



Government of Tamilnadu  
Dept of Rural Development & Panchayat Raj



# Tamilnadu Rural Transformation Project (TNRTP)



**District Diagnostic Report (DDR)**  
**TIRUVANNAMALAI DISTRICT**  
(Based on Tiruvannamalai Diagnostic Study)





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# FOREWORD



**Thiru.K.S. Kandasamy, I.A.S.,**  
District Collector,  
Tiruvannamalai.

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TNRTP aims to promote rural enterprise development - including rural enterprise promotion, enterprise development, facilitating access to the business development services, access to finance and strengthening the value chain development of the identified commodities, thereby promoting market led economic empowerment of the rural communities and women. It will target households that are organized into community institutional platforms; and will promote "group enterprises" such as - Producer groups and Producer Collectives, and "individual enterprises" - Nano, Micro & Small Enterprises (NMSE).

I appreciate the cooperation of the department officials in bringing the all data for this District Diagnostic Study in systematic manner to understand the resources in better way in the Tiruvannamalai District.

Best Wishes

**Date :**  
**Place :** Tiruvannamalai

**District Collector**  
**Tiruvannamalai District**





# PREFACE



**Tmt.S. Rajathi, MBA, MSW.,**  
District Executive Officer,  
Tiruvannamalai.

As part of the Tamil Nadu Rural Transformation Project, fact findings is one of the foremost important activity, In order District Diagnostic Study(DDS) is the most vital part of a project to identify the opportunities in Rural sector towards Sustainable development and TNRTP aims to support rural enterprises like Farm, Non-farm & Service sectors, Including empowerment of women 65%, Tribal and Differently abled persons. Based on this DDS report prioritized commodities evaluated through Value chain analysis and it is a strategy tool used to analyze internal firm activities. Its goal is to recognize, which activities are the most valuable to the firm and which ones could be improved to provide competitive advantage. This project covers six blocks in the district and 308 Panchayats can be benefited from this project.

TNRTP contemplates entrepreneur service aspects through One Stop Facility (OSF) - Centers and it promotes individual entrepreneurs and group enterprises by providing Business plan, Financial assistance through Convergence, Matching Grant Program-MGP & Marketing support through Technical Support Agency-TSA for sustainable business development. TNRTP deals with Bottom-up approach through focused group discussion for village investment plan from the Participatory Growth Plan-PGP in villages.

And also I would like to thank all the management members and the persons who are all supported in this project.

**District Executive Officer**  
**Tamil Nadu Rural Transformation Project**  
**Thiruvannamalai District**





# TIRUVANNAMALAI District Diagnostic Study (DDS)

This study on Tiruvannamalai District is an initiative of Tamil Nadu Rural Transformation Project (TNRTP), To identify and prioritize major sectors, subsectors and commodities for enterprise promotion To identify and prioritize current and potential value chains.

## DECADAL GROWTH OF THE POPULATION

S.No.	Indicators	2001	2011
1	Population	2,186,125	2,464,875
2	Decennial growth(percent)	7.01	12.75
3	Density of population per sq.km	424	473
4	Urban population(percent)	NA	20.08
5	Sex ratio	995	994
6	Percentage of 0-6 years old	11.95	11.06

## Major Crops in Tiruvannamalai District



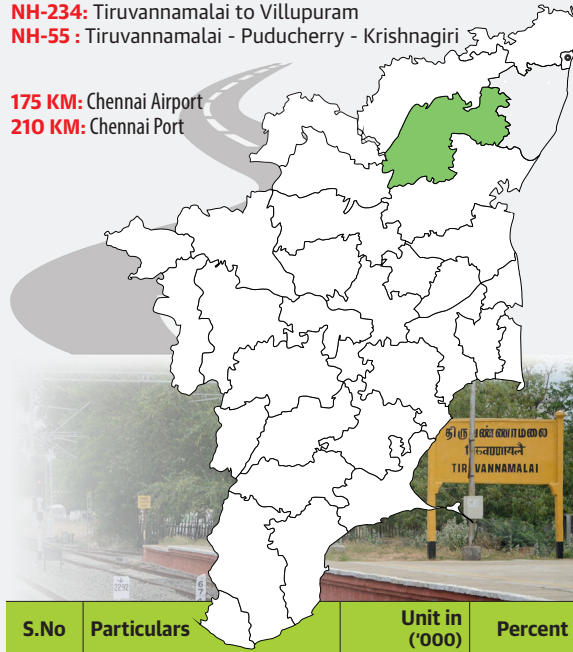
## MAJOR CROPS IN AREA (HA.)

Crop	State	Tiruvannamalai	Percentage to state	Ranking
Groundnut	282488	51030	18.06	4
Cumbu	49673	4196	8.45	12
Ragi	61362	1644	2.68	9
Blackgram	429784	36210	8.43	2
Gingelly	28231	790	2.80	16

## ROAD CONNECTIVITY

NH-234: Tiruvannamalai to Villupuram  
NH-55 : Tiruvannamalai - Puducherry - Krishnagiri

175 KM: Chennai Airport  
210 KM: Chennai Port



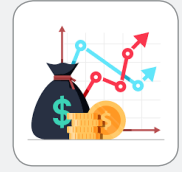
S.No	Particulars	Unit in ('000)	Percent
1	<b>Total Population</b>	2464875	
	Male	1235688	50.12
	Female	1230277	49.87
2	<b>Occupation</b>		
	Total workers	<b>10,64,783</b>	
	Main workers (Agriculture)	-8,29,944	77.94
	Marginal workers (Allied sectors)	2,34,839	22.06

## GROUND WATER POTENTIAL

Over Exploited (100%)	Critical (85 - 100%)	Semi Critical (60 - 85%)
Chengam	Arni west	Anakavur
Kalasapakkam	Javadi west	Arni East
Kilpennathur		Chetpat
Polur		Cheyar
Thandaranpattu		Vembakkam
Thiruvannamalai		
Thurinjipuram		
Vandavasi		



## DISTRICT ADMIN UNITS



### REVENUE

Divisions: 3  
Taluks: 12  
Revenue Villages: 1067



### DEVELOPMENTS

Blocks: 18  
Panchayat Villages: 860



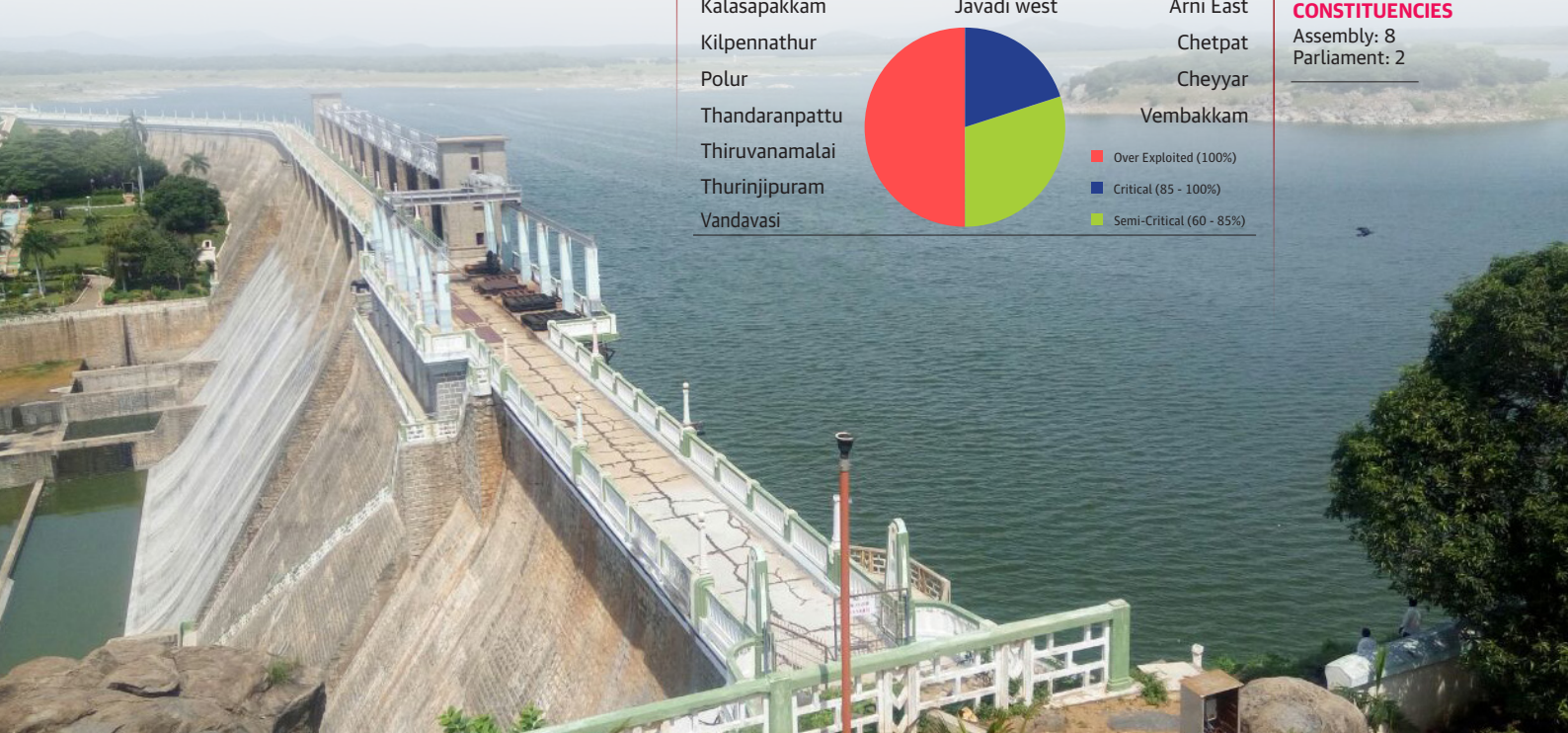
### LOCAL BODIES

Municipalities: 4  
Town Panchayats: 10



### CONSTITUENCIES

Assembly: 8  
Parliament: 2



**TNRTP** is a program of the Government of Tamil Nadu & aims to support rural & agricultural entrepreneurship for empowerment of women. It provides financial & nonfinancial assistance for entrepreneurs in rural areas.



## MAJOR COMMODITIES IN TIRUVANNAMALAI

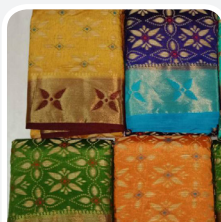
### NON-FARM SECTORS



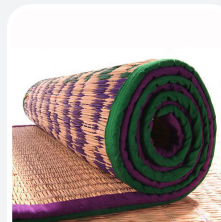
Rice Mills



Oil Extraction Units



Handloom & Silk



Mat Weaving



Stone & Wood Carving

### SERVICE SECTORS



Divine Tourism



Divine Tourism



Grillgate Industries



Food Industry



Medicals

## S

### STRENGTHS

- Predominant soil type is red loamy and black and suitable for paddy, groundnut and pulses cultivation
- Prevailing climate is highly suitable for paddy, groundnut and pulse cultivation.
- Groundnut and pulses are being cultivated in rain fed as well as in irrigated conditions.
- The cropping system (paddy- groundnut, paddy –pulses) followed in the district enriches the soil and maintain soil fertility.
- Well organized marketing system through regulated markets

## T

### THREATS

- Migration of people towards urban areas hinders the agricultural growth
- Problem soil (alkaline soil) is one of the major problems in Arni, polur and Thiruvannamalai blocks.
- Over exploitation of ground water is also noticed in this district and
- Farming is unattractive mainly because of increased input cost, poor credit availability, labour problems and non remunerative returns while disposing the harvested produce.

#### TOTAL WORKERS AND NON WORKERS

Category	2001	Percent	2011	Percent
Population	2,136,680	100.00	2464875	100.00
Workers	1,046669	48.99	1238177	50.23
Main	787884	36.87	970072	39.36
Marginal	258785	12.11	268105	10.88
Non-workers	1,090,011	51.01	2464875	49.77

#### Marketing Infrastructure

S.No.	Type	Total nos
1.	Regulated market(APMC)	9
2	Wholesale markets(Traders)	157
3	Co-op marketing societies	97
4	Local Shandies	23
5	Uzhavarsandais	2
6	Cold storage Godowns	4

S.No	Type of Industrial units	No. of units	Investments	Employment
1.	Large scale	8	474.4	4322
2.	Micro	6015	22.70	13556
3.	Small	268	80.40	2144
4.	Handicrafts	2331	13.90	3459
5.	Cottage Industries	2373	9.54	3145

SIDCO Industrial Estate	25 acres
SIPCOT complex- Cheyyar- Upcoming	1350 acres
SIDCO Industrial Estate, Cheyyar- Upcoming	38 acres

## WEAKNESSES

## W

- Timely planting, weeding and harvesting are the major problems due to labour scarcity.
- Availability of certified seeds are very low
- Use of low cost inputs like bio-fertilizers and gypsum are very low
- Timely sowing in dry land is very difficult due to non availability of sufficient work animals and labourers.
- Low awareness on IPM concept and INM techniques (use of bio fertilizer DAP)
  - Spraying and application of gypsum)

## OPPORTUNITIES

## O

- Mechanization and labour saving implements will help to reduce the labour shortage
- The rehabilitation and development of tanks will help to increase the area under assured irrigation facility
- The precision farming and contract farming will go a long way to improve the returns considerably to the farmers
- Seed production can be achieved through seed village programme
- The small, tiny and medium sized industries in this district can be utilised to their full potential to reap the maximum benefits
- Soil and water conservation work will help to increase the ground water potential.

