

# DISTRICT DIAGNOSTIC STUDY THIRUVARUR

(THE LAND OF BIG CAR AND PADDY)



Tamil Nadu Rural Transformation Project

# PREFACE



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The District Diagnostic study aims at identifying the actual socio economic and envoronmental scenario in the district. It also studies the enterprises pattern, gaps in existing enterprises and resources to fill the gap. Thiruvarur is an agrarian based district and majority population are living in rural areas. Although various economic and skill development schemes are being successfully implemented in the district, some more intervention in terms of qualitative skill development and available commodity based enterprises promotion is needed to address the gap. If properly tuned the women, youth and vulnerable population in the intervention blocks can make a big difference that will certainly have a good impact in their living standards and the society as a whole.

The district diagnostic report is well structured and covers all the topics such as socio demographic details, resources available, sector wise information, scope for enterprises promotion in the district and commodity prioritisation for project intervention. I hope the TNRTP in the district will ensure my all time service vision to ensure that the government schemes reach every one without any omission and "to implement the Government policies for the welfare of Thiruvarur district expeditiously".

I wish the TNRTP team in the district for their tireless work to arrive the handy report that can be an eye opener with current scenario, scope for enterprises and right commodity for project intervention. I extend my thanks to all the respective line departments for providing constructive support and timely information in preparing the document to arrive this report.

I hope this report would certainly be a ready. reference for those who would like to know what is what about Thiruvarur didtrict related to the implementation of enterprises development program and to reach maximum beneficiaries.

The District Diagnostic Study of Thiruvarur has been approved and released at the district stakeholders meeting held on 23 <sup>th</sup> of January 2020.



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# ACRONYMS

CIKS	Centre for Indigenous Knowledge Systems		
CLG	Common Livelihood Group		
FPO	Farmer Producer Organisation		
ICAR	Indian Council of Agricultural Research		
KVK	Krishi Vigyan Kendra		
MSME	Micro Small and Medium Enterprises		
NABARD	National Bank for Agriculture and Rural Development		
NABFINS	NABARD Financial services		
NAF	National Agro Foundation		
NTFP	Non Timber Forest Produce		
PMKSY	Pradhan Mantri Krishi Sinchayi Yojana		
POPIs	Producer Organisation Promoting Institutions		
SHG	Self Help Group		
SFAC Small Farmers Agribusiness Consortium			
TANSEDA Tamilnadu State Seeds Development Agency			
TNIAMP	Tamilnadu Irrigated Agriculture Modernisation Project		
TNAU	Tamilnadu Agricultural University		
VPRC	Village Poverty Reduction Committee		
SFAC	Small Farmers Agribusiness Consortium		
CLG	Common Livelihood Group		
SRI	System of Rice Intensification		
BCI	Better Cotton Initiative		
SSI	Sustainable Sugar Initiative		
TNRTP	Tamil Nadu Rural Transformation Project		
TNEPRP	Tamil Nadu Empowerment And Poverty Reduction Project		
NRLP	National Rural Livelihood Project		

# **1.0 PROJECT OVERVIEW**

Government of Tamil Nadu, through the Rural Development and Panchayat Raj Department has initiated the Tamil Nadu Rural Transformation Project (TNRTP) with funding support from the World Bank. This project builds on the government erstwhile Tamil Nadu Empowerment and Poverty Reduction Project (TNEPRP) and National Rural Livelihoods Project (NRLP) which supports the National Rural Livelihoods Mission (NRLM) - both are flagship programs in the State for rural livelihoods and community mobilization. Launched in 2004 and 2011 respectively, with the mandate of supporting the empowerment of the poor and improving their livelihoods by developing, strengthening, and synergizing pro-poor community institutions/groups. Furthermore With respect to higher order/value added/commercial-scale economic activities, programs like TNEPRP and the ongoing NRLP have initiated work on mobilization of rural producer households into producer groups/organizations to have better access to inputs, modern technology, and financial capital. The purpose of aggregating the rural producer households is to ensure that they effectively participate and sustainably benefit from the rapidly expanding infrastructure facilities, industrial development and market access in the State.

#### Tamil Nadu Rural Transformation Project (TNRTP)

The Tamil Nadu Rural Transformation Project (TNRTP) is a transformative project that looks beyond poverty alleviation and aims at building sustainability and prosperity of rural communities by promoting rural enterprises. It will be implemented in 120 Non Pudhu Vaazhvu Project blocks of Tamil Nadu covering 3994 village panchayat spread across 26 districts of Tamil Nadu. The project has the objective of Promoting rural enterprises, access to finance and employment opportunities in selected blocks of Tamil Nadu. The project will primarily target the SHG households, who have basic level of assets, resources and skills created by the previous projects. In the district it will be executed in 2 phases. In the first phase it will cover Mannargudi block and during the second phase the remaining 3 blocks viz Needamangalam, Muthupettai and Valangaiman will be covered up.



Table 1: THIRUVARUR – TNRTP project blocks				
Phase	Block Name	No Of Panchayats		
1	Mannargudi	51		
	Valangaiman	50		
2	Needamangalam	44		
	Muthupettai	29		

## **1.1 DISTRCT DIAGNOSTIC STUDY**

The District Diagnostic Study of Thiruvarur district is to study and prioritize the commodities which focused on farm, off farm and non-farm sectors and based on this, to find out the potentiality in the District. Further from the secondary data collected, template using criteria like number of producer's involved, comparative advantage etc. will be created to finalize the commodity under farm and non-farm sector.

## **1.1.1 OBJECTIVES AND METHODOLOGY OF THE DISTRICT DIAGNOSTIC STUDY**

The objectives of the DDS are to: to assess the socio-economic challenges and opportunities for the identification of cross-cutting / binding constraints to inclusive growth at the district level, to identify and prioritize current and potential value chains and to identify the line department resources and make use of that with proper channel for this project.

The study broadly analyses the indicators, such as social profile, rural profile, urbanization trends and labor mobility and the economic indicators; a sector 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 MSMEs; sector-wise and block-wise presence and growth trends of MSME; 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.

Secondary Data was collected from various line departments, SHGs, Farm and Non-farm Associations, Resource Institutions, NABARD, LEAD Bank and the officials belongs to various departments were also 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 THIRUVARUR DISTRICT CONTEXT

Thiruvarur district is popularly known as "the Granary of South India". Lying in the delta region of the river Cauvery, this district is rich in paddy cultivation, tall coconut groves and other fertile vegetation. The river Cauvery popularly called as "Mother Cauvery" makes this land fertile with her tributaries. Thiruvarur is mentioned in the saiva canonical work, Tevaram by Thirugnana Sambanthar, Tirunavukkarasar and Sundarar, the foremost Saivite saints of 7th–8th century and classified as Padalpetrastalam. Inscriptions in the Thyagarajar temple in tiruvarur indicate Thiruvarur as the capital of Kulothunga Chola I.

