	35.77	0.545	4.29	25	46	100	95	59
9	Manur	20.93	8.2	22.91	0.47	4.34	29	44	97	93	81
10	Melaneelithanallur	15.04	8.5	20.18	0.72	4.70	23	35	92	95	51
11	Nanguneri	13.41	14.8	11.28	0.12	6.32	29	68	55	94	66
12	Palayamkottai	10.44	10.0	24.04	1.31	7.24	45	53	55	95	56
13	Pappakudi	22.3	12.3	19.5	1.405	7.26	39	68	100	96	30
14	Radhapuram	11.81	13.6	28.82	0.815	5.97	42	71	57	97	60
15	Sankarankoil	19.98	7.1	22.93	1.21	5.81	37	51	100	95	61
16	Shencottai	18.33	4.9	12.15	1.97	1.90	45	60	100	95	47
17	Tenkasi	14.04	5.9	12.56	0.315	6.10	55	68	100	95	61
18	Vallioor	7.54	9.8	9.15	0.85	4.21	41	81	73	95	64
19	Vasudevanallur	14.29	6.0	28.98	0.11	7.50	41	56	87	95	41
20	Corporation	7.5	6.4	10.27	0.925	4.69	64	96	100	97	100

Source: i) Education Department, (ii) Census of India, 2011 (iii) NBA, MDWS-2014, (iv) TNEP, and (v)Health Department-2013-14

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Table 1.9 Block-wise Multi-Dimensional Poverty Index in Tirunelveli District

S. No.	Block	Health			Education		Living Standards					MDPI Value	1-Overall	Rank
							Access of							
		IMR	Higher Order Birth Rate	Malnourished Children	Drop out in Primary	Drop out in Secondary	Cooking fuel	Toilet facilities	Drinking water4	Electricity	Pucca House			
1	Alangulam	0.51	0.58	0.56	0.73	0.75	0.38	0.17	0.47	0.85	0.42	0.54	0.42	14
2	Ambasamudhram	0.13	0.53	0.69	0.92	0.41	0.79	0.59	0.83	0.92	0.49	0.63	0.35	5
3	Cheranmahadevi	0.28	0.30	0.75	0.66	0.86	0.68	0.39	0.80	0.77	0.16	0.56	0.39	12
4	Kadayam	0.58	0.38	0.75	0.87	0.75	0.31	0.46	1.00	0.85	0.38	0.63	0.35	6
5	Kadayanallur	0.54	0.81	0.49	0.72	0.63	0.75	0.46	0.38	1.00	0.51	0.63	0.36	7
6	Kalakadu	0.55	0.51	0.79	0.96	0.11	0.47	0.56	1.00	0.77	0.30	0.60	0.38	9
7	Keelapavoor	0.68	0.58	0.82	0.71	0.70	0.38	0.47	0.72	0.92	0.13	0.61	0.36	8
8	Kuruvikulam	0.31	0.85	0.12	0.79	0.71	0.10	0.22	1.00	0.85	0.44	0.54	0.42	15
9	Manur	0.26	0.71	0.54	0.82	0.70	0.19	0.20	0.95	0.70	0.74	0.58	0.38	10
10	Melaneelithanallur	0.58	0.68	0.63	0.70	0.66	0.05	0.05	0.84	0.85	0.33	0.54	0.43	16
11	Nanguneri	0.67	0.13	0.93	1.00	0.46	0.19	0.56	0.11	0.77	0.53	0.54	0.46	17
12	Palayamkottai	0.84	0.55	0.51	0.42	0.35	0.56	0.33	0.12	0.85	0.39	0.49	0.50	19
13	Pappakudi	0.18	0.35	0.66	0.37	0.35	0.42	0.57	1.00	0.92	0.04	0.49	0.56	20
14	Radhapuram	0.76	0.24	0.35	0.66	0.51	0.49	0.61	0.15	1.00	0.45	0.52	0.46	18
15	Sankarankoil	0.31	0.81	0.54	0.47	0.52	0.38	0.30	1.00	0.85	0.47	0.56	0.39	13
16	Shencottai	0.40	1.00	0.90	0.10	1.00	0.56	0.45	1.00	0.85	0.27	0.65	0.32	4
17	Tenkasi	0.64	0.91	0.89	0.90	0.49	0.79	0.57	1.00	0.85	0.47	0.75	0.25	2
18	Vallioor	1.00	0.57	1.00	0.64	0.72	0.47	0.77	0.47	0.85	0.51	0.70	0.31	3
19	Vasudevanallur	0.62	0.90	0.34	1.00	0.32	0.47	0.38	0.75	0.85	0.19	0.58	0.38	11
20	Corporation	1.00	0.87	0.96	0.60	0.66	1.00	1.00	1.00	1.00	1.00	0.91	0.09	1