<b>S. No</b>	<b>Contents</b>	<b>Page No</b>
	<b>Summary</b>	1
<b>1.0</b>	<b>Objectives of the District Diagnostic Study Methodology</b>	1
<b>2.0</b>	<b>Tiruvannamalai-An Introduction</b>	2
<b>3.0</b>	<b>Socio Demographic Profile of the District</b>	
	3.1 Population	4
	3.2 Sex ratio	5
	3.3 Literacy	6
	3.4 SC,ST population	6
	3.5 Occupation Profile	7
	3.6 Community Based Organisations	8
	3.7 Farmer Producer Organisations	8
<b>4.0</b>	<b>Geographical Features</b>	
	4.1 Topography	9
	4.2 Land use pattern	10
	4.3 Climate and rainfall	11
	4.4 Soil	11
	4.5 Water resources	12
<b>5.0</b>	<b>Status of Groundwater</b>	14
6.0	District Infrastructure	15
	6.1 Power	15
	6.2 Rural Electrification	15
	6.3 Road and Rail network	15
<b>7.0</b>	<b>Farm Sector</b>	15
	7.1 Land holding pattern	16
	7.2 Irrigation	16
	7.3 Cropping pattern and Major crops	17
	7.3.1 Cropping pattern	18
	7.3.2 Area, Production and Productivity of major crops	18
	7.3.3 Horticultural crops	22
	7.3.4 Other crops	23

<b>S. No</b>	<b>Contents</b>		<b>Page No</b>
	7.4	Blockwise(TNRTP) cropping area distribution	24
	7.5	Prioritisation of crops	25
	7.6	Cropwise discussion of selected crops	25
	7.6.1	Groundnut	25
	7.6.2	Blackgram	26
	7.6.3	Millets	26
<b>8.0</b>	<b>Marketing and Storage Infrastructure</b>		27
<b>9.0</b>	<b>Agribusiness opportunities</b>		28
<b>10.0</b>	<b>Resource Institutions</b>		29
<b>11.0</b>	<b>National and state schemes on agriculture</b>		29
<b>12.0</b>	<b>Allied sectors</b>		29
	12.1	Animal Husbandry and Dairy development	29
	12.2	Poultry	31
	12.3	Fisheries	31
	12.4	Sericulture	32
<b>13.0</b>	<b>Non farm sector</b>		32
	13.1	Industrial scenario in the district	32
	13.2	Small and medium industries	35
	13.3	MSME sector	36
	13.4	MSME clusters	38
	13.5	Small scale industries	39
	13.6	Large scale industries	39
	13.7	Investments in infrastructure	41
	13.8	Investment opportunities	42
	13.9	Service sectors	44
<b>14.0</b>	<b>Qualitative skill gaps</b>		45
<b>15.0</b>	<b>Banking and credit</b>		46
<b>16.0</b>	<b>Commodity prioritisation</b>		47
	<b>Conclusion</b>		49

S.No	Contents	Page No
<b>List of tables</b>		
Table1	Population and Occupation details of Tiruvannamalai District	4
Table2	Tiruvannamalai District Decade of Changes/Growth in demographic profile	5
Table 3	Total Workers and Non workers	7
Table 4	Annual Rainfall during the last three years	10
Table 5	Soil Type of Tiruvannamalai district	12
Table 6	Block Wise of details of Ground Water Potential of Tiruvannamalai District	14
Table 7	Number and area of operational land holdings	16
Table 8	Major Crops in Area (ha.) to State (16-17)	19
Table 9	Major crops to State Production (MT)(16-17)	20
Table 10	Average Agricultural Productivity of Major Crops (Kg/ha)16-17	21
Table 11	Top three Major and Minor crops in TNRTP blocks of Tiruvannamalai (in terms of area of cultivation).	24
Table 12	Marketing Infrastructure Available	27
Table 13	Quantity and Value of Commodities Transacted in Regulated Markets of Tiruvannamalai District during 2017-18	27
Table 14	Overview of the Industrial scenario	33
Table 15	Details of existing MSME and Artisan units inthe district	36
Table 16	Details of Major MSME Cluster	38
Table 17	Details of Small Scale Industries	39
Table 18	Details of investments	41
Table 19	Upcoming infrastructure projects in Tiruvannamalai District	42
<b>List of Figures</b>		
Figure 1	Female literacy -rate	6
Figure 2	Trend in rainfall	10
Figure 3	Land utilization 2017-18	14
Figure 4	Cultivated area cropwise 2017-18	18
Figure 5	Trend in area of cultivation	19
Figure 6	District Individual crop area(%)	20
Figure 7	Samai Area of cultivation in Tamilnadu	21
Figure 8	Other crops cultivation in T.V.Malai dist.	23
Figure 9	Groundnut area of cultivation in T.V.Malai Blockwise 2016-17.	25
Figure 10	Blackgram area of cultivation in T.V.Malai Blockwise 2016-17	26
Figure 11	MSME sector in T.V.Malai district	35
<b>Annexures</b>		
1	List of persons met	50
2	List of Taluks, Blocks and TNRTP blocks in Tiruvannamalai district	51

# GLOSSARY

<b>CIKS</b>	Centre for Indigenous Knowledge Systems
<b>CLG</b>	Common Livelihood Group
<b>FPO</b>	Farmer Producer Organisation
<b>ICAR</b>	Indian Council of Agricultural Research
<b>KVK</b>	Krishi Vigyan Kendra
<b>MSME</b>	Micro Small and Medium Enterprises
<b>NABARD</b>	National Bank for Agriculture and Rural Development
<b>NABFIN</b>	NABARD Financial services
<b>NAF</b>	National Agro Foundation
<b>NTFP</b>	Non Timber Forest Produce
<b>PMKSY</b>	Pradhan Mantri Krishi Sinchayi Yojana
<b>POPIs</b>	Producer Organisation Promoting Institutions
<b>SHG</b>	Self Help Group
<b>SFAC</b>	Small Farmers Agribusiness Consortium
<b>TANSEDA</b>	Tamilnadu State Seeds Development Agency
<b>TNIAMP</b>	Tamilnadu Irrigated Agriculture Modernisation Project
<b>TNAU</b>	Tamilnadu Agricultural University
<b>VPRC</b>	Village Poverty Reduction Committee

## Summary:

Tamil Nadu Rural Transformation Project (TNRTP) envisages to leverage the strategies and investments made in the projects Pudhu Vaazhvu Project to harness the institutional and knowledge capital for promoting inclusive economic development and growth for a transformative agenda in rural Tamil Nadu. This is envisaged through business promotion, value chain development, and skilling for youth for employment generation in the proposed 120 blocks from 26 districts of Tamil Nadu.

The District Diagnostic Study is envisaged to study and prioritize the commodities which focused on farm, off farm and non-farm sectors and based on their potentiality in Tiruvannamalai District. Further to the secondary data collected, template using criteria like number of producer's involved, comparative advantage etc. was created to finalize the commodity under farm and non-farm sector.

## 1.0 Objectives of the District Diagnostic Study

### The objective of the diagnostics is:

1. To assess the socio-economic challenges and opportunities for the identification of cross-cutting /binding constraints to inclusive growth at the district level
2. To identify and prioritize current and potential value chains.

The study broadly analyses the indicators, such as social profile, rural profile, urbanization trends and labor mobility and the economic indicators; a sectorial analysis – agriculture, allied, non-farm including manufacturing and service sectors; the current status of existing industries and the growth trends; the potential economic growth centers within the districts and perceived gaps in the existing ecosystem for promoting and nurturing sustainable MSEs; sector-wise and block-wise presence and growth trends of MSE; existing and potential value chains in the sectors; and key private/public sector players currently operating in the district. The study tries to understand the factors contributing to rural economy through employment generation and high value economic activities thus resulting in increase in the household income.

## Methodology

Secondary Data was collected from Various line departments, SHGs, Farm and Non-farm Associations, Resource Institutions, NABARD, LEAD Bank and in the process the officials belonging to various departments were consulted. Interactions were also held with the District and block units of TNSRLM. Site visits were made to the resource institutions, FPOs, traders, weaving clusters and villages in the district. Focus Group discussion with the community was held to validate the secondary data.

## 2.0 Tiruvannamalai-An Introduction

Spiritual seekers from all over world come to Tiruvannamalai, a Pilgrimage city, filled with living enlightenment gurus. This ancient town has been built around Arunachala hill (Annamalai hill), a mountain raising 4000 m from the ground. The city is located 200 kilometers from Chennai.

The North and west of Tiruvannamalai is covered by Vellore district and the southwest is by Krishnagiri district. Both Villupuram and Kanchipuram districts are located in south and east side of Tiruvannamalai district respectively. The map showing the State and the district is shown in Fig.

The District lies between 11.55° and 13.15° North latitude and 78.20° to 79.50° East longitude. The District lies between 11.55° and 13.15° North latitude and 78.20° to 79.50° East longitude.

Physiographically, the district formed an undulating terrain dotted with clusters of hillocks, particularly in the western and northwestern parts. Jawadhu hills are the major hilly regions and other smaller hillocks are scattered in Tiruvannamalai, Chengam, Polur, Arni and Kalasapakkam blocks. The area under Forest was 1,53,318 ha. The important hills in the district are Jawadhu hill(2500 ft above MSL), Kailasagiri hill(2743 above MSL) and Tiruvannamalai (2668 ft above MSL) hill. The area under Forest was during 2017-18 was 1,01,107 ha.

Tiruvannamalai district came into existence on 30<sup>th</sup> September 1989 after the bifurcation of the erstwhile North Arcot District.. The total geographical area of the district is 6188 Sq K.M comprising the Three Revenue Divisions of Thiruvannamalai, Cheyyar and Arni. Tiruvannamalai District has four Municipalities, 11 taluks, and 18 blocks including one tribal block, 10 Town Panchayats, 860 Village Panchayats and 1067 Revenue Villages. Details are given in the Table Annexure 2.



# THIRUVANNAMALAI

## District Map



## 3.0 Socio Demographic Profile of the District

### 3.1 Population

The total population of this district 2464875 comprising 1235889 Men and 1228986 women as per 2011 census. The urban population is 494945 constituting 20 % of the total Population, the remaining 80% ie.1969930 is rural population. The density of the population is 399 per sq.km. The total literate among male are 909803 and that of female are 717010.



The details of population in Tiruvannamalai district as per 20011 census are furnished in Table 1

*Table 1. Population and Occupation details of Tiruvannamalai District*

S.No	Particulars	Unit in ('000)	Percent
1	<b>Total Population</b>	2464875	
	Male	1235688	50.12
	Female	1230277	49.87
2	<b>Occupation</b>		
	Total workers	<b>10,64,783</b>	
	Main workers (Agriculture)	8,29,944	77.94
	Marginal workers (Allied sectors)	2,34,839	22.06

From the above table, it could be noted that the total population of the district was 2464875 out of which male and female accounted 50.12 and 49.87 per cent respectively. Further it could be seen that most of the workers were dependent on agriculture (77.94 per cent). The marginal workers were found to be in allied sectors only

## Decadal growth of the population

The district population is 2,464,875 in 2011 as against 2,186,125 in 2001. The decadal growth rate of the population in the district is 12.75 percent. The density of the population in the district is 473 persons per sq.km in 2011, as against 424 in 2001 which is due to the increased population as shown in Table (2) The urban population is 494945 constituting 20 % of the total Population, the remaining 80% ie.1969930 is rural population. SC population is 565329, ST Population is 90954.

*Table 2: Tiruvannamalai District Decade of Changes/Growth in demographic profile*

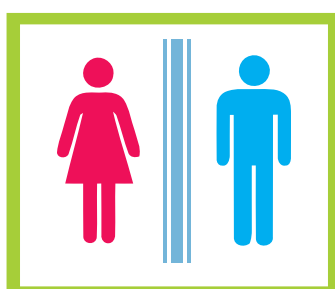
S.No.	Indicators	2001	2011
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2	Decennial growth(percent)	7.01	12.75
3	Density of population per sq.km	424	473
4	Urban population(percent)	NA	20.08
5	Sex ratio	995	994
6	Percentage of 0-6 years old	11.95	11.06

Source: Census 2001, 2011

Tiruvannamalai stands **13<sup>th</sup> in population** among the districts Tamil Nadu in 2011, as against 15th in position in 2001. The district has **79.9 percent of its population living in rural areas and 20.08 percent living in urban areas**, and the district has four municipalities. The percentage variation since the previous census is 10.48 in rural and 23.85 in urban areas. It shows that the increase of urban population is comparatively at a faster rate than the rural population.

### 3.2 Sex Ratio

The sex ratio in Tiruvannamalai district is 994 per 1000 male compared to 2001 census figure of 995 which is slightly lower than that of the state sex ratio of 996 given in Table 1.



### 3.3 Literacy

The average literacy rate of the literacy rate of the district is 74.21%.

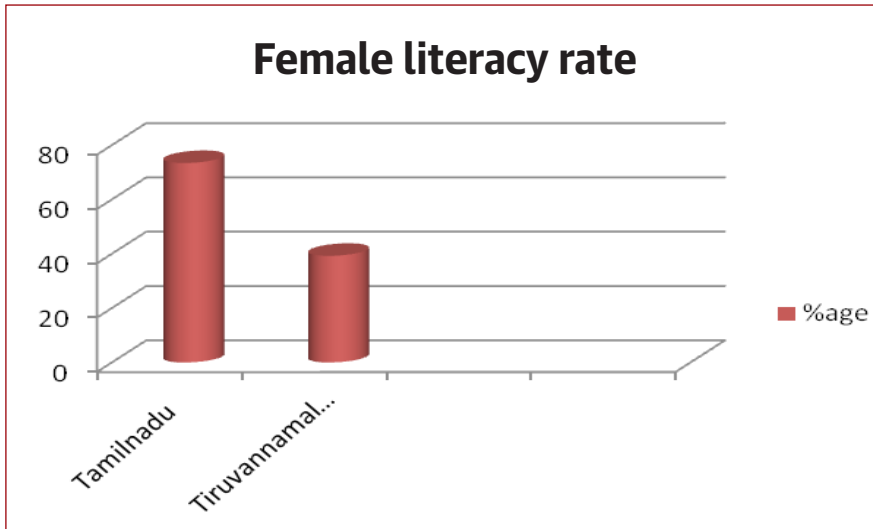


Figure 1 Source: Census 2011



The female literacy is 39.26 percent which is less than the state figure of 73.44% percent in 2011. The literacy rate of urban population is 90.8% is higher than the rural population which is 81.18 percent. (Figure-1)

### 3.4 SC, ST Population

Scheduled Castes and Scheduled Tribes accounted for **22.94% and 3.7%** of the population respectively which is higher than the state percentage of 20.01% and 1.10% respectively. Among the social groups, the percentage share of Scheduled Caste (SC) is 22.93, as per Census 2011 as against 21.4 percent of Census 2001 and that of Scheduled Tribes (ST) is 3.67 percent in 2011 as against 3.33 percent in Census 2001.

The SC population is higher than the district percentage in blocks of Tiruvannamalai 25.34%, Keelapeenathur 26.29%, Kalasapakkam 27%, Chengam 35.76%, Cheyyar% 28.28%, Anakkavur 26.46%, Vemabakkam 25.58%, Vandavasi 30.88% and Thellar 30.54%. The ST population is higher than the district population in Jawadhu block 9.05%

There is a positive change observed with regard to increase of SC and ST population. Except Jawadhu Hills, all other blocks are with a considerable number of SC population and in Jawadhu hills the ST population is 83.58 percent which is reduced by 6 percent since 2001.

But overall in the district the ST population has increased by 2.5 percent in 2011. There is a possibility of migration of ST population to the plains in the district, which needs to be studied.

### 3.5 Occupation Profile

Table 3. Total Workers and Non workers

Category	2001	Percent	2011	Percent
Population	2,136,680	100.00	2464875	100.00
Workers	1,046669	48.99	1238177	50.23
Main	787884	36.87	970072	39.36
Marginal	258785	12.11	268105	10.88
Non-workers	1,090,011	51.01	2464875	49.77

Source: Census 2001 and 2011.

The percentage of total workers in Tiruvannamalai has increased from 48.99 percent to 50.23 percent during 2001-2011. This reflects a positive trend in employment in the district, which is due to the increase in proportion of main workers from 36.87 percent to 39.36 percent and reduction of marginal workers from 12.11 percent to 10.88 percent.

This could be attributed to creation of additional employment in the primary sector and secondary sector. Overall the work participation rate in the district is higher than Tamil Nadu which is 44.7 in 2011.



### 3.6 Community Based Organisations

Community Based Organizations (CBOs) such as Village Poverty Reduction Committees (VPRCs) and Panchayat Level Federations (PLFs) were promoted to provide services to poor. These CBOs leverages financial support from banks and provide support to the members for the livelihood activities. There is a significant number of NGOs promoted SHGs federation is functioning in the district and they does support functions and monitor the SHGs financial performance.

#### The status of CBOs in the district are

- 15405 SHGs with 217248 members
- 938 VPRCs
- 860 PLFs/CLFs and
- 42 CLGs



The average membership is highest in Annakkavoor and is 16 per SHG and the lowest (12) is found in Arni and Jawadhumalai. A majority of the community based organizations in Tiruvannamalai district focus on poverty reduction and development and a few organizations recently emerged like Farmers Producer Organizations (FPOs), commodity groups are functioning with the focus on enterprise development.

### 3.7 Farmer Producer Organisations (FPOs)

There are 17 FPOs promoted by Agri Dept, NABARD and Resource Institutions. The FPOs are (chetpet and Thellar) are very nascent in nature with membership of 500 members. These nascent FPOs have to be assessed further. They have been involved in provision of Kisan Credit Card, Insurance and credit for purchase of Milch animals. Most of the FPOs are working on Groundnut, Black Gram and Paddy and few of them have installed Value added Units.