Thiruvarur district was created as a separate district on 1.1.97 by carving out 10 Blocks from the composite Nagapattinam district and 1 Block from Thanjavur district with Thiruvarur as district headquarters. Thiruvarur district is divided into 2 Revenue Divisions; 8 Taluks, 10 Blocks, 430 Panchayats and 573 Revenue Villages.

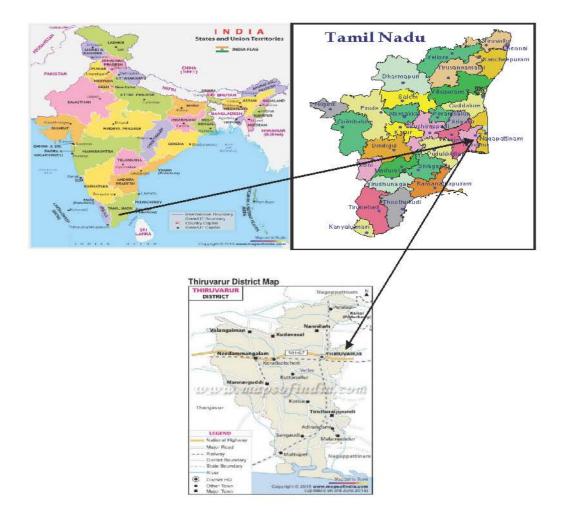


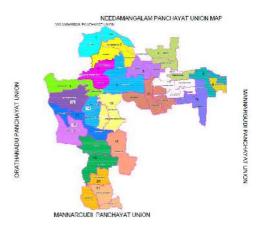
Diagram no.2 Thiruvarur district Map - context

## **2.1 PROJECT INTERVENTION BLOCKS**

#### Mannargudi

Mannargudi is a block in Tiruvarur district in the Indian state ofTamilNadu.Mannargudi isknownfortheRajagopalaswamy temple, a prominent Vaishnavite shrine. Agriculture is the principal occupation of the people of Mannargudi block. Mannargudi is also known for cloth weaving and metal industries. Being an agricultural block, Mannargudi>s economy largely depends on the income from agriculture. Paddy, cotton, pulses like black gram and green gram, gingelly, vegetables and cotton are the main crops cultivated in the block. The agriculture is mainly depends on the rivers Koraiyaru, Mullaiyar and Pamaniyar, while the other sources of irrigation are bore-wells.





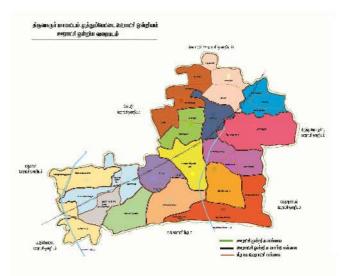
#### Needamangalam

Needamangalam, formerly Yamunambalpuram, isablock panchayat in the Cauvery Delta of Indian state of Tamil Nadu. Needamangalam was originally part of composite Tanjore District during British Raj until 1997 AD. Being an agricultural block, the economy of Needamangalam block largely depends on the income from agriculture. Paddy, pulses, vegetables, cotton and coconut are the main crops cultivated in the block. 50% of the agricultural activities in the block depend on the rivers Pamaniyar, koraiyar and Vennar and the remaining 50% depends on bore-well irrigation.

#### Valangaiman

Valangaiman (also spelt as Valangiman) is a block panchayat in Thiruvarur district in the Indian state of Tamil Nadu. Valangiman has an elevation of 17 m (56 ft). Agriculture is the principal occupation of the people of Valangaiman block. 80% of the population in the block depends on agricultural sector. Being an agricultural block, the economy of Valangaiman block largely depends on the income from agriculture. The crops cultivated include paddy, pulses, ground nut, banana, betel leaf and cotton are the major crops cultivated in the block. The agriculture is mainly depends on the rivers vettar, Kudamurutiyaar and chullan vadigaal while the other sources of irrigation are bore-wells.





#### Muthupettai

Muthupettai is a block panchayat in Thiruvarur district in the Indian state of Tamil Nadu. also Muthupet is known as Pearlpet. Muthupet Mangrove forest is located at the southern end of the Cauvery delta, covering an area of approximately 13,500 ha of which only 4% is occupied by well-grown mangroves. It is the only coastal block in the district which comprises 13 fisher folk villages. Paddy and Coconut are the main crop cultivated in this block. The rivers Pamaniyar, Koraiyar, Kilaithankiyar, Marakkakoraiyar and other tributaries of the river Cauvery flow through Muthupet and adjacent villages. At the tail end, they form a lagoon before meeting the sea.

# 3.0 SOCIO DEMOGRAHIC PROFILE OF THE DISTRICT

- Thiruvarur is the administrative head quarters of Thiruvarur District which is lying in the delta region.
- The Thiruvarur District consists of:

Revenue divis	sions - 2	
Mannargudi	Thiruvarur	
Revenue Talu	··· · · ·	
Revenue Taluk	(S - 8	
Revenue block	c -10	
Revenue Diock	5 -10	
		M
		k
		Kotrac
		Thiruva
Municipalities	5 - 4	Koothan
	17.00 min.292	Mannargu
		Thiruthuraipo

16

# **3.1 POPULATION**

The total population of this district was 12,64,277 comprising 6,26,693 Men and 6,37,584 women as per 2011 census. The urban population was 2,57,795 constituting 20.3% of the total population, the remaining 79.6% i.e. 10,06,482 were belongs to rural population. The density of the population was 556 per sq.km. The total literate rate in the district was 9,46,471 (82.86%). While comparing the rural and urban population, rural dominates the urban population with the percentage of 79% (100648) & 21% (257795).

DESCRIPTION	2011	2001
Population	12.64 Lakhs	11.69 Lakhs
Actual Population	1,264,277	1,169,474
Male	626,693	580,784
Female	637,584	588,690
Population Growth	8.11%	6.31%
Proportion to Tamil Nadu Population	1.75%	1.87%
Sex Ratio (Per 1000)	1017	1014
Child Sex Ratio (0-6 Age)	958	970
Average Literacy	82.86	76.58
Male Literacy	89.13	85.43
Female Literacy	76.72	67.9
Total Child Population (0-6 Age)	121,973	140,099
Male Population (0-6 Age)	62,280	71,115
Female Population (0-6 Age)	59,693	68,984
Literates	946,471	788,302
Male Literates	503,085	435,421
Female Literates	443,386	352,881
Child Proportion (0-6 Age)	9.65%	11.98%
Boys Proportion (0-6 Age)	9.94%	12.24%
Girls Proportion (0-6 Age)	9.36%	11.72%