Source: Computed

Table 1.10 Crude Birth and Death Rate			
S. No.	Block	CBR	CDR
		2014	2014
1	Alangulam	15.4	5.8
2	Ambasamudhram	11.9	4.8
3	Cheranmahadevi	14.1	6.3
4	Kadayam	15.6	6.2
5	Kadayanallur	15.9	6.9
6	Kalakadu	15.8	5.4
7	Keelapavoor	15.9	6.2
8	Kuruvikulam	15.2	6.8
9	Manur	14.2	5.2
10	Melaneelithanallur	16.2	6.8
11	Nanguneri	14.8	5.9
12	Palayamkottai	14.6	4.8
13	Pappakudi	15.2	6.7
14	Radhapuram	14.9	5.2
15	Sankarankoil	15.0	6.3
16	Shencottai	14.4	7.0
17	Tenkasi	15.2	5.6
18	Vallioor	16.5	5.8
19	Vasudevanallur	15.4	5.9
20	Corporation	13.8	4.2
District		15.0	5.9

Source: Health Department, Tirunelveli, 2014.

Table 1.11 Infant Mortality Rate (2013-14)		
S. No.	Block	2014
1	Alangulam	16.42
2	Ambasamudhram	23.23
3	Cheranmahadevi	20.45
4	Kadayam	15.02
5	Kadayanallur	15.87
6	Kalakadu	15.7
7	Keelapavoor	13.32
8	Kuruvikulam	20.05
9	Manur	20.93
10	Melaneelithanallur	15.04
11	Nanguneri	13.41
12	Palayamkottai	10.44
13	Pappakudi	22.3
14	Radhapuram	11.81
15	Sankarankoil	19.98
16	Shencottai	18.33
17	Tenkasi	14.04
18	Vallioor	7.54
19	Vasudevanallur	14.29
20	Corporation	7.5
District		15.78

Source: Health Department, Tirunelveli, 2014.

Table 1.12 Percentage of Institutional Delivery in 2014								% of Institutional Deliveries
S.No.	Block	Home	Health Sub Centre	PHC	GH	Private Hospitals	Total	
1	Alangulam	0	2	535	702	768	2007	100
2	Ambasamudhram	0	0	337	2640	3645	6622	100
3	Cheranmahadevi	0	0	441	600	976	2017	100
4	Kadayam	0	0	352	603	628	1583	100
5	Kadayanallur	0	0	232	354	1063	1649	100
6	Kalakadu	0	0	329	460	481	1270	100
7	Keelapavoor	0	0	568	564	1482	2614	100
8	Kuruvikulam	0	0	345	583	416	1344	100
9	Manur	0	0	563	856	590	2009	100
10	Melaneelithanallur	0	9	288	516	636	1449	100
11	Nanguneri	0	0	337	667	663	1667	100
12	Palayamkottai	0	0	467	1328	726	2521	100
13	Pappakudi	0	0	367	471	399	1237	100
14	Radhapuram	0	0	385	495	1087	1967	100
15	Sankarankoil	0	0	313	531	513	1357	100
16	Shencottai	0	1	214	449	516	1180	100
17	Tenkasi	0	0	332	658	580	1570	100
18	Vallioor	0	0	489	671	1219	2379	100
19	Vasudevanallur	0	0	383	716	552	1651	100
20	Corporation	1	0	126	830	3040	3997	0.03
District		1	12	7403	14694	19980	42090	0.002

Source: Health Department, Tirunelveli, 2014.

Table 1.13 Malnourished Children 0-5 during 2013-14							% of MUW+SUW
S. No.	Block	Normal Children (0-5 Years)	2014				
			*SUW Children		** MUW Children		
			0-5 Years	% of SUW	0-5 Years	% of MUW	
1	Alangulam	6854	1	0.01	1415	17.11	17.12
2	Ambasamudhram	6189	17	0.24	989	13.75	13.98
3	Cheranmahadevi	5303	59	0.95	869	13.95	14.89
4	Kadayam	6224	13	0.18	859	12.11	12.29
5	Kadayanallur	7361	4	0.04	1706	18.81	18.85
6	Kalakadu	5777	6	0.09	952	14.14	14.22
7	Keelapavoor	11595	5	0.04	1499	11.44	11.48
8	Kuruvikulam	4197	1	0.02	2334	35.73	35.75
9	Manur	6887	5	0.06	1863	21.28	21.34
10	Melaneelithanallur	4464	0	0.00	1951	30.41	30.41
11	Nanguneri	7707	0	0.00	431	5.30	5.30
12	Palayamkottai	8518	1	0.01	1913	18.34	18.35
13	Pappakudi	4677	47	0.83	932	16.48	17.31
14	Radhapuram	7786	0	0.00	1945	19.99	19.99
15	Sankarankoil	10693	8	0.06	2175	16.89	16.95
16	Shencottai	5942	10	0.15	782	11.61	11.76
17	Tenkasi	8147	4	0.05	734	8.26	8.31
18	Vallioor	10180	0	0.00	688	6.33	6.33
19	Vasudevanallur	5926	2	0.03	2005	25.27	25.30
20	Corporation	10464	14	0.13	535	4.86	4.99
District		144891	197	0.14	26577	16.10	16.25