A FPO named Marutham which is 5 years old has mobilized around 40 lakhs as equity and seen profits. But it has recently has incurred losses due to commodity purchase and sale to the tune of one crore. The FPOs need logistical support is the need as mostly the flowers are transported by two wheeler and buses. NABFINS and NABKISAN are the major lending agencies along with FWWB and Ananya. The NGO *Hand in Hand* has promoted FPO in Jawadhu Hills and it has started working on the Value Addition to Millets, Fruits and Honey. The POPIs collaborating with NABARD are CIKS, Hand in Hand, NAF, KVK, DHAN foundation.

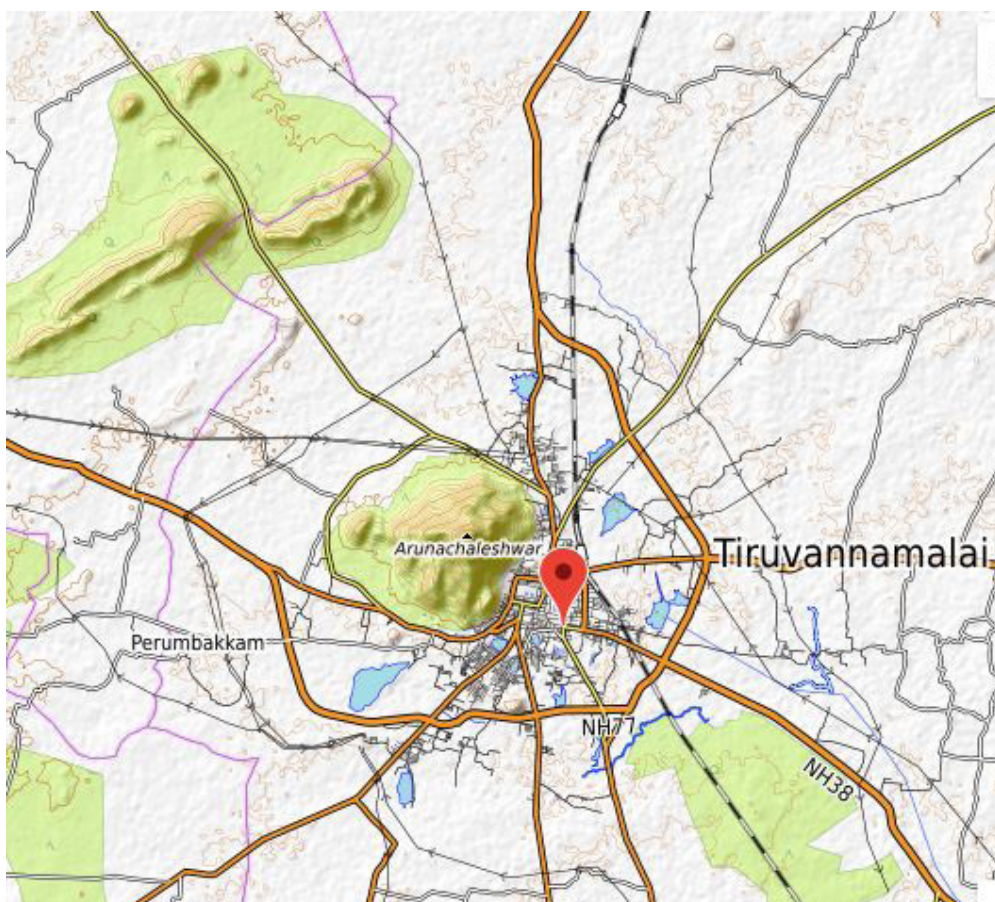
There are ten FPOs promoted by NABARD with the support of these POPIs in the areas of Chetpet, Thandarampet, Chengam, Pudupalayam, Jawadhu Hills(3), Vandavasi(2) and Thellar. In Chetpet, the FPOs are involved in Trading and on-lending business. The FPOs are also involved in Agriculture trading in Paddy, pulses and Groundnut. FPOs in Jawadhu Hills are involved in processing of minor millets and in NTFP products. (Tamarind,

Amla and Honey). Apart from these Five FPOs are promoted by Agriculture marketing department. They are located in Tiruvannamalai, Cheyyar, Chetpet, Thuringapuram and Annakavoor blocks. The FPOs work on Paddy, Groundnut and Pulses. Two of them are three years old and three of the FPOs have been formed only during the last Financial year(2018-19). Other than these the FPOs have been formed out FIGs by the department of agriculture in Thuringapuram block. They are involved in production of animal feed. So far 83 FPGs have been formed in 83 villages.

## 4.0 Geographical Features

### 4.1 Topography

Tiruvannamalai is a border district of Tamil Nadu having a large number of small hills and is generally a dry district. Tamil Nadu has been divided into seven Agro climatic zones based on different Climatic Conditions Tiruvannamalai occupies the third Zone called as **"North Eastern Zone"** Tiruvannamalai district forms part of the upland plateau region with many hill ranges and undulating plains. Tiruvannamalai district is bordered by Western Ghats (Ridge and valley complex) in the West. A major part of the district constitutes a plain terrain with a gentle slope toward East and Southeast, except for the hilly terrain in the west The general elevation of the area varies from less than 10 to 1408 m amsl (Tulukkaparai hill range)



## 4.2 Climate and Rainfall

The climate of the district is tropical. It is very hot during April to June..The average maximum and minimum temperatures at select stations in Tiruvannamalai district vary between 36.1°C to 20.9°C. The mean temperature was around 36° C.

The rainfall in the district for the year 2017-18 was 1234 mm as against the normal rainfall of 1046.60 mm. The district receives from North East and Southwest monsoons. Generally, Semi-arid climatic condition prevails without any sharp variation in the district. Nearly 35 per cent of the total rainfall is received during the South West Monsoon (51.10 per cent) period followed by North East Monsoon (28.55 per cent). November is generally the rainiest month. On an average there are 74 rainy days in a year in the district.

*Table 4 Annual Rainfall during the last three years*

Year	SW monsoon	NE Monsoon	Winter	Summer	Total
2015-16	445.5	248.9	0	177.5	<b>871.9</b>
2016-17	474.1	626.4	9	84.1	<b>1193.6</b>
2017-18	621.9	524.9	34.9	52.4	<b>1234.1</b>

Source: Dist Stat Handbook 2017-18

The above table indicated that annual rainfall received during the last three years were viz., 871.9, 1193.6 and 1234.1mm respectively.

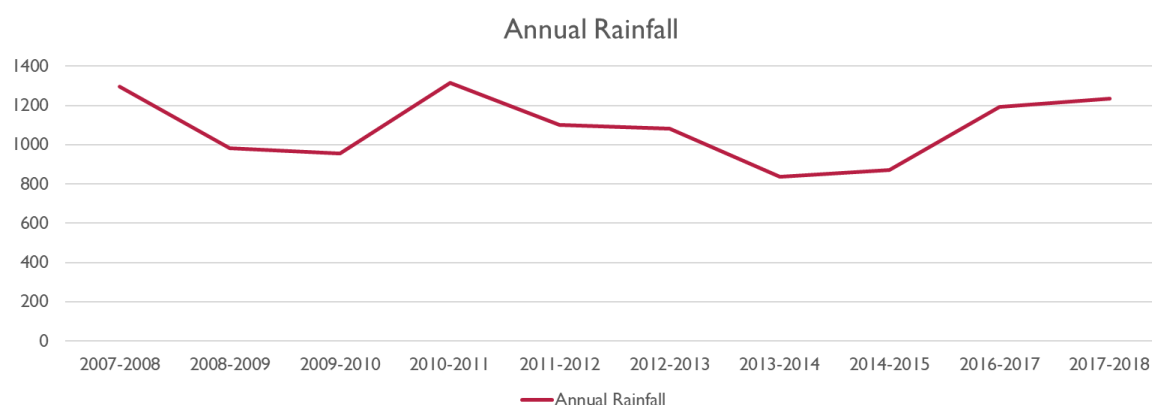


Figure 2: Source Dist Stat Handbook 2017-18

An analysis of the rainfall trend has been on an above normal rainfall for most of the years.



### 4.3 Land Use Pattern of the District

The total geographical area of Tiruvannamalai district is 6,31,205 hectares. The total gross cropped area of the district was 3,148,27 and net area sown was 177300 hectares in 2017-18. Further it could be seen that the forest area was 24.20 per cent of the total geographical area (Figure 4)

The net area sown is 208644 hectares (2017-18) which accounts to 33% of the total geographical area. The area sown more than once has increased from 43550 hectares (2016-17) to 106183 hectares (2017-18) which shows the potentials of a second crop dictated by the behavior of the monsoon and corresponding availability of water in surface / sub surface storages

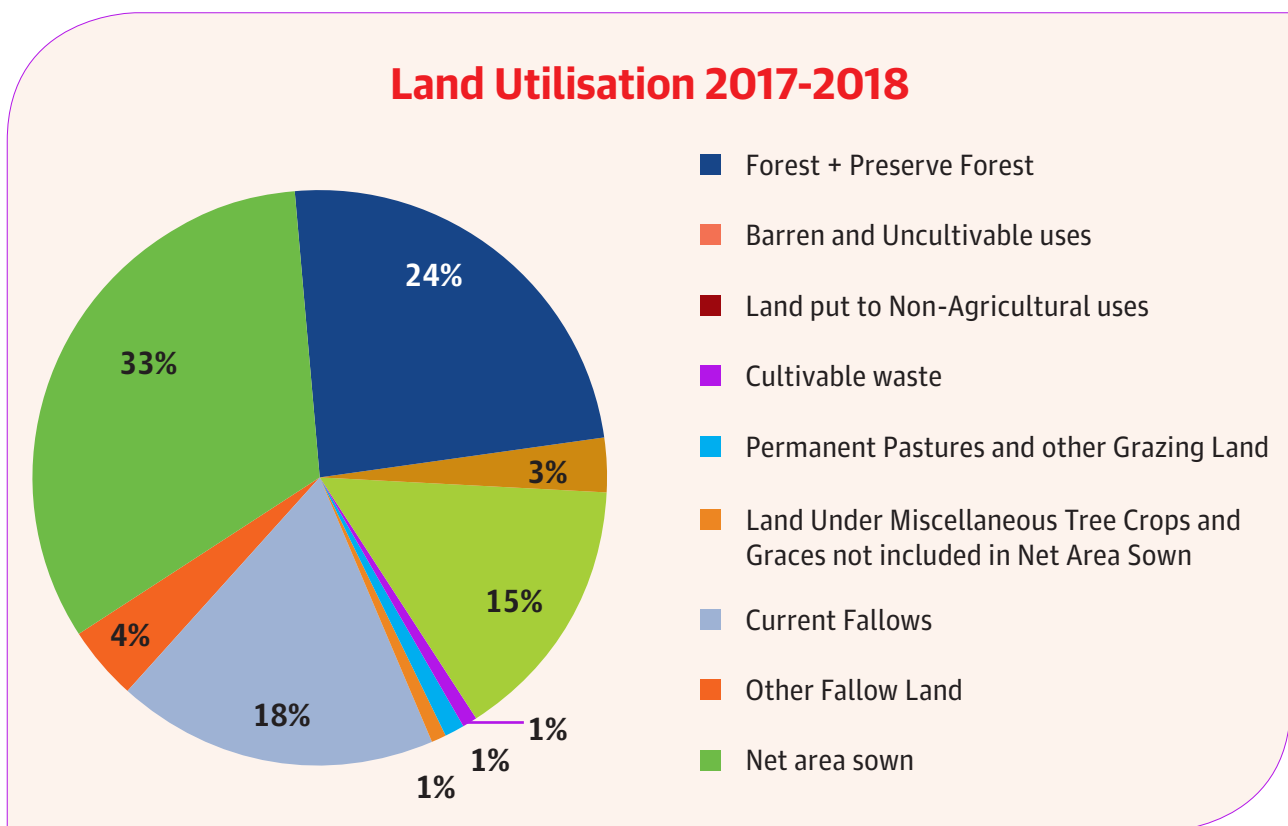


Figure 3 Source: Dist stat Handbook 2017-18.

### 4.4 Soil

The predominant soil type is red. Red loam was found in all the taluks with more concentration in Polur Taluk. Red sand was also found in all the taluks, but predominantly in Chengam, Tiruvannamalai, and Vandavasi taluks. Different types of soil like ferruginous loamy and sandy loamy were seen extensively throughout the district and black loam was found in tank and river bed areas of Cheyyar and Vandavasi taluks. The details of major soil types are furnished in Table 5.

Table 5 Soil Type of Tiruvannamalai district

S.No	Type of soil	Places in District
1.	Red loam	Small patches in the taluks of Tiruvannamalai, Chengam and Polur
2.	Black soil	Tiruvannamalai, Chengam, Polur, Arni, Cheyyar and Vandavasi
3.	Laterite soil	Nil
4.	Sandy Coastal Alluvium	Nil
5.	Red Sandy Soil	Nil

Source: District Stat Handbook

## SOIL TYPES



The general climate is tropical. Black loam is found in Tank and Riverbed areas of Vandavasi and Cheyyar Taluks accounting for about 15% of the total area. One third of the soil series (24 per cent) are located in the forest area whereas three fourth of the soil series are located in the remaining area (76 per cent).

## 4.5 Water Resources

### 4.5.1 Rivers

There is no perennial river in the district. Cheyyar, Thenpennai, Kamandala, Naganathi are only in seasonal. The district was mostly drained by Cheyyar river, a major tributary of river Palar, originating from the forest area of Jawadhu hills and traveling through Chengam, Polur, Arni and Cheyyar taluks before confluence with river Palar in Kancheepuram district. Other minor streams in the district like, Kamandala Naga Nadhi, Thenpennai, Thuringalaru and Suganadhi were the important seasonal rivers in the district.

#### 4.5.2 Reservoirs

Sathanur reservoir is built across the Thenpennai river with an ayacut of 18,882 ha and it benefits both Tiruvannamalai and Villupuram districts. Other reservoirs in the district are Senbagathopu, Kuppanatham and Mirugandanathi.

SATHANUR



KUPPANATHAM



MIRUGANDANATHI



SENBAGATHOPU

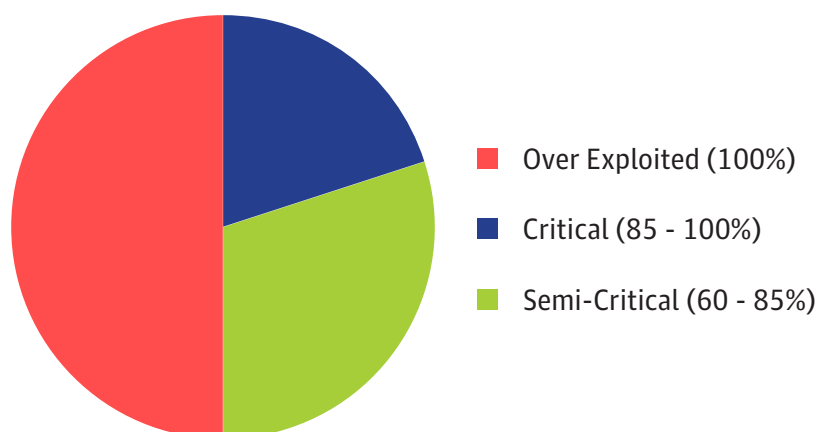


## 5.0 Status of groundwater

Table 6 Block Wise of details of Ground Water Potential of Tiruvannamalai District

Over Exploited (100%)	Critical (85 - 100%)	Semi Critical (60 - 85%)
Chengam	Arni west	Anakavur
Kalasapakkam	Javadi west	Arni east
Kilpennathur		Chetpat
Polur		Cheyar
Pudupalayam		Vembakkam
Thandaranpattu		
Thiruvannamalai		
Thurinjipuram		
Vandavasi		

Source : Department of Economics and Statistics, Tiruvannamalai



From the table, it could be seen that over exploitation of ground water (100 per cent) was noticed in nine blocks of Chengam, Kalasapakkam, Kilpenathur, Polur, Pudupalayam Thandaranpattu, Thiruvannamalai, Thurinjipuram, Vandavasi. Critical (85-100 per cent) in Arni west and Javadi west blocks and Semi critical (60-85 per cent) was noticed in five blocks of Anakavur Arni east Chetpat, Cheyyar and Vembakkam of Thiruvannamalai district. In the absence of any major water intensive industry, the industrial water requirements of the district are also met with from either surface water or ground water resources available locally.