Table2: Thiruvarur District - Decade of Changes / Growth in demographic profile

Source: Census 2001, 2011 / District Hand Book 2017-18

# **3.2 DECADAL GROWTH OF THE POPULATION**

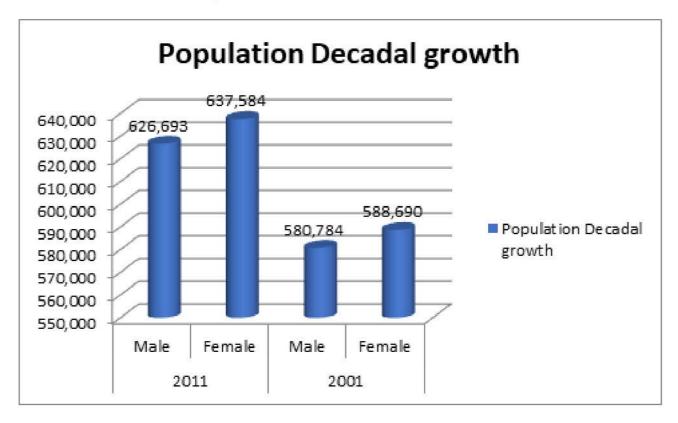


Diagram No. 3 Population Decadal Growth

The district demographic profile shows that the size of the population has considerably grown over the ten years. According to 2011 census, the total population in the district was 1264277. It says that the population had grown 8.11% when compared with the year 2001. The population density in the district per square km was 556 whereas in 2001 it was 492. Sex ratio as of 2011 was 1017 women per 1000 men. Child sex ratio according to 2011 census was 958 female per 1000 male. The total literates in the district were 946471 whereas in 2001 it was 788302. Child protection ratio (0-6 years) in the district is 9.65% whereas in 2001 it was 11.98% and this means the protection ratio fall down over the ten years.

Table 3: Blockwise Area, Total, Population and Schedule caste population

SI. No	Name of the Block	Population				Schedule Caste		
		Area (Sq. Km)	Persons	Male	Female	Persons	Male	Female
			BLOCKS					
1	THIRUVARUR	137.3	93395	46408	46987	40519	20293	20226
2	NANNILAM	203.91	100999	50705	50294	37614	18712	18452
3	KODAVASAL	187.86	96965	49022	47943	24490	12450	12040
4	KORADACHERI	117.78	103301	51228	52073	44810	22356	22454
5	VALANGAIMAN	203.24	88891	44394	44497	40423	20274	20149
6	MANNARGUDI	267.45	131164	65281	65883	46217	22986	23231
7	KOTTUR	266.75	107525	53218	54307	50118	24912	25206
8	NEEDAMANGALAM	245.00	115373	56935	58438	31386	15610	15776
9	THIRUTHURAIPOONDI	191.29	91278	45158	46120	47167	23342	23825
10	MUTHUPETTAI	206.35	77591	37605	39986	26446	12953	13493

Sources: Census 2001, 2011 / District Hand Book 2017 – 2018

Four block in Thiruvarur district has been selected for TNRTP intervention. Out of this Mannargudi block had a total population of 131164, Needamangalam block comprises a population size of 115373, Valangaiman block comprises of 88891 people and a total of 77591 people were living in Muthupettai block. The Scehduled caste population in Mannargudi was 46217, Needamangalam had a total of 31386 SC populace, Valangaiman had a total SC population of 40423 and it was 26446 in Muthupettai.

#### **3.3 SEX RATIO**

The Sex Ratio in Thiruvarur, it stood at 1017 per 1000 male compared to 2001 census figure of 1014. The average national sex ratio in India is 940 as per latest reports of Census 2011 Directorate. In 2011 census, child sex ratio is 958 girls per 1000 boys compared to figure of 970 girls per 1000 boys of 2001 census data.

#### **3.4 LITERACY**

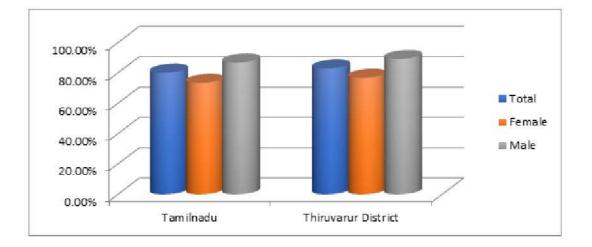
Average literacy rate of Thiruvarur in 2011 was 82.86 compared to 76.58 of 2001. If things are looked out at gender wise, male and female literacy were 89.13 and 76.72 respectively. For 2001 census, same figures stood at 85.43 and 67.90 in Thiruvarur District. Total literate in Thiruvarur District were 946,471 of which male and female were 503,085 and 443,386 respectively.

Sex	Thiruvarur District	Tamil Nadu
Female	76.72%	73.44%
Male	89.13%	86.77%
Total	82.86%	80.09%

#### Table 4: Literacy - Comparison with State

Table:4 Sources: Census 2001, 2011

## Diagram No.4: Literacy - Comparison with State



# **3.5 OCCUPATION PROFILE**

In Thiruvarur district out of total population 540,168 were engaged in work activities. 76.4% of workers describe their work as Main Work (Employment or Earning more than 6 Months) while 23.6% are involved in Marginal activity providing livelihood for less than 6 months. Of 540,168 workers engaged in Main Work, 60,508 were cultivators (owner or co-owner) while 200,126 was Agricultural laborer.

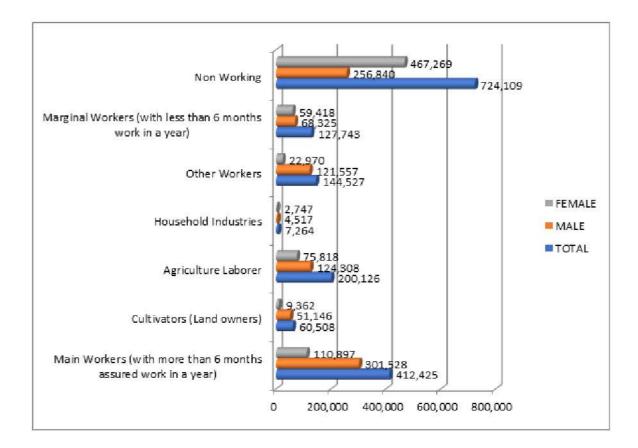
#### Table No.5: Occupation profile

CATEGORY	TOTAL	MALE	FEMALE
Main Workers (with more than 6 months as- sured work in a year)	412,425	301,528	110,897
Cultivators (Land owners)	60,508	51,146	9,362
Agriculture Laborer	200,126	124,308	75,818

Household Industries	7,264	4,517	2,747
Other Workers	144,527	121,557	22,970
Marginal Workers (with less than 6 months work in a year)	127,743	68,325	59,418
Non Working	724,109	256,840	467,269

Table: 5 Source; Census 2001 and 2011.

Diagram No. 5: Occupation profile



# **3.6 COMMUNITY BASED ORGANIZATIONS**

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 details of community based organizations are given below.