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

Table 1.14 Percentage of Drinking Water facilities

S. No.	Block	% of Drinking Water (Habitations)
1	Alangulam	73
2	Ambasamudhram	91
3	Cheranmahadevi	90
4	Kadayam	100
5	Kadayanallur	69
6	Kalakadu	100
7	Keelapavoor	86
8	Kuruvikulam	100
9	Manur	97
10	Melaneelithanallur	92
11	Nanguneri	55
12	Palayamkottai	55
13	Pappakudi	100
14	Radhapuram	57
15	Sankarankoil	100
16	Shencottai	100
17	Tenkasi	100
18	Vallioor	73
19	Vasudevanallur	87
20	Corporation	100
		83

Source: BDOs, Town Panchayats and Municipal Corporation, Tirunelveli, 2014.

Table 1.15 Literacy Rate during 2001 and 2011 in Tirunelveli District

S. No	Block	Literacy 2001			Literacy 2011		
		Persons	Male	Female	Persons	Male	Female
1	Alangulam	69.23	80.76	58.49	77.00	85.95	68.47
2	Ambasamudhram	83.09	90.53	75.94	87.38	93.10	81.90
3	Cheranmahadevi	80.38	88.65	72.63	86.23	92.02	80.67
4	Kadayam	74.18	83.73	65.31	81.63	88.69	74.84
5	Kadayanallur	69.06	81.53	57.12	77.24	86.11	68.34
6	Kalakadu	82.67	89.62	76.4	86.88	91.62	82.35
7	Keelapavoor	73.4	83.81	63.25	79.96	87.87	72.17
8	Kuruvikulam	66.81	79.28	54.84	74.10	83.92	64.76
9	Manur	66.71	77.18	57.02	76.70	84.15	69.54
10	Melaneelithanallur	62.16	73.96	50.83	72.74	81.97	63.75
11	Nanguneri	80.73	88.1	74.04	84.72	90.07	79.60
12	Palayamkottai	76.75	84.99	68.69	84.26	90.25	78.35
13	Pappakudi	75.29	84.84	66.47	80.88	88.16	73.88
14	Radhapuram	82.34	86.66	78.54	88.61	92.10	85.25
15	Sankarankoil	69.19	81.47	57.25	77.49	86.74	68.42
16	Shencottai	72.8	83.1	62.57	79.21	87.29	71.20
17	Tenkasi	77.09	86.7	67.71	82.16	89.16	75.24
18	Vallioor	82.37	88.15	77.13	88.64	92.65	84.76
19	Vasudevanallur	65.86	78.3	53.91	73.58	83.41	64.12
20	Corporation	86.18	92.63	79.95	90.39	94.75	86.18
District		76.09	85.21	67.43	82.50	89.24	75.98

Source: Census of India, 2001 & 2011.

Note: Corporation, BDOs, Town Panchayats and Municipality are added in the respective rural blocks.

Table 1.16 Female Work Participation Rate

S. No	Block	Total Female Population	Total Female Workers	% of Female work Participation Rate
1	Alangulam	66751	35182	53
2	Ambasamudhram	74906	26212	35
3	Cheranmahadevi	68658	24094	35
4	Kadayam	56513	25683	45
5	Kadayanallur	83786	26972	32
6	Kalakadu	57329	17200	30
7	Keelapavoor	93817	47478	51
8	Kuruvikulam	48680	25490	52
9	Manur	66783	27888	42
10	Melaneelithanallur	48066	24120	50
11	Nanguneri	57365	20976	37
12	Palayamkottai	64585	19345	30
13	Pappakudi	42368	21605	51
14	Radhapuram	74451	18031	24
15	Sankarankoil	80433	30770	38
16	Shencottai	59251	22932	39
17	Tenkasi	94065	29882	32
18	Vallioor	79917	20304	25
19	Vasudevanallur	98619	41354	42
20	Corporation	239978	54761	23
District		1556321	560279	36

Source: Census of India, 2001 & 2011.