Tiruvannamalai is a water starved district. The erratic and deficit rainfall over the last few years have brought down the water table.

## 6.0 District Infrastructure

### 6.1 Power Supply

Generally power supply position in Tiruvannamalai District is normal. But in some areas, low voltage problem is felt, especially in the hamlets in Ghat section. To minimize the current consumption charges in the Panchayat, efforts were taken to utilize solar power lights as an alternate and renewable source in Tiruvannamalai District

### 6.2 Rural Electrification

Overall, 100 per cent of the hamlets are covered under rural electrification.

### 6.3 Road and Rail Network

93 Km of Broad gauge rail transport in the Katpadi and Villupuram segment utilized for both passenger and goods transportation as far as road transports nearly, 1600 km of various kinds of roads are used. The road network in the district was well developed with 79.90km of National Highways, 2608.26 KM of State Highways, 261.30 KM of Corporation/Municipal roads, 4050.03 KM of panchayat roads, and 126.43 KM of Town panchayat/township roads and 123.36 KM of forest roads. Of the road network, 7,231.32 KM were surfaced roads and 2,724.24 KM were unsurfaced roads. The present meter gauge rail transport in the Vellore and Villupuram segment is under conversion into broad gauge for betterment of both passenger and goods transportation. The district headquarters is linked with the State capital by rail. There is upcoming expressway from Chennai to Salem

## 7.0 Farm and Allied Sectors

### 7.1 Land Holding Pattern of the farmers

There are five categories of land holdings. They are marginal (below 1 ha), small (1-2 ha), semi-medium (2-4 ha), medium (4-10 ha), large (10ha and above). Majority of the farmers (95 per cent) in Tiruvannamalai district have less than one hectare occupying 13 percent of the land area. These details are presented in Table 7.

Table 7 Number and area of operational land holdings

Size Class of holdings (Hectares)	Land Holders			Area (ha.)		
	S.C.	S.T.	Others	S.C.	S.T.	Others
Marginal	50024	8145	296197	18496	3492	114347
Small	7325	2284	58127	9957	3130	79971
Semi small	1515	865	17604	3911	2321	46344
Medium	152	208	3036	806	1130	16202
Large	8	7	131	109	124	1776
All sizes	59024	11509	375095	33279	10197	258640

Source: District Statistical Handbook 2017-18

The distribution of land size holdings as shown in Table (7), indicates the fact that 296197 farmers were marginal i.e holding less than 0.5 hectare and this scenario continues as the number of farmers gradually decrease with the operational holdings from marginal to small (0.5 to 2.0 hectares) and thereafter drastically reduced to very small number of farmers holding large area (10 & 20 hectares) and **fifteen percent** of the land holders belong to SC/ST community.

Source: Report on 9th Agricultural Census 2010-11

## 7.2 Irrigation

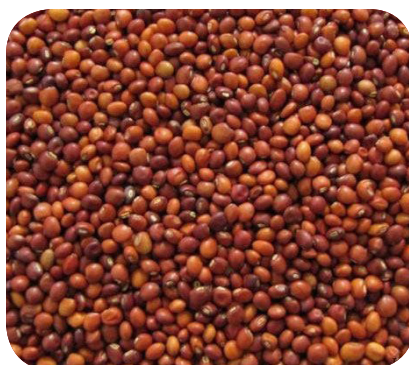
Open wells (90.06%) are the major sources of irrigation in the district supplemented by tanks (7.04%). Area irrigated by canals is only 0.05%. The district had 605 major tanks (with ayacut of 40 ha. or more) and 1,361 small tanks (with ayacut of less than 40 ha.) There are 4,338 private borewells, 200 dug-cum-bore wells and 1,81,370 open wells in the district. The wells dug under private sector with pump sets were seen in most places and private tube wells were the next source in utilizing the ground water potential.

The Public Works Department and Panchayat union maintained tanks, ponds and supply channels also play an important role in the irrigation of Tiruvannamalai district.

The major irrigated crops in the district are **Paddy, Pulses, Groundnut, Sugarcane, Banana, Vegetables and Flowers**. Judicious use of water with modern water management techniques, yield of those crops can be boosted and thereby export potential can be explored. The productivity of food crops like paddy, groundnut and pulses can also be increased to the target levels by proper water management practices.

### 7.3 Cropping pattern and Major Crops

Important crops grown in the district are **Paddy, Groundnut, Ragi, Cumbu, Ragi, pulses (Redgram and Blackgram), sugarcane, flowers.** **The most important cash crop of the district is groundnut.** It is cultivated both under irrigated and rainfed conditions. The area under groundnut occupied nearly 42 per cent of the total cultivated area of the district. **Sugarcane is the next most important cashcrop of the District.** Sugar mills are located at Cheyyar and Polur blocks. Sugar cane is supplied to some other mills, located out of the district like Moongilthuraipattu and Thirupathur.

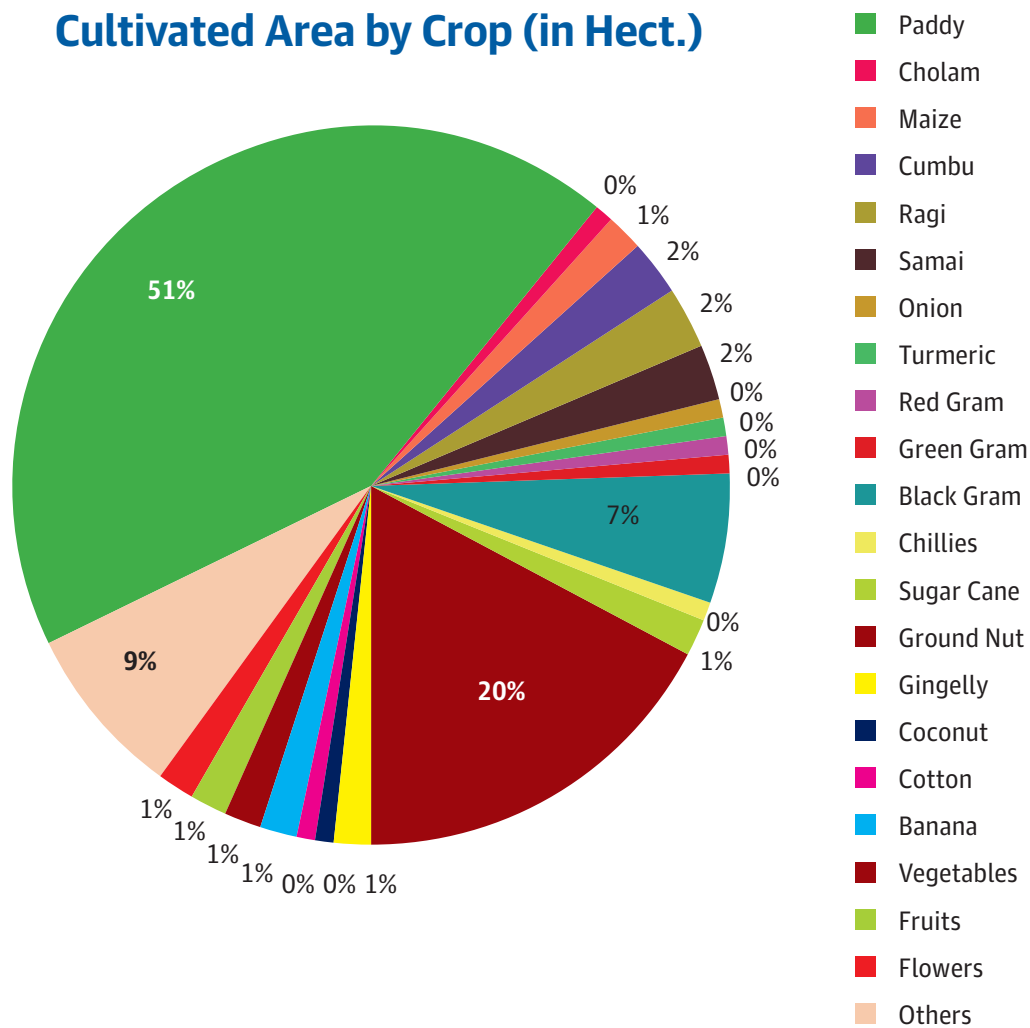


### 7.3.1 Cropping pattern

The sequence of cropping season is from (April to July), **Samba/ Thaladi/ Pishanam** (August to November) and **Navarai / Kodai** (December to March). Black gram is one of the important pulses grown in both Kharif and Rabi seasons. Red gram is sown mainly under rain-fed condition.

### 7.3.2 Area, Production and Productivity of Major Crops

The major crops in the district considering the area of cultivation are Groundnut, Blackgram, Cumbu, Ragi, and Gingelly (excluding Paddy).



Paddy and Sugarcane are the major crops in T.V.Malai in area of cultivation. But these two crops are high water users and have more regulated approaches. Hence excluding these two crops, **Ground Nut and Black Gram stand as prioritized crops.**

Figure 4: Cultivated area crop wise 2017-18



### a) Trend in area of cultivation

The trend of in area of cultivation of Ground nut also has been increasing steadily from 2015-2016 and Black Gram also has the same growth curve

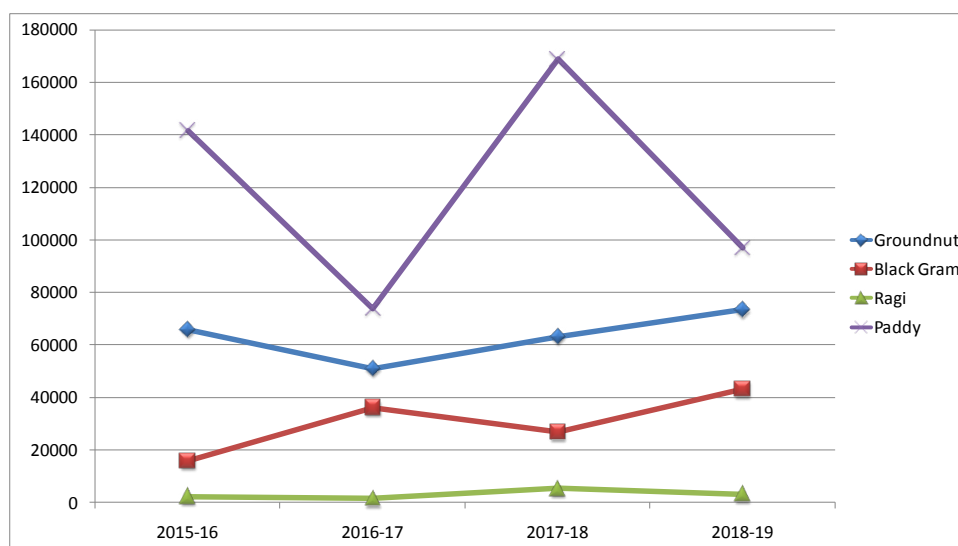


Figure 5. Trend in Area of Cultivation in ha of Groundnut, Black Gram, Ragi and Paddy

### b) Major Crops in Area (ha.) to State

Table(8): Major Crops in Area (ha.) to State (16-17)

Crop	State	Tiruvannamalai	Percentage to state	Ranking
Groundnut	282488	51030	18.06	4
Cumbu	49673	4196	8.45	12
Ragi	61362	1644	2.68	9
Blackgram	429784	36210	8.43	2
Gingelly	28231	790	2.80	16

The district contributes significantly to the state's Area of production in Groundnut, Cumbu and Blackgram. The area of cultivation of Groundnut to the state is substantial (18.06%). This may be owing to the climate and soil of Tiruvannamalai. The cultivation of organic millets especially cumbu(bajra) and samai in the tribal tract is very unique to Tiruvannamalai.

**c) Major crops to State Production (MT)**

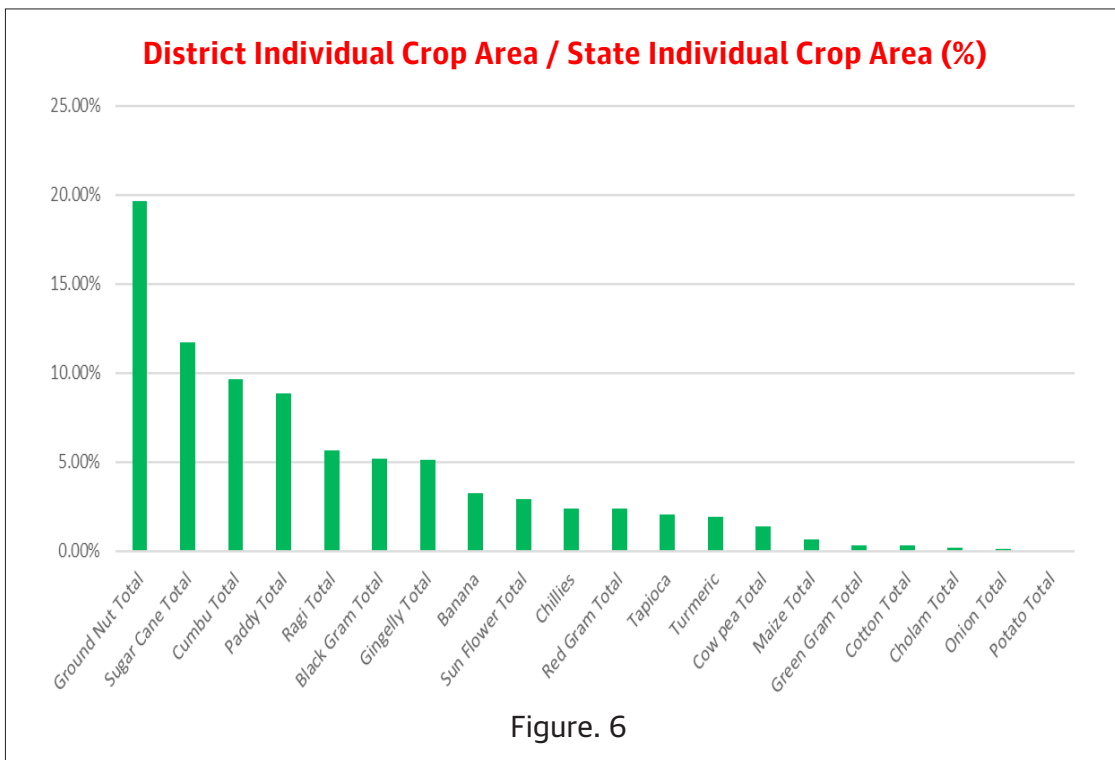
*Table(9)-Major crops to State Production (MT)(16-17)*

Crop	State	Tiruvannamalai	Percentage
Groundnut	588854	78561	13.34
Cumbu	102250	16293	15.93
Ragi	114429	4662	4.07
Blackgram	184610	12416	6.73
Gingelly	10837	363	3.34

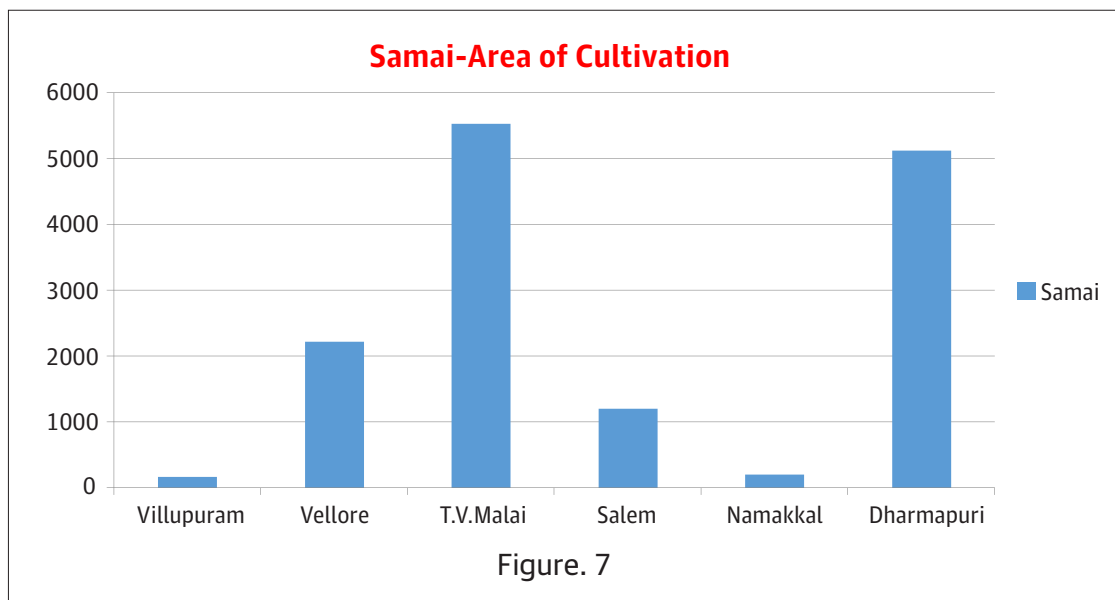
Tiruvannamalai share in terms of production of the state is 13.34% and 15.93% to **State in production of Groundnut and Cumbu respectively.**

Tiruvannamalai district’s share in contribution to the production of **Groundnut (13.34%), Cumbu (15.93%),Ragi(4.07%), Blackgram(6.73%), and Gingelly (3.34%)in Tamil Nadu State.**

Paddy, Groundnut, Millets and Pulses are widely cultivated in Tiruvannamalai district in terms of area and production. **Figure (6)** illustrates the districts contribution of various crops to the state in terms of area of production. Other than these crops, minor millets especially samai is unique to the district.