Community Based Institutions	NUMBERS
Village Panchayat	430
Village Poverty Reduction Committees (VPRC)	430
Panchayat Level Federations (PLF)	430
Self Help Groups (SHGs) in Rural	5417
Self Help Groups (SHGs) in Urban	545
Producer Groups (PG)	395
Farmer Producer Company (FPC)	4
Common Livelihood Group (CLG)	12

#### Table no. 6: Community Based Organization

Table: 6 / Source: District Profile Handbook 2015-16

Village poverty reduction committees, Panchayat level federations and livelihood sub committees were formed and exist in all the 430 village panchayats in the district. A total of 5417 and 545 SHGs formed and exists in Rural and Urban respectively. 395 producer groups and 4 former producer companies were promoted and available in the district.

<b>S.N</b> o	Name of the Block	Total Group As per E-mathi Portal	Active SHG	Members
1	Kodavasal	714	566	7276
2	Koradachery	818	659	9826
3	Kottur	1434	789	8894
4	Mannargudi	1057	796	10982
5	Muthupettai	926	555	7110
6	Nannilam	744	491	6428
7	Needamangalam	656	618	8106
8	Thiruthuraipoondi	1221	492	4829
9	Thiruvarur	1119	496	5249
10	Valangaiman	670	496	6499
	Total	9359	5958	73170

Table No. 7: Block wise SHG Details

Source: TNSRLM, Thiruvarur dist.

TNRTP blocks in the district constitutes of 652 habitations with 116364 households. There is a total of 417929 people living in those blocks and out of this male population comprises of 207115 and female population comprises of 210814.

Mannargudi block constitutes 162 habitations with 38558 households. There are 1057 SHGs in this district and out of this 796 SHGs are in active stage with a 10982 members.

Needamangalam block constitutes 162 habitations with 28984 households. There are 656 SHGs in this district and out of this 618 SHGs are in active stage with a 8106 members.

Valangaiman block constitutes 190 habitations with households. There are 670 SHGs in this district and out of this 496 SHGs are in active stage with a 6499 members.

Muthupettai block constitutes 108 habitations with 25813 households. There are 926 SHGs in this district and out of this 555 SHGs are in active stage with a 7110 members.

## 3.7 FARMER PRODUCER ORGANISATIONS (FPOS)

There are 5 FPOs promoted by Agri Dept, TNSFAC and SFAC Central GOI. The FPOs are very growing in nature with membership of 4500 member. Most of the FPOs are working on Organic paddy, millets, Seed, Pulses, oil, and hand made products production and sales activities.

SCHEME	NAME OF THE FBO	BUSINESS ACTIVITIES	NO. OF. PRODUCER GROUPS	TOTAL MEMBERS
SFAC Central GOI	Karikalan Pulses Farmers Producer company Limited, Mannargudi	Pulses & Seed Production	54	1000
TNSFAC	Tiruvarur Farmer Producer Company, Tiruvarur	Pulses, Oil Production & Sales	50	1000
Agri.	Rajagopalasamy Farmer producer company, Man- nargudi.	Business Plan To be Prepared	50	1000
Agri.	Kudavasal Collective Farms Producer Company Ltd.,	Business Plan To be Prepared	50	1000
	Thaaiman Traditional Agri. Related Producer Company Ltd.,	Organic Paddy, Mil- lets, Hand crafted products production and Sales.	25	500
TNSRLM	-		191	5435

#### Table No.8: Farmer producer organisation (FPO)

Table: 7 Source: District Profile Handbook 2015-16

## 4.1 TOPOGRAPHY

Thiruvarur is divided into three regions from the topography and flora point of view.

They are the alluvial regions land areas. The areas on the banks of rivers and canal are in the form of narrow strips.

The lateritic region: This region contains mostly thorny scrub jungles, tropical thorn forests and tropical dry evergreen forests.

The coastal regions: This zone contains casuarinas plantations, mangrove scrub, mangrove forest and southern thorn scrub jungle. The entire stretch of coastal mangroves with lagoons and back waters lying along the coast fall in this category.

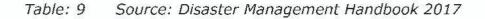
#### 4.2 CLIMATE AND RAINFALL

The mean annual maximum and minimum temperature of the district are 39.70 C and 22.600 C respectively. The rainfall in the coastal area is 1200 mm to 1600 mm and the mid district receives from 1000 mm to 1200 mm of rain on an average.

The maximum temperature is about 35.190C and the minimum temperature is about 26.390C. Dust storms whirl winds and dusty winds blow from various quarters towards the end of May. The Southwest winds that set in during April are strongest in June and continue till September. Northeast monsoon starts during the month of October and blow till January. Cyclonic storm with varying wind velocity affect once in 3 or 4 years during the month of November-December. Both these storms affect the plantation crop. During Southwest monsoon the air is calm and undisturbed. The Northeast monsoon which starts in October and ends in December contributes about 60% of the total annual rainfall. The Southwest monsoon rains from June to September and summer rains from March to May accounts equally for the rest of the annual rainfall.

Table no.9: Climate a	nd Rainfall
-----------------------	-------------

	Rainfall in mm	
South West	Normal 301.8	Actual 532.5
North East	Minimum 665.4	Actual 1118.8



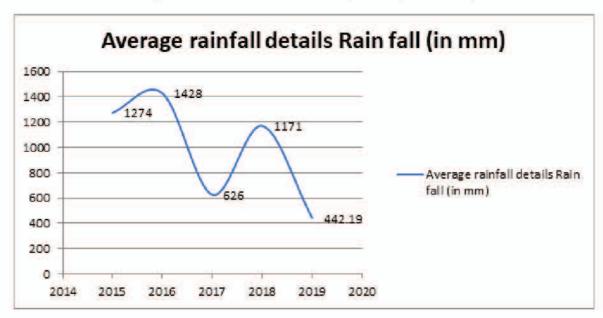


Diagram No. 6: Rainfall in MM (Average Rainfall)

Figure: 6 / Source: Statistic Department Handbook 2019

Average rainfall during the year 2018 in the district has fallen when compared to the year 2015. In 2015 it was 1274 mm and only 1171 mm rainfall received in the district. During the year 2017 the district only received 626 mm rainfall.

## 4.3 LAND USE PATTERN OF THE DISTRICT

The total geographical area of Thiruvarur district is 2161 Sq. km. The total gross cropped area of the district was 3,148,27 and net area sown was 177300 hectares in 2017-18. The net area sown area 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 potential of a second crop dictated by the behavior of the monsoon and corresponding availability of water in surface / sub surface storages.