Note: Corporation, BDOs, Town Panchayats and Municipality are added in the respective rural blocks.

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

Method

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

For females

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

For Males

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

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 mean of each indicator

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

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

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

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

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
	Enrollment in Primary and Secondary
Education	Children never enrolled in schools
	Transition rate from Primary to Upper Primary and Upper Primary to Secondary

Computation of Child Development Index

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

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

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

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

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

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

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

Multidimensional Poverty Index

Indicators

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

Computation of Multidimensional Poverty Index

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

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

      Eg: calculations will be based on highest values being assigned highest ranking
    - The index value (in the case of a negative indicator) can be calculated by using the formula –

      Index Value = (Max. Value – Actual Value) / (Max.Value – Min.Value)
- The index values for each of the indicators would range between 0 and 1 - 0 indicating the lowest ranking for the blocks and 1 indicating highest ranking of the block
- The composite index is the average of the consolidated index values of all sectors and this is to be used to assign the ranks for the blocks within the district.

Abbreviations

SIDCO	Small Industries Development Corporation
IT	Information Technology
NH	National Highways
ITES	Information Technology Enabled Service
SEZ	Special Economic Zone
Ltd	Limited
GDDP	Gross District Domestic Product
CBR	Crude Birth Rate
CDR	Crude Death Rate
TFR	Total Fertility Rate
IMR	Infant Mortality Rate
MMR	Maternal Mortality Rate
UNDP	United Nations Development Programme
HDI	Human Development Index
GER	Gross Enrolment Ratio
LPG	Liquefied Petroleum Gas
GDP	Gross Domestic Product
GII	Gender Inequality Index
ST	Scheduled Tribe
SC	Scheduled Caste
U5MR	Under 5 Mortality Rate
ICT	Information and Communication Technology
ID	Institutional Delivery
RLBs	Rural Local Bodies
ULBs	Urban Local Bodies
MGNREGP	Mahatma Gandhi National Rural Employment Guarantee Programme
MLA	Member of Legislative Assembly
CDI	Child Development Index
MPI	Multi Dimensional Poverty Index
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MDPI	Multi-Dimensional Poverty Index
DHDR	District Human Development Report
BPL	Below Poverty Line

HHs	Households
DRDA	District Rural Development Agency
RDMA	Regional Director of Municipal Administration
AD	Assistant Director
OBC	Other Backward Class
PDS	Public Distribution System
UPDS	Universal Public Distribution System
FCI	Food Corporation of India
GII	Gender Inequality Index
WHO	World Health Organization
DPT	Diphtheria, Pertussis, Tetanus
BCG	Bacillus, Calmette, Guerin
DD	Deputy Director
IFA	Iron Folic Acid
M.G.R	M.G. Ramachandran
ICDS	Integrated Child Development Scheme
OPA	Old Age Pension
CPCB	Central Pollution Control Board
UNCF	United Nations Children's Fund
EO	Executive Officer
TP	Town Panchayat
AIDS	Acquired Immuno Deficiency Syndrome
HIV	Human Immunodeficiency Virus
TB	Tuberculosis
UNESCO	United Nations Educational, Scientific and Cultural Organization
SSLC	Secondary School Living Certificate
PTO	Pupil Teacher Ratio
NCERT	National Council of Educational Research and Training
DTET	Directorate of Technical Education and Training
NGOs	Non Governmental Organisations
CLIP	Children Language Improvement Programme
ILIP	Integrated Learning Improvement Programme
CAL	Computer Aided Learning
ABL	Activity Based Learning
DIET	District Institute of Education and Training

NPE	National Policy Education
NAAC	National Assessment and Accreditation Council
CBCS	Choice-Based Credit System
NSS	National Sample Survey
SSA	Sarva Shiksha Abhiyan
ILO	International Labour Organization
GNP	Gross National Product
UNDP	United Nations Development Programme
SHG	Self Help Group
APL	Above Poverty Line
LPG	Liberalization, Privatization and Globalization
WBM	Water Bound Macadam
BT	Bituminious Thar
CC	Cement Road
NEP	National Electricity Policy
PIN	Postal Index Number
BSNL	Bharat Sanchar Nigarm Limited
MTNL	Mahanagar Telephone Nigam Limited
PCO	Public Call Office
LIC	Life Insurance Corporation
Ca O	Calcium Oxide
Mg O	Magnesium Oxide
MW	Mega Watt
BDO	Block Development Officer
SHG	Self Help Group
SSA	Sarva Shiksha Abhiyan
SC	Schedued Caste
ST	Scheduled Tribe
TN	Tamil Nadu
UN	United Nations
UNDP	United Nations Development Project
U5MR	Under Five Mortality Rate
WPR	Work Participation Rate

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