**d) Samai :** The district tops the state in Samai cultivation. The production area of samai from different districts in Tamilnadu is **illustrated in the above figure(7)**. In **Tiruvannamalai Samai** is widely cultivated in the Jawadhu Hills.



### e) Crop Productivity of Major Crops

*Table (10) Average Agricultural Productivity of Major Crops (Kg/ha)16-17*

S.No	Crops	State	District
1.	Groundnut	2085	1589
2.	Cumbu	2058	1847.15
3.	Ragi	1865	1817.5
4.	Blackgram	430	410.07
5.	Gingelly	384	445.5

The average productivity of Gingelly at district level is higher than the state level average productivity which could be inferred from the above shown table. **There is a substantial potential to increase the productivity of Groundnut, Blackgram, Cumbu and Ragi.**

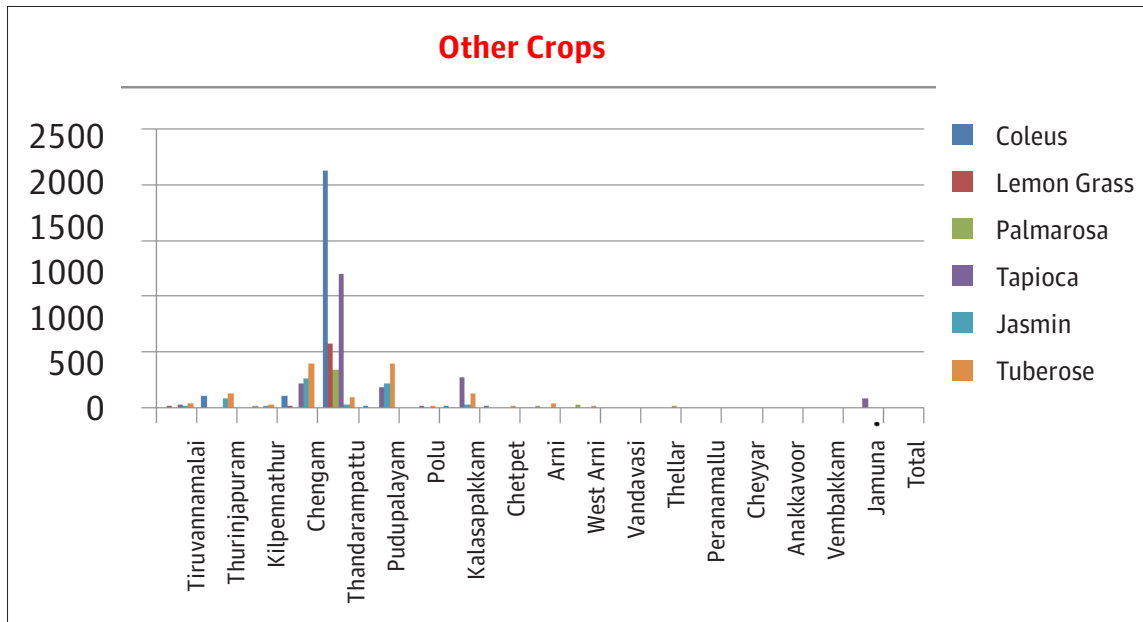
### 7.3.3 Horticulture crops

The major horticultural crops are banana (2769.67 ha), mango (671.33 ha), turmeric (658.33 ha) and tapioca (2,609.67 ha) are cultivated in this district.



### 7.3.4 Other Crops

Other Crops like **Coleus**, **Lemon Grass** and **Palmarosa**(Figure 8) are grown in Thandrapattu and Chengam blocks. These are promising crops with high medicinal values.



Coleus



Lemon Grass



Palmarosa



Tapioca



Jasmin



Tuberose



#### 7.4 Blockwise Cropping Area distribution.

Paddy, Groundnut, Sugarcane and Black Gram are among the top three crops with respect to the area of cultivation against the blocks, **Cumbu, Maize, Tapioca, Gingelly and Chillies are the other minor crops cultivated in the crops.**

*Table 11. Top three Major and Minor crops in TNRTP blocks of Tiruvannamalai (in terms of area of production 2016-17)*

Block	Major Crops	Minor Crops
<b>Chetpet</b>	Paddy, Groundnut Sugarcane	Ragi, Redgram and Cowpea
<b>Kalasapakkam</b>	Paddy, Groundnut, Sugarcane	Cumbu, Tapioca, Cowpea
<b>Kilpenathur</b>	Groundnut, Paddy, Blackgram	Maize, Chillies and Gingelly
<b>Thellar</b>	Paddy, Groundnut and Sugarcane	Chillies, Cowpea and Ragi
<b>Thurinjapuram</b>	Paddy, Groundnut and Blackgram	Ragi, Chillies and Cowpea
<b>Vandavasi</b>	Paddy, Groundnutand Sugarcane	Ragi, Chillies and Cowpea

**Chetpet:** Paddy (16000 ha), Groundnut (5000 ha) and Sugarcane(1900ha) are the major crops in terms of area of cultivation. Ragi(400ha), Redgram(110ha) and Cowpea & Greengram(75ha) are the minor crops widely cultivated.

**Kalasapakkam:** Paddy (13900ha), Groundnut (3000ha) and Sugarcane(1900ha) are the major crops in terms of area of cultivation. Other minor crops widely cultivated are Cumbu(325ha), Tapioca(190ha) and Cowpea(80ha) in the block.

**Kilpenathur:** The major crops widely cultivated are Groundnut (7800ha), Paddy (4700ha) and Blackgram (3600ha) in the block. Maize (295ha), Chillies (285ha) and Gingelly (255ha) are the minor crops are grown in the block.

**Thellar:** Paddy(7500ha), Groundnut(3500ha) and Sugarcane(900) are the major crops, Chillies (59ha), Cowpea(55 ha) and Ragi (44 ha) are the minor crops cultivated in the block.

**Thurinjapuram:** Paddy (14100ha), Groundnut (8500ha) and Blackgram(2200ha) are the major crops, Ragi (445ha), Chillies (110ha) and Cowpea(45ha) are the minor crops cultivated in the block.

**Vandavasi:** The major crops Paddy (6500ha), Groundnut (2900ha) and Sugarcane(1500ha) are predominantly cultivated, Ragi (115ha), Chillies (65ha) and Cowpea(62.5ha) are the minor crops grown in the block.

It could be noted that Groundnut is predominantly cultivated in all the blocks. Apart from this Pulses, Millets and Chillies are widely cultivated in all the blocks.

### 7.5 Prioritisation of crops

Though Paddy and Sugarcane are the major crops in Tiruvannamalai in area of cultivation, these two crops are high water users and have more regulated approaches, hence could be excluded for further interventions. Therefore **Ground Nut and Black Gram** stand are the top two prioritized crops.

### 7.6 Crop wise discussion

#### 7.6.1 Groundnut.

Tiruvannamalai Thurinjapuram(8573.5ha), Kilpennathur(7738.37ha) and Thandarapet (6519.89ha) lead in term of area of cultivation of groundnut, which is about 13.1%, 12.1% and 10.2% respectively to the total area in groundnut in Tiruvannamalai.

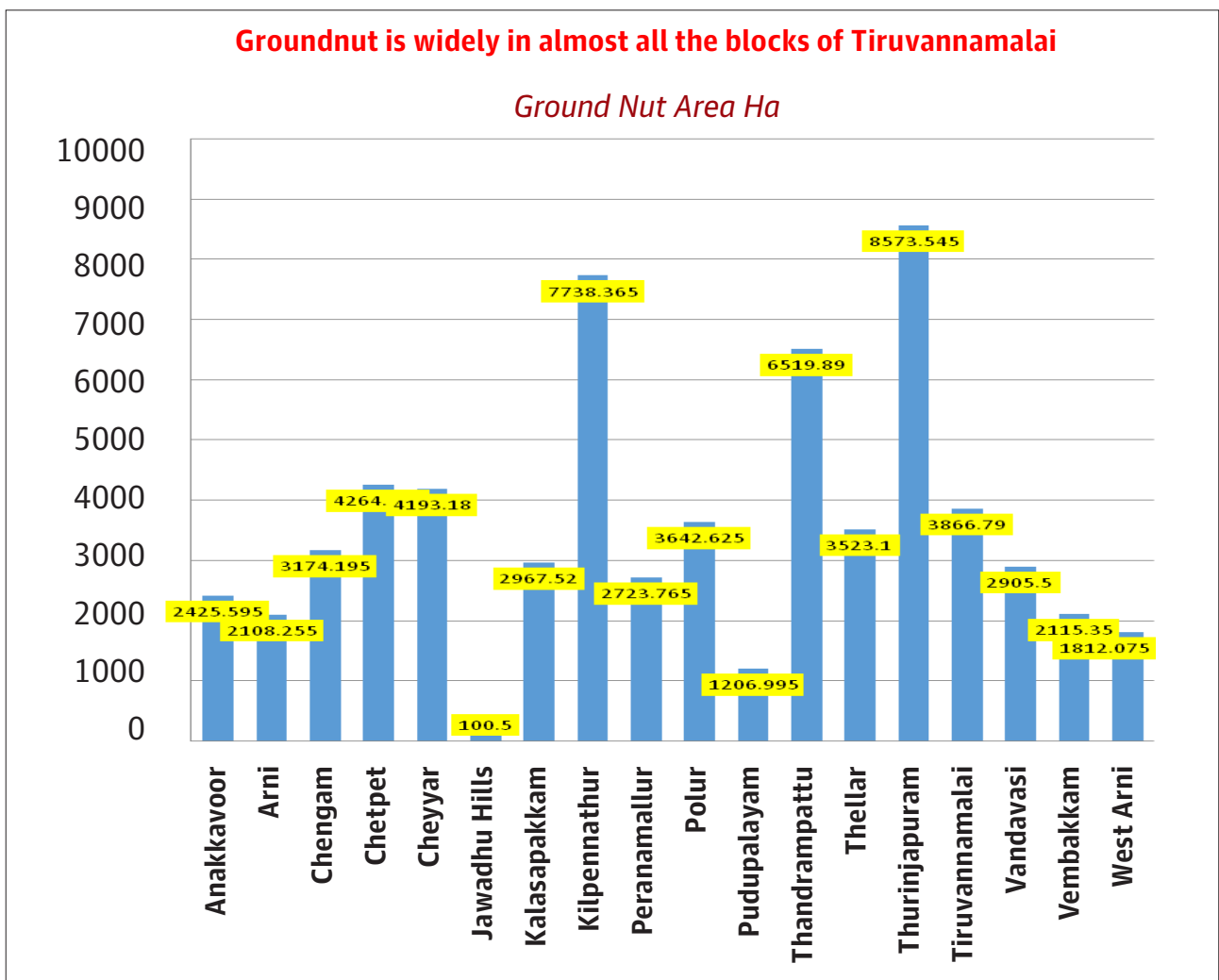
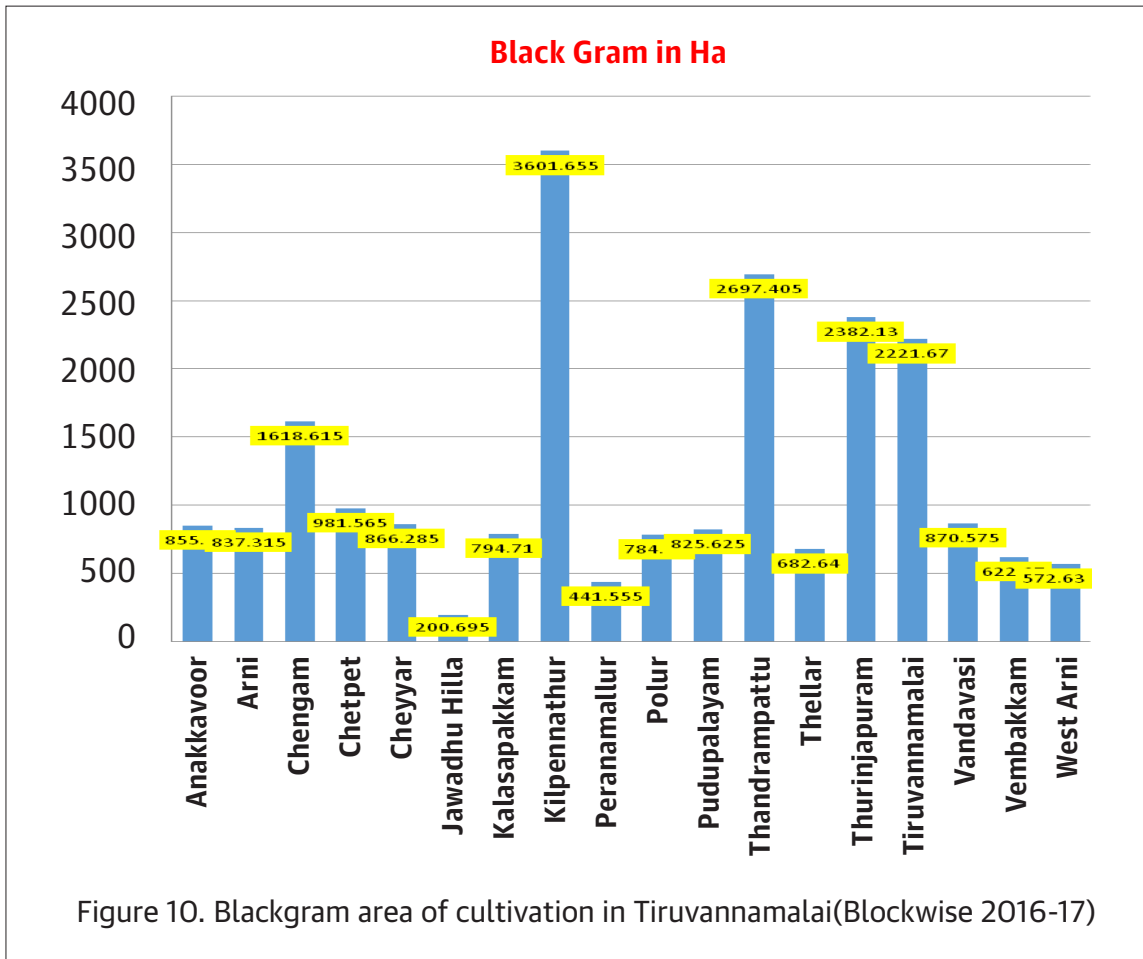


Figure 9:Groundnut area of Cultivation in Tiruvannamalai(Blockwise2016-17)

### 7.6.2 Blackgram

**Blackgram** is widely cultivated in Kilpennathur(3601.66 ha), Thandarampet(2697.41 ha), Thuringapuram (2382.13 ha) and Tiruvannamalai(2221.67 ha) which contribute 16.35%,12.3%, 10.3% and 10.2% respectively to the district respectively.