	Table No. 10: Land Utilization				
S.No	Nine - fold classification	Area (in Hectares)			
1	Forest	2452			
2	Barren and Uncultivable Waste	113			
3	Land put to non- agricultural uses	37321			
4	Cultivable Waste	1195			
5	Permanent pasture and other Grassing land	786			
6	Land under Miscellaneous trees and groves	2074			
7	Current Fallow	2332			
8	Other Fallows	7230			
9	Net area sown	156215			
10	Geographical Area	209709			

11	Total cropped area	293755
12	Area sown more than once	137540
Source	e: District G Return 2017-18	0

In the district, total cropped area is 293755 hectares and out of this the net sown land is 156215 hectares. Area sown more than one time is 137540 and the fallow land is 2332 hectares. The district has 2452 hectares of forest land and barren and land under miscellaneous trees and groves are 2074 hectares.

Diagram No. 7: Land use pattern of the district

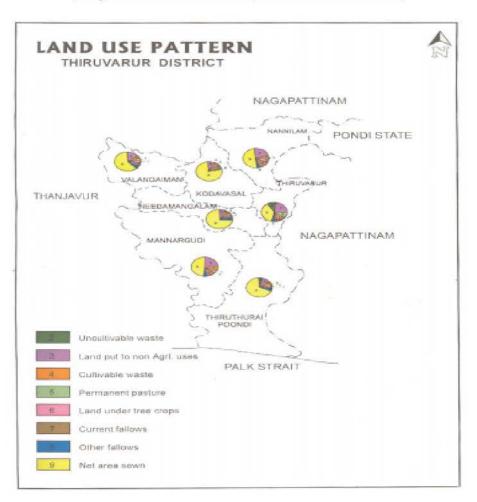


Figure: 9 /Source: District Survey Handbook

## **4.4 SOIL**

The district is situated in Cauvery Deltaic Zone, sandy coastal alluvium is the predominant soil type in this district accounting for 56.78% and other types of soil cover 43.22% of the total area.

They are alluvial soil, sandy soil and clay soil. Predominant soil types in the district are sandy coastal alluvium and red loam. The alluvial soil is generally found in the river bed and its adjacent areas of the river Cauvery and the sand soil is found to occur along the coastline areas. These types of soils are very fertile in nature. Cauvery is the main river flowing in this district. Vennar, Vettar, Koraiyar, Paminiyar, Mullaiyar, Harichandra Nadi, Arasalar, Vanchiar, Nattar etc are some of the seasonal rivers flowing in this district. Canals extending to a length of around 612 kms supported by the Cauvery system irrigate the entire district. The remaining part of the district is covered with clay soil.

	Table No.11: Soil Classification			
S.No	Type of Soil	Places in District		
1	Red Loam			
2	Lateritic Soil and sterile Soil			
3	Black Soil			
4	Sandy Coastal Alluviam Soil	Nannilam, Thiruvarur,Kodavasal,Koradacherry,Valangaiman, Mannargudi & Needamangalam		
5	Red sandy Soil	Kottur, Thiruthuraipoondi & Muthupettai		
Source Chenr		Conservation), Thiruvarur directorate of Economics and Statistics,		

In Thiruvarur district the major areas are covered by the sandy coastal alluviam soil and red sandy soil. More than 60% areas are covered by this soil type; rest would have been covered by the red sandy soil. All the blocks except Mannargudi where in which TNRTP intervenes are wrapped with sandy coastal alluvium soil and only Muthupettai block is covered by red sandy soil.

# **5.0 IRRIGATION SOURCES**

- Net irrigated area: 1, 18,275
- By Canals: 1, 12,759
- > By Wells: 730
- By Tube Wells: 4,786

## **5.1 WATER RESOURCES**

Water availability is a crucial indicators also a limiting factor influencing the production and productivity in agriculture sector. Irrigation availability for all cultivable land within the next 10 years has been identified as a key objective under vision 2023 prepared by the State Government. While government investments are implemented by individuals with institutional support. The following table shows the data on availability of groundwater, stage of development and categorization of blocks as obtained from the state groundwater directorate.

		<u> </u>
CATEGORISATION	NO. OF FIRKAS	NAMES OF THE FIRKAS
SAFE {Upto 70% utiliza- tion}	10	Mannargudi Taluk – Kottur, Mannar- gudi, Palaiyur, Thalaiyamangalam, Ullikotai, Vaduvur
		Needamangalam Taluk - Needaman- galam, Vadapathimanglam
		Thiruvarur Taluk – Kanniyur, Thiruvarur
SEMI CRITICAL {Utilization between 70 & 90%}	2	Thiruvarur Taluk – Sannanalur, Kootha- nallur
CRITICAL { <i>Utilization be-</i> <i>tween 90 &amp; 100%</i> }	2	Kodavaasal Taluk – Thiruvizhimazhalai Nannilam Taluk – Nannilam
OVER – EXPLOITED { <i>Utili-</i> <i>zation beyond 100%</i> }	9	Kodavasal Taluk – Kodavasal, Kora- dacheri, Kuzhikarai, Thirukannamangai Nannilam Taluk – Agarathirumalam, Pera-
		lam Valaingaman Taluk – Alangudi,
		Avoor, Valaingaman
SALINE	4	Thiruthraipoondi Taluk – Alathampadi, Edaiyur, <b>Muthupet</b> , Thiruthraipoondi

Table No. 12: Water Resources Categorization

Source: NABARD hand book 2019

Since, the district is in the delta region and mostly fertile, the ground water availability and is comparatively good. Out of the TNRTP blocks, the water quality and availability in agriculture hubs such as Mannargudi and Needalamangalam blocks is good. In Valangaiman block which is also a agriculture hub, the water has been over exploited. The water availability in Muthupettai block is good but due to its topography (coastal) the water is saline and cannot be utilized for farming.

## **5.2 RIVERS AND OTHER IRRIGATION SOURCES**

The river Cauvery and its tributaries are the main rivers of the district. The Cauvery is considered to be the best of the rivers that drain in Southern peninsula of India. Vettar, Odambegiar, Kaduvaiyar, Pandavayar and Vellayar are the minor basins in Tiruvarur district. The main sources of irrigation in Tiruvarur district are canals, tanks and wells. There are 17 rivers namely odampokkiyar, Vettar, Vennar, Mudikondan, Nattar, Koraiyar, Valavaikkal, Kattar, Pandavaiar, Harichandra Nathi, Mullaiyar, Pamaniyar, Adappar, Vellaiyar, Marakka Koraiyar, Vadavar Extn. There are four lakes in the district, namely Vaduvur, Thirumeni, Uthayamarthandapuram and Muvanallur. There are 13 canals covering a total length of 612 kms in all blocks of the district which act as the major sources of irrigation. The gross area irrigated is 2,93,755 ha and net area under irrigation is about 1,56,215 ha. The irrigation intensity in the soil and red sandy soil which are suitable for well structures. The district has 12966 tube wells and 3,376 other structures. The quality of groundwater from shallow and deeper zones is generally good and is suitable for irrigation and domestic purposes.

#### **5.3 IRRIGATION PRACTICES**

The main source of irrigation in the district is canals. Canal irrigation is highest in the Mannargudi block, which is followed by Needamangalam block. (Source: Department of Economics and Statistics, Govt. of Tamil Nadu)

I.No	Block wise Gross area	Irrigated by canals (Ha)	
1	Thiruvarur	10209	
2	Nannilam	16334	
3	Kodavasal	14721	
4	Koradacheri	12641	
5	Valangaiman	16867	
6	Mannargudi	246191	
7	Kottur	19073	
8	Needamangalam	22589	
9	Thiruthuraipoondi	15418	
10	Muthupetai	12891	
	Total	165362	

## **6.1 ELECTRICITY - RURAL ELECTRIFICATION**

19815 numbers of pumps set energized, 523 numbers of villages are electrified & 1500 numbers are hamlets electrified.

SI.No	Sectors	Consumption (M. U)	% of the Consumption	Cost per unit in paise	Income in Rs.
1	Industries	8.42	4	813	68415
2	Agriculture	132.5	24.45	0	C
3	Domestic	299.23	55.21	162	484687
4	Commercial	56.9	10.5	944	537268
5	Public lighting & Public works	32.59	6.01	681	221888
6	Cottage & Tinning Industries	6.32	1.17	441	27853
7	Recognized Education & Institution	3.99	0.74	683	27232
8	Place of worship	2.05	0.38	671	13764
9	Total	542	100		1381107

Power is the main player that decides the normal flow of daily human life. In Thiruvarur district power has been consumed across all sectors. Next to domestic usage, agriculture which is the predominant sector in Thiruvarur district consumes the maximum power that in which also would be the revenue capital.

In Thiruvarur district, maximum electric power is consumed for domestic purpose with a total of 299 (around 55%) mega units . Agriculture sector power consumption comes around 24% of the total consumption in the district. Power consumption in commercial sector is 56.9 mega unit (10.5%). The usage of cottages & tiny industries are around 4% and 6% respectively.

## **6.2 ROAD NETWORK & CONNECTIVITY**

Thiruvarur district house 94.06 km of roads: 54.9 km of BT roads, 10.91 km of metal roads, 9.48 km of cement roads and 18.75 km of highways. Thiruvarur is connected by three national highways, NH 45A to Viluppuram, NH 67 to Coimbatore. Thiruvarur is connected with Chennai, Coimbatore, Tiruchirapalli, Karaikal and other major towns of Tamil Nadu through the state highways SH 23 from Mayiladuthurai to Thiruthuraipoondi, SH 67 from Thanjavur to Kodiakkarai, SH 65 from Thiruvarur to Kumbakonam, SH 66 from Kumbakonam to Adiramapattinam, SH 67 from Nagore to Nachiyar Koil, SH 146 from Mannargudi to Sethubavachatram, SH 147 Kumbakonam to Karaikal, SH 151 Kilvelur to Kachanam.

The Tamil Nadu State Transport Corporation operates close to 175 daily services connecting various cities to Thiruvarur. Most of the buses via Thiruvarur are operated by the corporation ply between Tiruchirapalli and Velankanni. It also operates 25 town buses satisfying the local transport needs of Thiruvarur and the neighbouring villages.

#### **6.3 RAIL NETWORK & CONNECTIVITY**

Thiruvarur railway junction is a four way junction connecting Thanjavur in the west, Mayiladuthurai in the north, Nagapattinam in the east and Thiruthuraipoondi in the south. There are passenger trains to Tiruchirapalli, Thanjavur, Mayiladuthurai, Karaikal, Mannargudi and Thiruthuraipoondi. There is a daily express train to Chennai via Mayiladuthurai and Ernakulam. There are two trains from Mannargudi to Tirupathi and Velankanni to Goa, operated three times a week that pass through Thiruvarur. The nearest airport to Thiruvarur is Tiruchirappalli International Airport, which is located 110 km (68 mi) from the town.

Agriculture is the principal occupation in Thiruvarur district. More than 70% of the total work force is dependent upon agriculture. This district is essentially a deltaic plain comprising of old and new delta. The old delta has a net work of canals and channels of the river Cauvery (Nannilam, parts of Valangaiman, Kodavasal and Thiruvarur taluks) and Vennar (Thiruthuraipoondi, Needamangalam and parts of Thiruvarur, Kodavasal, Valangaiman and Mannargudy taluks). A small extent (part of Mannargudi and Valangaiman taluks) of new deltaic area is irrigated by Grand Anaicut canal. Tapping of ground water is done considerably in this area to advance the first cropping season, Kuruvai, to avoid damage due to the north east monsoon and to accommodate the two crops namely Kuruvai and Thaladi.

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## 7.1 CROP AREA

The total gross cropped area is 2,93,755 ha. Out of which the net sown area is 1,56,215 ha. Both the cropping and irrigation intensity were calculated at 188% during the year 2018-19 in the district. Paddy is the main crop in the district, pulses are sown as rice fallow in the district.

The soils of the new deltaic area are amenable for wide variety of crops such as Coconut, Mango, Groundnut and Paddy. Summer crops like pulses, Cotton, Gingelly, Soybean and Groundnut are grown in this area, under irrigated conditions. Cultivation of Oil palm is also gaining momentum in this district wherever assured water supply and drainage facilities are available.

Due to non-availability of timely water in the Cauvery river and reduced rainfall, farmers have taken up sowing in about 28,404 ha during kuruvai and thaaladi seasons in addition to 1,21,134 ha during samba season. Farmers also cultivate cotton, groundnut, gingelly, sugarcane and coconut in the district. The area under paddy has increased from 1,81,046 ha during the year 2017-18 to 1,87,735 ha in 2018-19. It is also noted that due to many awareness program conducted by the agri.dept. the area under SRI/direct showing has increased considerable which has helped the farmers to spend less in paddy cultivation.

The productivity of the crops has to be increased so as to compensate the reduction in land under agriculture by adopting modern practices and high yielding hybrid varieties.

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Table No.15: Cultivation Seasonal Schedule						
Name of the Season	Duration (Days)	Month				
Kuruvai	100-105	lung to Contombor				
Kuruvai	(Short Term)	June to September				
Thaladi	120-125	October and Feb, March August to January				
malaul	(Short Term)					
Camba	135-145					
Samba	(Long Term)					
Summer Paddy	90 days	January to March				

Source: District Profile Handbook 2015-16

Paddy is Cultivated in under 3 seasons in Thiruvarur district namely Kuruvai, Thaladi and Samba. Kuruvai is a short term duration crop and is cultivated between June and September. Thaladi is too a short term crop and cultivated between October and February or March, Samba is a long term crop and farmed between August to March. When Samba season cultivation is not successful then the farmers in the district opt for summer season paddy which is cultivated during January to March every year.