### 7.6.3 Millets

**Cumbu is** predominantly cultivated in Tiruvannamalai block(1621.72ha), Polur(1381.13ha) and Kilpennathur (1155.165haTiruvannamalai(37.2%).

**Ragi** is widely cultivated in Jawadhu hills, Chengam and Chetpet blocks. Samai is predominantly grown in Jawadhu hills.

### Other crops

Jawadhu Hills(22.2%)and Thandarampet(17.9%) contribute to the area of **cultivation of Gingelly** in Tiruvannamalai district



## 8.0 Marketing and Storage Infrastructure

Marketing of agriculture is done through various regulated markets, co-operative marketing societies, Uzhavarsandhai (Fruits and Vegetables), Wholesale markets and Local Shandies. Apart from these Weekly markets and daily markets also exists in the district. The details of markets are as described as under.

**Table(12) Marketing Infrastructure Available**

S.No.	Type	Total nos
1.	Regulated market(APMC)	9
2	Wholesale markets(Traders)	157
3	Co-op marketing societies	97
4	Local Shandies	23
5	Uzhavarsandais	2
6	Cold storage Godowns	4

### Agricultural Marketing and Regulated Markets

Regulated market is wholesale market where buying and selling is regulated and controlled by the state government through the market committee. The primary object of regulating the market is to safeguard the interest of the producer sellers raise the standards of the local Markets where the first exchange of the goods takes place. It has 18 regulated markets through which the farmers sell their agri products directly to the government. The number of regulated markets and quantity and value of commodities transacted in those markets are given in Table (13)

*Table 13 Quantity and Value of Commodities Transacted in Regulated Markets of Tiruvannamalai District during 2017-18*

No. of Regulated Markets	No. of Sub regulated markets	Quantity arrivals(in MT) (Product wise)		Receipts (Rs in Lakhs) (Product wise)
18	2	Paddy	187240.12	284.26
		Groundnut	7563.05	40.61
		Gingelly	167.15	0.96
		Chillies	191.55	1.42
		Cumbu	543.23	0.71
		Horsegram	7.65	0.01
		Ragi	375.11	0.74

Source: District Agriculture Marketing Office, Tiruvannamalai

The average annual rice production in the district was 3.74 lakh tonnes. However, the transaction of paddy through regulated markets in the district was only 1.87 lakh tonnes. Therefore, the reasons for the poor market arrivals to the regulated markets should be identified and the more facilities need to be created in the regulated markets to attract larger arrivals.

## 9.0 Agribusiness Opportunities

### 1. Groundnut

Ready availability of groundnut especially the varieties VRI 1,2/TMV 7 have high potential for value addition like barfi making and export to Bangalore and abroad. But the seed cost is very high in Groundnut therefore in need of low cost input kiosks. At present Ground nut is also marketed through regulated markets, 10% also goes to other districts. 90% bought by traders. 10% sold as seed and 80% extracted for oil.

### 2. Vegetables

Keelpennathur is a vegetable cluster which needs storage facilities and logistics support to boost up marketing

### 3. Flowers

At present Rose is exported from Chengam to Bangalore and also few Jasmine processing units exist in Chengam. Logistical support is required for the transport of Rose and there is a potential for establishing additional Jasmine processing units. There is an increasing trend of cultivating flowers due to increased market demand.

### 4. Rice

Traditional varieties of Mappillai and Jeeraga samba have huge potential.etc

### 5. Millets

Breeder seeds are available with the centre for excellence of millets in Tiruvannamalai. There is a huge potential for seed production (labelled seeds) by entrepreneurs. There is a potential of earning of upto Rs10000/ per acre of millet seed production. The varieties are long duration (Irrigated) and short duration(Rainfed). There is need to improve the infrastructure facilities such as thrashing floor and also processing facilities like grading machines. Processed Millet food such as aval, ready to cook, pop up, Flakes have huge potential in Market.

### 6. Horticultural crops

Coleus, Lemon Grass, and Palmarosa are the important horticultural crops grown. Coleus is cultivated in 1500 ha and is the highest in the State. The Lemon Grass and Palmarosa oil crops gives net income of Rs 20000/- once in two months. Palmarosa is a dry land crop Coleus gives and income of Rs 1.5 to 2 lakh per harvest per acre.

**Establishing Oil extraction Units** have huge scope as rural enterprises.

## 10.0 National and State Schemes

The GoI schemes in the district are NMSA (National Mission on Sustainable Agriculture) and IFS (Integrated Farming system). Tamilnadu state schemes are Seed procurement under TANSEDA and also covered under TNIAMP. FPOs are covered under the Collective farming scheme and SFAC scheme. Horticulture area development programme and also covered under PMKSY for micro irrigation.

## 11.0 Resource Institution

Centre for excellence in Millets is functioning at in, Athiyandal since 1973, promoted by TNAU, Coimbatore. This center is functioning in 18.5 ha of land. It helps the peasants to develop and adopt the modern techniques of cultivation. There is also a KVK functioning at Kilnelli village of Tiruvannamalai funded by ICAR.

## 12.0 Allied Sectors

The livestock and poultry sector provides ample opportunity and have to be developed in this district as the agricultural labourers population can earn income from this sector during the off season or non-cropping periods.

### 12.1 Animal husbandry and Dairy development

A large number of farmers in this district depend on animal husbandry for their livelihood. In addition to supplying milk, meat, eggs, wool and hides, animals, mainly bullocks, are the major source of power for both farmers and drayer. Thus, animal husbandry plays an important role in the rural economy. Moreover, livestock sector provides supplementary employment and sustainable source of income to many small and marginal farmers.



## Livestock population in the district

According to 12<sup>th</sup> Livestock Census, the approximate population of the livestock in the district includes 11, 87,325 number. Of which 6, 76,629 No's were cattle's, 2, 58,111 No's were sheep's, ponies and domestic dogs are few in number. *Source: 12<sup>th</sup> Livestock Census, 2011*

The data (Census 2012) on livestock population in the blocks of Tiruvannamalai shows that among the different blocks, Vandavasi block possess the maximum number of livestock population (1, 55,115 No's) followed by Vembakkam (1, 34,341 No's). Cattle population was highest in the Chengam block (50,435 No's) while poultry population was highest in the Vandavasi (90850 No's) block.

## Dairy development

Dairy sector is important not only as the producer of highly nutritious food products, but also for the sustenance of poor farmers and over all prosperity of the farming community. The district holds about 522 milk societies at various blocks. Among the blocks, Tiruvannamalai block possess the highest number of 84 societies followed by which, Chengam and Pudhupalayam block constitute each 78 milk societies. Jawadhu hills have the least number of one milk societies in the block. From all the milk societies, the district collected about 2,40,251 litres of milk daily for value of 61,26,400 rupees in a year. Tiruvannamalai block produced the largest quantity of milk (24, 712 litres daily). The least quantity of milk was produced at Jawadhu hills (200 litres per day).

The infrastructure facilities like dairy cooperative societies, cooperative marketing societies, veterinary clinics and milk collection centres were located in different blocks of the district. The maximum number of dairy cooperative societies was located in Chetpet block (34 No's) followed by Chengam (32 No's) and Kilpennathur (30 No's) respectively. Very few blocks in the district possess co-operative marketing society that is restricted to one in number (Arani, Chengam, Cheyyar, Thellar and Vandavasi). In case of veterinary clinics, Chetpet, Kilpennathur, Peranamallur and Vembakkam block possess the maximum number of veterinary clinics (7 No's each). For milk collection, centres were established at most of the blocks; Vembakkam (67 No's), Thellar (64 No's), Vandavasi (60 No's) and Chengam (58 No's).



During the village visits made to Tiruvannamalai villages it was observed that each Household has one to two milch animals. The production of milk is 2.5 lakh litres per day. There is ample scope for goat Farmer Producer Company as the goat population is observed to be high. There is no cattle feed units in the district whereas the materials for cattle feed such as rice bran and millet bran is readily available in the district. The scope for milk value added products is also high. The district is prone to endemic occurrence of "Anthrax" which leaves ample scope for the cattle insurance and other risk mitigation process.

## 12.2 Poultry development

Poultry rearing is one of the important activities of Animal Husbandry Sector in the district. The district produced 4,83,712 numbers of fowls(*Census 2012*).



## 12.3 Fisheries

The total inland fresh water spread area in the district is about 2000 ha and produced fish of about 63.155 tonnes with a value of 47.52 lakhs during the year 2017-18. (*District Statistics Handbook 2017-18*)



## 12.4 Sericulture

The scope for improving sericulture further is bright in Tiruvannamalai as the demand for silk yarn has been growing every day. Self-help groups were best promoters of sericulture, which would generate rural employment on a large-scale.

1152.95 acres of land is under mulberry cultivation in this District. Training in Mulberry farming, Rearing Silk Worms is done through a large network of Govt. Departmental Institutions of Sericulture such as Silk quality development farms, Govt. Sericulture training center, Govt. Sericulture Farm, Base seedlings (grain age) development farms, Govt. Bi-voltine grain age centers, govt. cocoon markets, silk reeling unit, silk twisting unit, technical support and service center for rearing silk worm, with the above maintained facilities sericulture industry has good scope in this district.

In the 1152.95 acres of mulberry cultivation, 2,30,590 kg of cocoons is produced with a value of 6, 91, 77,000 rupees. Among the blocks, Tiruvannamalai block has contributed to the larger area of about 248.75 acres followed by 139.20 acres in Kilpennathur block. (Source: District Statistics Handbook:2017-18).



## 13.0 Industrial Scenario

**Tiruvannamalai District is one of the Industrially backward districts in Tamil Nadu.**

Tiruvannamalai district contributes USD 1.5 billion in GDP of Tamil Nadu. Service sector industry has been playing a vital role in the economy of this district. It has contributed 56% to the district's GDP in 2011-12 and has grown at the rate of 9.68%. The investments have been observed to be happening in Construction, Trade, Hotel & Restaurants, Banking & Insurance and Real estate, Ownership of Dwelling & Business Services.

32% of land in Tiruvannamalai is used for agricultural activities to produce rice, ground nut and sugarcane. Another major economic activity of the district is Silk Saree weaving, a bulk of India's Silk apparels is produced by the people of Tiruvannamalai district largest concentration of Silk producers and weavers in Arni Taluk.

Despite its geographical proximity to Chennai and the industrialized belt of Tamil Nadu, industry in Tiruvannamalai picked up only after the establishment of a large industrial complex at Cheyyar by SIPCOT. The industry sector employs approximately 79,000 people in the district. This has been followed by the announcement of a 250 square kilometer SEZ and a plant by the Mahindra group for producing commercial automobiles. The other industries in the area include plants producing industrial dyes, automotive and telecommunication components. One of the largest sugar mills in the nation is situated near Cheyyar.

This level of industrialization has not spread to the regions surrounding the industrial park. A majority of the industrial units operating in the district are in the small and medium scale sector. Small industries are concentrated in the food processing, textiles and leather processing space, although there are some units producing fabricated metal products. A large number of rice mills are concentrated around Cheyyar. There are also a number of small and medium scale industries spread around certain areas of the district. These units comprised largely of food processing industries, textiles and apparel, leather industries and wood and paper manufacturing.

*Table 14 Overview of the Industrial scenario*

S.No	Type of Industrial units	No. of units	Investments	Employment
1.	Large scale	8	474.4	4322
2.	Micro	6015	22.70	13556
3.	Small	268	80.40	2144
4.	Handicrafts	2331	13.90	3459
5.	Cottage Industries	2373	9.54	3145

The industrial units dotting the industrial map of Tiruvannamalai District are small and tiny industries. The industrial activities are in low profile activities such as flourmills, silk reeling and footloose industries. The concentration of such traditional units is centered around Tiruvannamalai, Polur and Arni. Considerable numbers of rice mill units are clustered in Cheyyar. Out of 6078 units concentrated in this district, 41 % are falling under the category of cottage and rural industries.

Most of the units are based on local resources. Entire Chengam and Cheyyar regions have great potential for promoting agro-based industries. However, the existing potential has not been effectively exploited and can be attributed to poor entrepreneurship talent and initiative among the local youth.

The availability of rare herbs and medicinal plants in Jawadhu Hills and in Melchengam offers promotion of medicinal extraction units in a big way. The concentration of neem trees in Thiruvannamalai and adjoining district of Villupuram offers promotion of neem based industries in this district. By and large, the district is suitable for promotion of agro-based industries.

Arani has been one of the historical silk and cotton weaving centres in India. It is famous for its light weight and affordable handloom silks. Agriculture, bee keeping, poultry are the other major economic activities in the town. The town is also well known for its Paddy and Rice trade.

The availability of rare herbs and medicinal plants in Jawadhu Hills and in Melchengam offers promotion of medicinal extraction units in a big way. The concentration of neem trees in Thiruvannamalai and adjoining district of Villupuram offers promotion of neem based industries in this district. By and large, the district is suitable for promotion of agro-based industries.