SI.No Crops		Net area Cultivated (Ha)	Year Wise Crop Cultivated(Ha)									
	Crops Name		2014	%	2015	%	2016	%	2017	%	2018	%
1	Paddy	280143	193961	69%	195726	70%	187469	67%	181046	65%	177942	64%
2	Black Gram		60554	22%	64857	23%	42343	15%	55221	20%	56570	20%
3	Green Gram	1 12	60369	22%	56879	20%	32733	12%	45436	16%	93820	33%
4	Cotton		2733	1%	5772	2%	6919	2%	4197	1%	6913	2%
5	Sugar cane	6 8 <b>-</b>	584	0%	468	0%	365	0%	168	0%	71	0%
6	Gingelly		161	0%	384	0%	539	0%	555	0%	60	0%
7	Ground Nut		1652	1%	1942	1%	2339	1%	2974	1%	1109	0%
8	Oilpalm		96	0%	185	0%	221	0%	208	0%	233	0%
9	Coconut	· · · ·	4021	1%	4021	1%	4030	1%	4030	1%	4059	1%

Table No.16: Crop wise net area cultivated with Percentage

Source : Agriculture department, Thiruvarur district

- Total net area cultivated in Thiruvarur is 280143 hectares. Paddy was the maximum cultivated crop in the district with a percentage of 69% during the year 2014 and 64% during 2018. Although the cultivated area dropped down over the year, it leads the list in percentage during the comparison period.
- Green gram was the second leading cultivated crop with 33% percentage and in 2014 it was 22% and that time it stood third among the cultivated area percentage.

- Black gram was the third leading cultivated crop in the district and it was cultivated in 20% area and during 2014 it was cultivated in 22% area.
- Cotton was the fourth leading crop cultivated in the district.

The trend of these three leading cultivated commodities in the district has up and down movement/ gradual flow.

.No.	Crops	Area (in Hec.)	Production (in tonnes)			
1	Paddy					
	Kuruvai	23521	126785			
	Samba/ Taladi	147435	689839			
	Kodai	10043	96301			
	Total	180999	912925			
2	Green gram	45334	41902			
3	Black gram	53311	48272			
4	Sugar cane	239	62045			
5	Arecanut	2	3			
6	Chillies	16	32			
7	Turmeric	2	9			
8	Tamarind	116	295			
9	Таріоса	102	1849			
10	Sweet potato					
11	Brinjal	96	302			
12	Ladies finger	119	59			
13	Banana	418	14450			
14	Mango	183	1178			
15	Lemom	35	30			
16	Cashewnut	122	(3.27)			
17	Jack fruit	25	292			
18	Guava	4	40			
19	Cotton	4199	10875			
20	Groundnut- Irrigated	2974	8210			
	Unirrigated	(144)				
	Total	2974	8210			
21	Gingelly - Irrigated	20				
	Gingelly - Unirrigated	538	109			
	Total	558	109			
22	Cocount	4675	816			

#### Table No. 17: Area and Production of crops

- Paddy is cultivated in 3 seasons viz kuruvai, samba/thaladi and kodai. Paddy is cultivated in an area of 180999 hectares and has a production of 912925 tones during these 3 seasons.
- Green gram has been cultivated in an area of 45339 hectares and getting the yield of 41902 tones.
- Black gram has been cultivated in an area of 53311 hectares with the yield of 48272 tones.
- Cotton is cultivated in 4199 hectares and with an output of 10875.

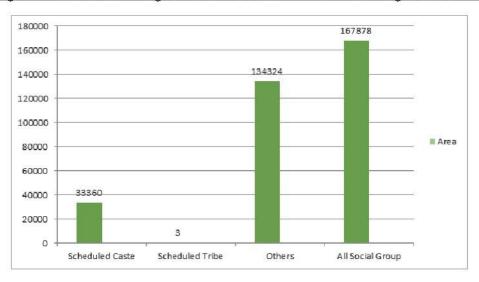
Size Class	S.C.		S.T.		OTHERS		INSTITUTIONAL		TOTAL	
of holdings (Hectares)	No.of Holding	Area	No.of Holding	Area	No.of Holding	Area	No.of Holding	Area	No.of Holding	Area
Below 0.5	21884	5390.66	1	0.21	46015	11511.13	15	2.6	67915	16904.6
0.5 - 1.0	10748	7468.68	0	0	27240	19410	11	7.97	37999	26886.65
1.0 - 2.0	6446	8825.13	4	4.98	23481	33241.97	9	13.35	29940	42085.43
2.0 - 3.0	1399	3271.86	0	0	8306	19830.52	4	9.9	9709	23112.28
3.0 - 4.0	341	1174.47	0	0	2926	10061.53	5	18.06	3272	11254.06
4.0 - 5.0	108	474.48	0	0	1331	5910.11	2	8.4	1441	6392.99
5.0 - 7.5	70	420.84	0	0	1239	7321.33	10	60	1319	7802.17
7.5 - 10.0	12	100.75	0	0	319	2647.63	13	109.63	344	2858.01
10.0 - 20.0	3	32.65	0	0	150	1883.76	6	80.45	159	1996.86
20.0 and above	0	0	0	0	16	404.26	13	915.26	29	1 <b>3</b> 19 <b>.52</b>
Total	41011	27160	5	5	111023	112222	88	1226	152127	140613

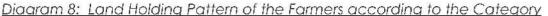
Land holding is an important indicator that exposes the socio economic status of a community. The table given above shows the number and area of operational land holding.

- As per the table it is clear that the scheduled tribe population is the weakest among all the community and owning only 4 hectares of land across the district.
- Scheduled caste mostly owns one hectare or less out of the landholders in this community.
   21884 SC households hold less than 0.5 hectares with a total of 5390 hectares and
   10748 households owns 0.5 to 1 hectare that arrives a total holding of 7468 hectares.
   3 households own 10 to 20 hectares with a total area of 32.65 hectares and none of this community holds 20 hectares or more.
- 111023 Other community households in the district hold 112222 hectares. Out of these 46015 households own land ranges between 0.5 hectare or less with a total count of 11511.13 hectares, 27240 households own land ranges between 0.5 to 1 hectare with a total of 19410 hectares. 23481 land holders are there in the district among the

other community population holding land area between 1 to 2 hectares with a total of 33241.97 hectares. 16 households from this community hold 20 hectares or above that arrives a total of 404.26 hectares.

 88 institutions in the district hold 1226 hectares of land ranges between less than 0.5 to 20 and above.





Source: Assistant Director Of Statistics, Thiruvarur.