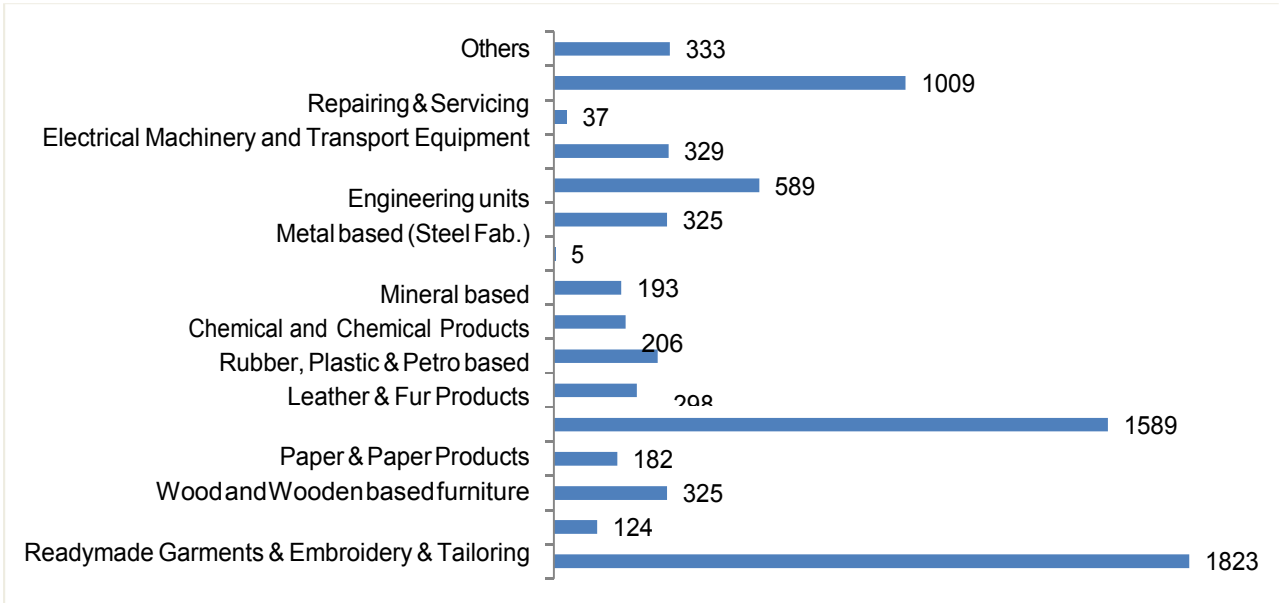
### **Existing Status of Industrial Areas in the District Tiruvannamalai**

SIDCO Industrial Estate	<b>25 acres</b>
SIPCOT complex- Cheyyar- Upcoming	<b>1350 acres</b>
SIDCO Industrial Estate, Cheyyar- Upcoming	<b>38 acres</b>

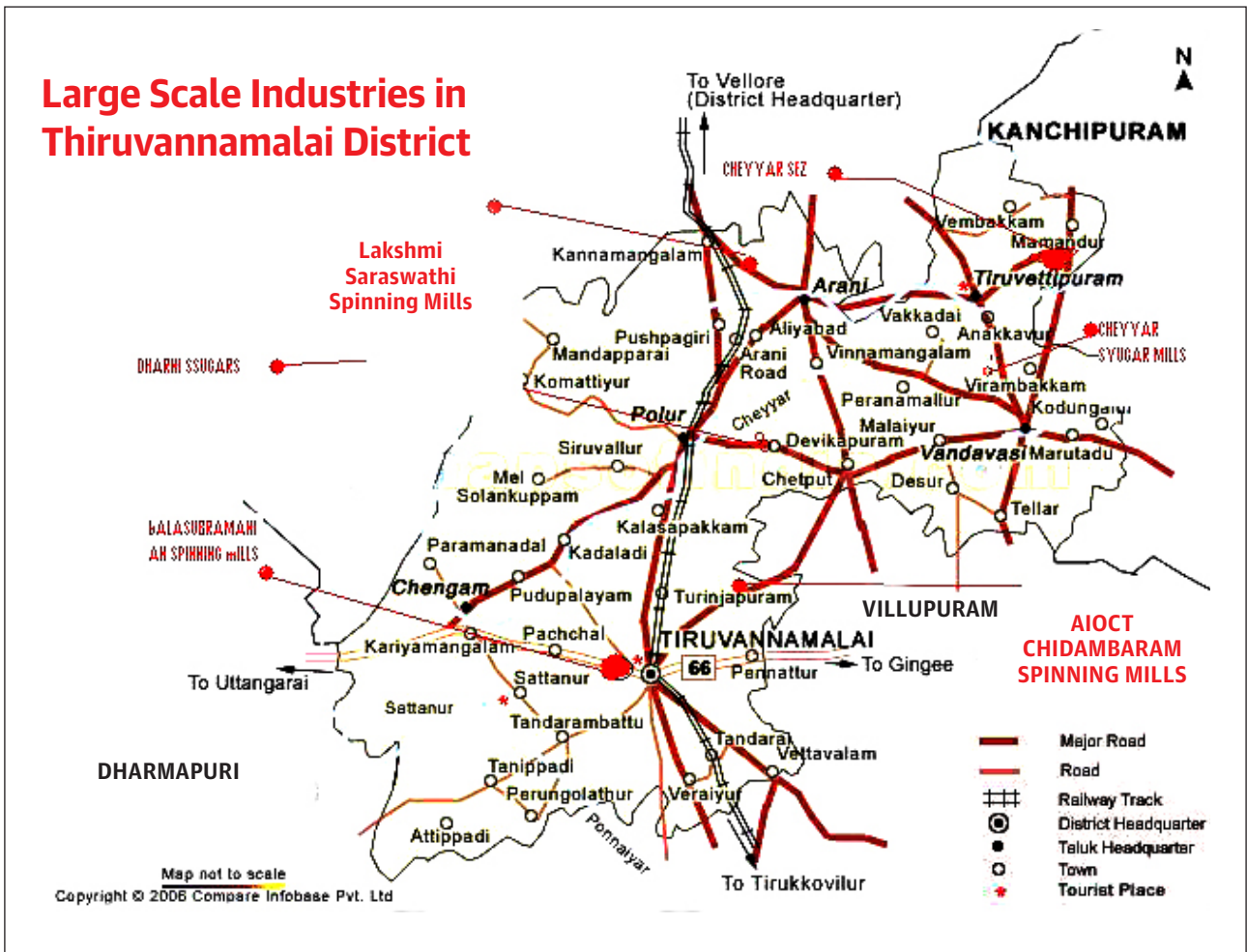
<b>Existing industries scenario</b>	<b>Emerging industries scenario</b>
Rice milling	Fruit processing
Handloom Industry	Floriculture
Silk weaving	Granite
Metal product	Pharmaceuticals
	Pesticides
	Ethane based chemical products
	Iron Ore mining industry
	Hotel
	Ceramic products
	Dairy development
	Pisciculture



### 13.2 MICRO SMALL AND MEDIUM ENTERPRISES (MSME) SECTOR



Source: Ministry of MSME, Tiruvannamalai District, Gol



Table(15) Details of existing MSME and Artisan units in the district

TYPE OF INDUSTRY	NUMBER OF UNITS	INVESTMENT (lakh Rs.)	EMPLOYMENT
Agro based	1823	6124.98	7730
Soda water	124	78.55	249
Cotton textile	325	286.50	659
Woolen, Silk & artificial	182	248.30	368
Ready-made garments & embroidery & Tailoring	1589	684.10	2980
Wood /Wooden based furniture	238	342.35	674
Paper & Paper Products & Publishing Printing	298	354.10	757
Leather based	206	88	411
Rubber, Plastic & Petro based	193	298.20	495
Chemical / Chemical based	5	212.10	52
Mineral based	325	582.50	1237
Metal based (Steel Fab.)	589	1220.40	1561
Engineering units	329	456.10	750
Electrical Machinery and transport equipment	37	110.23	124
Repairing & Servicing	1009	582.25	2319
Others	333	282.20	1685
Total	7605	11698.95	22051

There are about 16 types and 7605 units of Micro small and medium enterprises in the district which provides employment to about 22501 employees with an investment of 11699 lakhs Agro based, Metal based, Readymade garments, Mineral based and engineering units form the most prominent ones.

## Fig:11 MSME sector in Tiruvannamalai district

Industry profile of micro and small enterprises is shown in the figure above. Maximum units have been established in Agro & Food Processing category followed by Readymade Garments & Embroidery units. Agro & Food Processing units have also taken the maximum share of investment and employment. Food processing and Silk Saree based units are turning out to be major growing sectors for the district.

### 13.3.Existing clusters of Micro and small enterprise

#### Korai Mat Cluster

These clusters are spread around Kilpennathur and vandavasi in Avoor and Vandavasi villages. Around 5000 muslim communities in Korai Mat weaving. in Kilpennathur Block. Each Unit has 5 members employed and each Each employee gets Rs 8/- per mat weaving and gets around Rs 250 to 300 Rs per day.

#### Rice mill Cluster:

Rice mills clusters are located around Cheyyar, Arani and Kalambur blocks. Each cluster has 60 to 200 units. White Ponni is mostly cultivated and processed in these mills. Skilled labours and semi skilled persons are needed to work in the Rice Mills. Small Paddy Processors /Mobile Paddy Processors can be potential rural enterprises. Discussion with the mill owners indicated that rice from Andhra has outturn compared to Tamilnadu varieties. Suitable rice variety could be advocated among the farmers has high outturn and in turn fetches high price.

#### Stone and Wood carving:

These clusters are located in Tiruvannamalai itself and Mudaiyur village of Chetpet block

#### Silk weaving Clusters:

Silk weaving is located in Arani and Devikapuram villages in Arani. The tradition of silk weaving is very unique to Arani and is also very affordable. This is also located in Keelpattu village of Chetpet block.

#### Handloom Clusters:

Vandavasi and Cheyyar are the taluk headquarters in Tiruvannamalai district having handloom weaving villages traditionally. Kilkodungalur, Vazoor, Ponnur, Kannagampoondipudur, Cittaragavurpudur, Vedal, Ammaiappattu, Koviloor, Cheyyar, Vadamanapakkam and Hasanamapettai are the villages having handloom weaving more than 100 years.

**NTFP clusters:**

NTFP products like herbal medicines are found in Tribal regions of Jamunamaruthur in Chengam block and also in Jawadhu Blocks of Tiruvannamalai district.

*Table(16)Details of Major Cluster*

Cluster	Block	Location
Korai Mat	Kilpennathur	Avoor
Korai Mat	Vandavasi	Vandavasi
Rice mill	Cheyyar	Cheyyar
	Arni	Arni
Stone Carving and Wood carving	Thiruvannamalai and Chetpet	Thiruvannamalai and Modaiyur
Silk weaving	Arani	Arani
Silk weaving	Arani	Devikapuram
Handloom	Vandavasi/Cheyyar	Kilkodungalur, Vazoor, Ponnur, Kannagampoondipudur, Ammai-yappattu, Koviloor, Cheyyar, Vadamapakkam and Hasanamapettai Cittaragavurpudur, Vedal,
Mushroom processing Herbal extraction and Honey processing	Chengam	Jamunamaruthur, tribal region

### 13.4 Small scale Industries

*Table (17)Details of Small Scale Industries 2009-10*

S.I No	Type of activity	No.of units
1	Food Production	1544
2	Ready made and Tailoring	1689
3	Leather Products	175
4	Wood products	170
5	Paper products, publishing printing	265
6	Chemicals, Plastics and Rubber products	158
7	Other Non-metallic Products	199
8	Fabricated metal products	483
9	Electical Machinery and apparatus	28
10	Steel Furniture	233
11	Vehicle repair	709
12	Post and telecommunication	40
13	Computer and related activities	79
14	Other business activities	66
15	Other service activities	44
	<b>Total</b>	<b>5882</b>

### 13.5 LARGE INDUSTRY

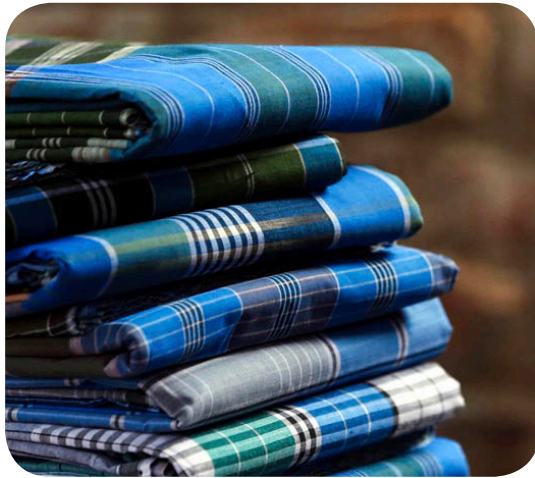
There are **eight large** in the District which provides employment to nearly **5000** Sugar industries, Spinning millings and leather industries are the main types of large industries in Tiruvannamalai. These industries thrive on the raw materials from the farm sector. There are many ancillary units around the sugar industry, Textile and leather based industries. Some key established units are Dharani Sugars and Chemicals Ltd, Lloyd Insulations (India) Ltd, Lakshmi Saraswathi Textlies (Arni) Ltd, etc. 620 acre<sup>1</sup> (First Phase) of Industrial Complex developed by SIPCOT is operational in Cheyyar. There are no medium scale industries in the district.

### Proposed Large scale industries in the offing

- 5 more sport shoe manufacturing units with the investment of Rs. 500 Crores and over 800 Crores in Cheyyar footwear SEZ
- Auto ancillary SEZ in Cheyyar with an investment of 600 Crores
- New SIDCO estate at Polur for food industry

### Major Exportable Items

- Silk sarees
- Hand loom lungies
- Ponni rice
- Palm rosa oil
- Herbal products



### 13.6 Investments in Tiruvannamalai District

There is a continued investment in the industrial complexes manufacturing automobiles and automobile components in the short to medium term. There is also significant investment in textiles. The ongoing and prospective investments hint at a structural shift from an economy based on agriculture to an economy dominated by large scale industries and manufacturing in the district.

*Table (18) Details of investments*

Industry	Outstanding	Completed	Total
Food & agro-based products	6	60	66
Textiles	0	1	1
Consumer goods	27	100	127
Construction materials	4	0	4
Metals & metal products	1	22	22
Automobiles & ancillaries	383	0	383
<b>Total</b>	<b>421</b>	<b>183</b>	<b>603</b>

Source: MSME report , Tiruvannamalai district

Most of the investments have been made in automobiles and ancillaries sector(63.5%) followed by consumer goods(21.1%) and Food and agro-based products(10.9%)

### Connectivity

Tiruvannamalai is well connected by rail and road network. The important road networks are NH 234( which connects Tiruvannamalai to Viluppuram) and NH 66(Connects Tiruvannamalai to Puduchery and Krishnagiri). It is 175 KM from Chennai airport and 210 KM from Chennai Port.



*Table 19 Upcoming infrastructure projects in Tiruvannamalai District*

Details	Length	Investments (Rs Crore)
Coimbatore-Chengalpet Alignment	462 Km	1500
Strategic Road Expansion Programme I (Northern Tamilnadu)	110 Km	220
Chennai Salem Expressway(Eight lane)	270 Km	
Strategic Road Expansion Programme_II (Central Tamilnadu)	83 Km	170
Coimbatore-Chennai high speed rail link	450 Km	7500
Industrial parks for SMEs across Tamilnadu	167	
Development of Heritage across Tamilnadu locations and destinations	17	
Programme for Soil Quality Across Tamil Nadu Improvement & Wasteland Rehabilitation	333	

### 13.7 Investment Opportunity

The availability of Agricultural harvest of rice and Silk Saree Weaving skilled labors gives opportunity to invest in Agro & Food Processing and Textile sector. Rice and Silk Saree's are major exportable items from the district.

Source: Brief Industrial Profile of Tiruvannamalai district. 2012-13 MSME REPORT, Govt. of Tamilnadu. And Vision 2023 document

### 13.8 Service sectors

The services sector employs 2.3 lakh people in the district. The district houses a number of health care facilities ranging from 15 hospitals to 410 health sub centres. These sub centres are spread around the villages of the district, making it easily accessible for the villagers. However, these health care centres are staffed by only 279 doctors and 387 nurses, which might prove to be fairly inadequate for the district's inhabitants. Additionally, the district also has 105 private bank branches and 24 cooperative bank branches. There are only three government banks though, which might lead to lower credit availability for the locals. The farming population in particular, might find it infeasible to further their vocations and set up independent agricultural enterprises. The district's relatively higher forest cover poses geographical constraints for easy mobility – indeed, railway services in the district are limited to covering only 93 kilometers, between eight stations.



In the district there are no of authorized repair and service station catering to the automobile sector due to high number of penetration of automobiles in the district. **There are 1113 automobile service centers, 427 service centers. There are 33 Restaurants, 86 bakeries and 296 (eateries, cool drinks, tea shops and mess).**

Source: Statistical handbook of Tiruvannamalai 2017-18

## 13.9 Tourism

### Spiritual/Divine tourism

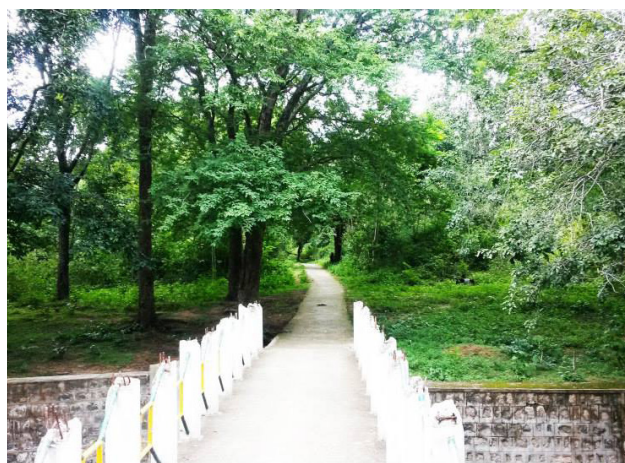
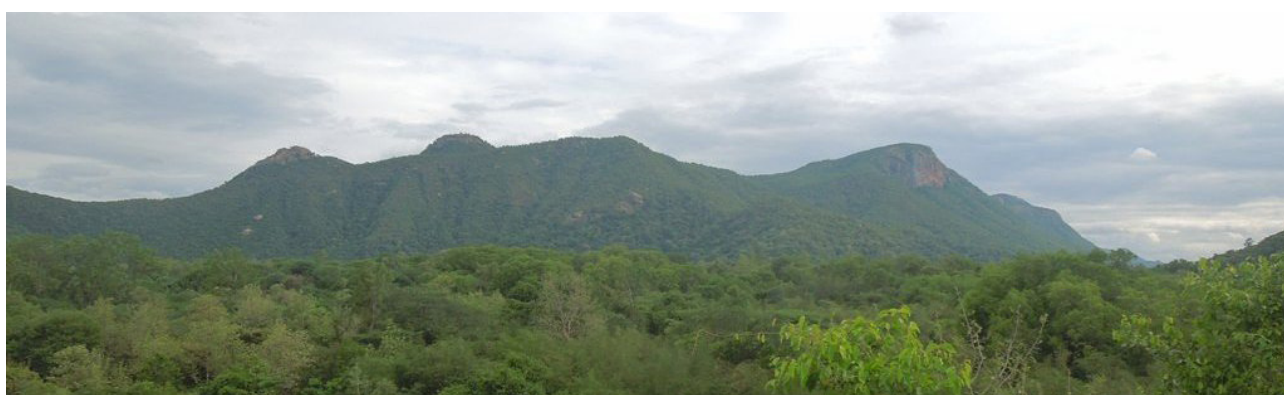
Tiruvannamalai is home to some of the most sacred temples in the country and is a major tourism spot. It is also an important religious tourism centre for Arunachaleswara temple and Ramanashramam. The contribution of the service sector in the district has witnessed considerable growth in the recent years. Around two lakh people throng into the Siva Temple during festival season. There is no proper guidance. It is given only by the auto drivers. Also the accommodation and food facilities are available. Alternative to plastics have to be made through the Girivalam path.



## Tribal Tourism

There is a high opportunity in Jawadhu hills for tourism. It is an untapped place which has high potentiality for tourism. Agriculture tourism and Tribal Tourism are opportunities. Millet Food Hubs can be established.

The diagnostic study also focussed on identifying the skill gap and availability of jobs across farm, off-farm, non-farm and service sectors for self-employment and wage employment. For this purpose, the data was collected from secondary sources, direct interviews, and focus group discussions. Recommendations are arrived to address the employability, based on the suggestion given by department officials from agriculture, horticulture, DIC, TNSRLM, TNSDC, target people the review of literature from the secondary sources. The findings are presented below.



## Incremental Human Resource Availability

The current work force is estimated to be 10.27 lakh, which is estimated to grow to 12.35 lakh by 2022. The incremental availability of human resources in 2012-17 is estimated to be 98,000 and in 2017-22, the incremental availability is estimated to be 1.09 lakh.

The highest incremental human resource availability is expected at the unskilled level, while the lowest incremental availability is estimated at the semi-skilled level.

Source: NSDC Tiruvannamalai

## 14.0 Qualitative Skill Gaps

### **High levels of disguised unemployment**

Tiruvannamalai is one of the most backward districts of Tamil Nadu. Economic activity is very low, with the district relying on agriculture and small scale industrial units for income generation. In the absence of robust industrialization and the high dependence of people on agriculture, the district is observed to have very high levels of disguised unemployment. As a consequence the average skill levels of the district have remained low. This has curtailed the potential of the farm labour to find gainful employment outside the district.

### **Lack of local demand for labour; a disincentive to skill acquisition**

A majority of the district's inhabitants are engaged in some form of agricultural activity. There is very little industrial development in the district. Lately, a few industrial estates have been set up in the district; however, most of these units are automated and do not generate substantial employment opportunities. Further, most of the land area currently used for agricultural purposes is small, which does not allow for large scale mechanization processes, resulting in lower wages.

In the absence of adequate demand for labour coupled with low wages, most of the people seem to be averse to acquiring skills.

### **Low capacities creation**

There are very few ITIs and polytechnics in the district and there is no incentive for other skill training providers to enter the market since the demand for vocational education is very low. Capacity utilization in existing ITIs is extremely low. There is a need for focused capacity creation for sectors such as construction and retail.

### **Lack of entrepreneurship**

Lack of skilled development opportunities coupled with the lack of incentives to foster entrepreneurship is a major problem in this district. Despite the enthusiasm among the district's inhabitants to start their own enterprises, currently there is not enough emphasis on grooming people to set up their own business or encourage entrepreneurship.

## 15.0 BANKING PENETRATION IN THE DISTRICT

In Tiruvannamalai, there are 197 branches of commercial Banks, 12 branches of Regional Rural Bank, 32 Branches of District Central Co-op Bank and a Branch of TIIC as of March'19. The number of public sector banks operating in the District is 14 with 144 branches and the number of private sector banks is 10 with 53 branches. There are no unbanked villages in the district.

### Annual Credit highlights

The banks have projected Rs 5197.00 crores for 2019-20. Crop loan at Rs3400.00 crores accounts for the major share of 65.42% followed by Investment credit under Agricultural sector at 14.91%, other Priority sector at 14.36% and Non-Farm sector at 5.31%

The lending issues faced by the banks were high level of NPA of upto40%. There were also recent issues in Rice Mill cluster. The banks do not encourage lending to the FPOs. The banks are willing to lend to farmers/Producer Groups directly. But there is a high demand for working capital support from the FPOs. Current credit requirements of the FPOs are met by FWWB(Friends of World Women Banking) and Ananya Finance.

### SHG Bank linkage

Total credit linkage through SHG in the district in the year 2018-19 is **517.19 crore** through 11751 SHGs. Financial literacy center is present in Tiruvannamalai. INSETI (Indian Bank Self Employment Training Institute) is a RSETI model of training institute functioning in Tiruvannamalai has completed six years of functioning.

### Joint Liability Groups(JLGs)

The total number of JLGs promoted in the district are 450. They have been promoted by Women's Development organizations in Tiruvannamalai block which are Srinivasa Services Trust, CSR wing of VIT (Vellore Institute of Technology), Tamilnadu Grama Bank and Central Cooperative Bank.

### MFI Presence:

Tamil Nadu contributes to 16% of the total MFI portfolio in India (8048 crore). There are 25 institutions with 951 branches with a present outstanding of INR 3666 Crores with a member level average outstanding of 14301 INR. Small Banks are the new category of banks announced by RBI in July 2014. Around 10 companies have received this bank license across India. Tiruvannamalai District is moderately served by Microfinance institutions. **ESAF, FINCARE and BELLSTAR** have good presence in district. Ujjivan, Janalakshmi and Equitas are the small finance banks operating in district.

## 16.0 COMMODITY PRIORITIZATION Table

S.No	CRITERIA	DESCRIPTION	COMMODITY			
			Paddy and sugarcane	Groundnut	Blackgram	Samai
1	Trend in number of producers involved in the commodity	For commodities which has large number of producers.	Water Intensive crop. Hence not prioritised	>100%	>100%	Positive
2	Community Interest	Economic viability, Staple food, Knowledge and technology availability, Extension services, Awareness about Market availability		Top most district in production, Ready markets production in all three seasons	Raised under rainfed conditions Under water stressed conditions	In hills known for small millet production
3	State/National Priority (Thrust from government)	State/National Government Schemes and Investments		One of the chosen districts for Oil-seeds mission and seed production, MSDA scheme.	One of the chosen districts for NFSM, Integrated Development of Pulses Village Scheme	Chosen district for promotion of small Millets promotion. Centre for excellence in Millets

S.No	CRITERIA	DESCRIPTION	COMMODITY			
			Paddy and sugarcane	Groundnut	Blackgram	Samai
4	Comparative advantage	Production, Favourable climatic conditions, GI type characteristics, Uniqueness emerging out of Ethnicity and culture, A prevalent cluster.		Major share in state production, ,High demand for Certain varieties, Soil and climate favourable for groundnut production	Largest producer of Blackgram, favorable climatic condition,	Largest producer of samai in the state, Tribal belts
5	Access to Market	Ability to sell the produce at a remunerative price- Local, National & International markets.		High demand for groundnut for oil extraction. Arrivals in APMC high after Paddy	Steady increase in demand throughout the nation, rise in prices.	High demand for samai in local market and the proximity to Andhra major market for Ragi
6	Opportunity for Value Chain Interventions	Productivity and value added products.		Productivity significantly lower than the State Average though largest producing state, Value added products	Scope for productivity enhancement, promotion of summer pulses, delayed marketing facilities,	Productivity significantly lower than the State Average though the largest producing district in the state

## Conclusion

Tiruvannamalai is an agrarian and industrial backward district. Though it has a few irrigated pockets majority of the area under cultivation is rainfed. The rainfall pattern of the district is erratic. During failure of monsoon producers generally skip the crop or go for cultivation of less water utilizing crops like millets and pulses. Majority of the landholdings are owned by marginal farmers. Women are engaged as agricultural labourers mostly in transplanting, processing and rearing of livestock.

Under farm sector the commodities that could be prioritized are Groundnut, pulses (Blackgram) and small millets. Groundnut is widely cultivated in all blocks of Tiruvannamalai district. It is cultivated under both irrigated and rainfed conditions and in all three seasons in a year. When the water availability is low the farmers skip paddy and cultivate groundnut or pulses. Though groundnut is widely cultivated in all blocks of Tiruvannamalai district, the production of groundnut is very high in villages of Kilpennathur and Thuringapuram blocks. Blackgram is highly cultivated in Tiruvannamalai, Kilpennathur and Chengam blocks. There is a need to improve the seed quality among the farmers. Seed production, delayed marketing, Groundnut based food products are major opportunities from Groundnut. Samai is a minor millet cultivated in Jawadhu Hills which has a high market value. The potentiality of millet crop Samai and horticultural crops (Coleus, Lemon grass) unique to this area is not fully tapped. Floriculture is picking up in Chengam and Thuringapuram blocks as the market potential is high. There is a high potential to improve the productivity in all the crops. In allied sectors dairy is very well established. Additional Feed mixtures units is to be established which could supplement the dairy development. In Non-Farm sector, Silk weaving are widespread in Arni and in villages of chetpet blocks. Mat weaving is predominant in Avoor of Tiruvannamalai and Vandavasi blocks. Stone carving is a major enterprise in Mudaiyur of Chetpet block. Tourism is one major opportunity which could be promoted in Tiruvannamalai district. The prospects for agro processing industries, small scale oil extraction units are high.

## Annexure 1 List of persons met

S. No	Name	Designation & Dept.
1.	Thiru.K.S.Kandasamy I.A.S	District Collector
2	Thiru.P.Rathinasamy	DRO
3	Tmt.P.C.Chandra	PD- TNSRLM
4	Thiru.Elavarasu	LDM-Indian Bank
5	Thiru.Sriram	DDM-NABARD
6	ThurinjapuramBMMU	
7	Thiru G.Chidambaram	Manager DIC
8	THiru S.Jacob Vedhakumar	Director- Statistics
9	G.Duraisamy	JDA(incharge)- Agriculture
10	G.Ramanan	Deputy Director-Agriculture
11	K.Velayuthum	Deputy Director- Agriculture- State Schemes
12.	Harakumar	Deputy Director- Marketing
13.	Senthamizhselvan	Agriculture Officer-Uzhavar Sandai
14.	Ezhirasu	Agriculture Officer Agri Business
10	Y.Sanavoolla	Mat Making- Avoor
11	Dr. Venkatesh	Doctor- Animal Husbandry
12	Thiru. Vignesh	Assistant-Agriculture Marketing
13	Kilpenathur- BMMU	
14	Centre of Excellence in Millets	
15	Thiru Thiruvenkadam	Director- Chetpet Collective Farm Producer Company ltd
16	Tmt. Priyanka	
17	Thiru Vetriselvan	
18	Namaketti -Jateri village	
19.	Veeramani and farmers, SHG members	Nukkambadi
20.	Craftsperson	Mudaiyur
21.	Weavers	Keelpattu
22.	Matweavers	Avvoor



## Annexure:2

S.No	Taluks	S.No	Blocks	S.No	TNRTP Blocks
1	Tiruvannamalai	1	Tiruvannamalai	1	Chetpet
2	Kilpennathur	2	Thurinjapuram	2	Kalasappakkam
3	Chengam	3	Kilpennathur	3	Kilpenathur
4	Thandrampet	4	Chengam	4	Thellar
5	Polur	5	Pudhupalayam	5	Thurinjapuram
6	Kalasapakkam	6	Thandrampet	6	Vandavasi
7	Chetpet	7	Polur		
8	Arni	8	Kalasapakkam		
9	Vandavasi	9	Chetpet		
10	Cheyyar	10	Jamuna Maruthur		
11	Vembakkam	11	Arni		
		12	Arni(W)		
		13	Anakkavoor		
		14	Vembakkam		
		15	Vandavasi		
		16	Pernamallur		
		17	Cheyyar		
		18	Thellar		

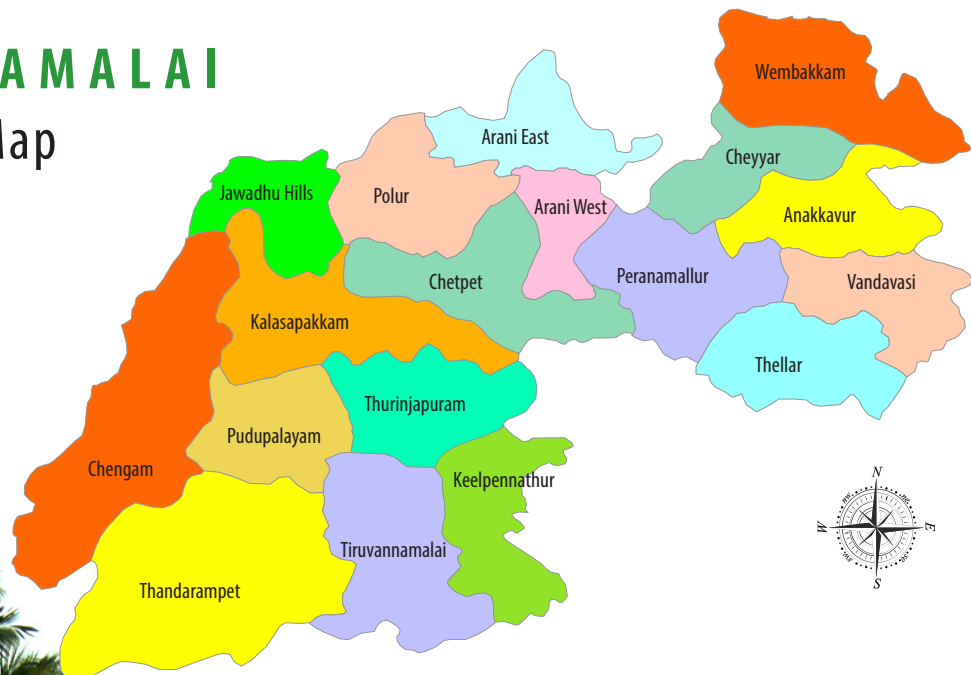
**Details of Taluks, Blocks and TNRTP blocks in Tiruvannamalai district**





# THIRUVANNAMALAI

## District Map



**Tamilnadu Rural Transformation Project (TNRTP)  
Tiruvannamalai District**