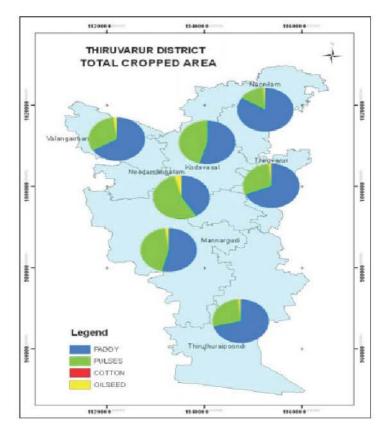


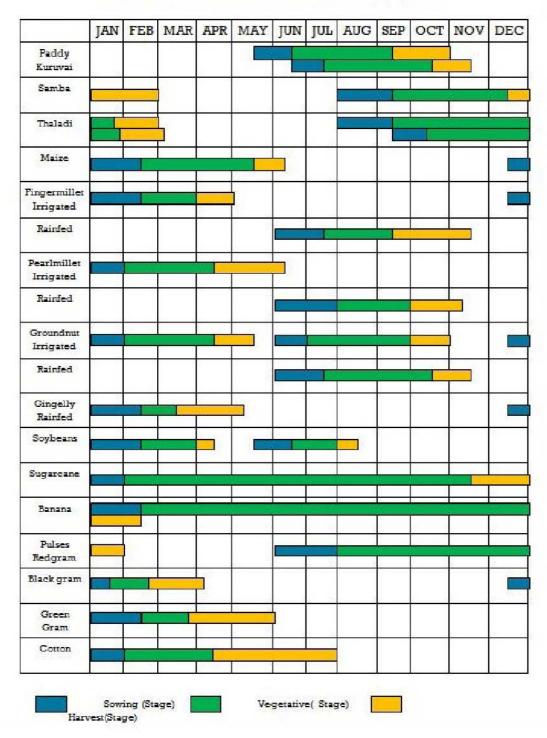
Diagram 9: Total Cropped area

Total Cropped Area / Source: District Handbook 2017

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### **7.2 CROPPING CALENDAR**

The major crops cultivated in Thiruvarur District are Paddy, Pulses and Sugarcane. Beside this Soyabean, Banana, Groundnut and Gingelly are also grown.Paddy is grown in three seasons viz. Kuruvai, Samba and thaladi.. Pulses like Blackgram and Green gram and other cash crops like cotton and Gingelly are grown in rice fallows. Irrigated paddy is grown wherever water is available. In some areas, semidry (district sown) paddy is also cultivated.



### CROPPING CALENDAR - THIRUVARUR DISTRICT

### **7.3 INFRA-STRUCTURE FACILITIES**

- State Seed Farms Deevambalpattinam, Nedumbalam, Kanchikudikadu, Keeranthi, Moongilkudi
- Coconut Nursery Vaduvur Thenpathi
- Bio- Fertilizer Production Unit Needamangalam
- Fertilizer Control Laboratory Thiruvarur
- Soil Testing Laboratory Thiruvarur

### \* Mobile Soil Testing Laboratory -Thiruvarur

		Godowns		T-Sheds		Drying
SI.No	Place	Nos.	Capacity (MT)	Nos.	Capacity (MT)	Yards Nos.
1.	Kodavasal	1	500	5 <del>-1</del> 1	×	1
2.	Mannargudi	3	3000	1	670	2
3.	Poonthottam	1	1000	1	600	1
4.	Thiruthuraipoondi	1	2000	12	4	9
5.	Tiruvarur	2	2700	2	1200	2
6.	Vaduvur	2	1000	2	1100	2
7.	Valangaiman	1	500	ä	2	1
n.	Total	11	10700	6	3570	9

Table No. 19: Infrastructure – Regulated Markets

Source: District Survey Handbook 2017

Go-downs, T-sheds and drying yards are available in the district. These are all vital for an administration to store the perishable and non perishable commodities until it reaches the consumer market. In the district there are 11 go-downs located across the district with a total capacity of storing 10700 MTs. Out of this Mannargudi has the maximum with 3 godowns with 3000 MT capacity. Thiruvarur and Vaduvur have 2\_go-downs each with a capacity of 2700 MT and 1000 MT respectively. With regard to T-sheds, Thiruvarur and vaduvur has 2 each with a total capacity of 3300 MTs. There are 9 drying yards in the district and out of this Mannargudi, Thiruvarur and Vaduvur has 2 yards each.

### 7.4 REGULATED MARKETS

The regulated markets provide necessary infrastructure for both farmers and traders, to enable the farmers to bring their agricultural produce to the regulated markets, so that the

famers get maximum price benefit for their agricultural produces without the intervention of middlemen and commission. These services are provided free of cost to the farmers.

- Uzhavar Shandies 7 :- Mannargudi 2, Tiruvarur -1, Needamangalam -1, Muthupet -1, Thiruthuraipoondi -1 & Valangaiman -1
- TNCSC Go downs 9

Table No.20 : Paddy Procurement Centre		
Year	No. of Centers	
2018	436	
2019	89 (Up to 14.10.2019)	

Source: District Survey Handbook

	Total No. of		of farmers SHG/ Day	Percentage of Occupancy/
Ulavar Sandhais	shops	Farmers	SHG/Society	Utilization
Thiruvarur	40	15	4	42.50
Thiruthuraipoondi	68	47	1	70.58
Mannargudi I	65	48	14	95.38
Mannargudi II	20	12	2	70.00
Needamangalam	20	4	0	20.00
Muthupettai	27	8	1	33.33
Valangaiman	20	6	0	30.00

Table No 21: Ulavar Sandhai and Utilization

Source : Agriculture marketing department, Thiruvarur

All the TNRTP cover up blocks have ulavar sandhai's which would be most helpful in marketing the products of the entrepreneurs promoted under the project. The farmers and SHGs market their products here. Mannargudi has two shops located in different places in the town itself with a total shop capacity of 65 shops and 20 shops. Needamangalam has one ulavar sandhai with 20 shops capacity. In Muthupettai block there is one sandhai with 27 shops and in Vlangaiman block there are 20 shops in one ulavar sandhai.

### **7.5 FACILITIES IN THE REGULATED MARKETS**

- ♦ Trading Hall
- Weighing Machine
- Go down facilities in an affordable rent.
- Auction [Secret and Open] of agricultural produces especially Cotton in Tiruvarur District

### **7.6 SECTOR & COMMODITIES PRIORITIES**

Table No.22: Agriculture in Hectares

Agriculture in Hectares		
Total cultivated area	237715	
Net Area Sown	153227	
Area Sown more than once	84488	

Source: Disaster Management Handbook 2017-18

With regard to priority commodities, total area cultivated in the district per year is 237715 and out of this, 35% (84488) of the hectares are under cultivation for more than once in a year and the remaining is (i.e.) 65% hectare is under cultivation only once in a year.

Table No. 23: Area of Principal Crops (IN HA.)

156000
65000
4000
1000
2000
3000
4921

Sources: Disaster Management Handbook 2017-18

Rice leads the principal crop production in the district. It has been cultivated in 156000 hectares and pulses come second with an area of 65000 hectares in a year. Groundnut and gingili are least cultivated with an area of 1000 and 2000 hectares respectively.

Table No.24: Mc	ijor Food Crops
IMPORTANT FOOD CROPS	IMPORTANT NON - FOOD CROPS
Rice	Cotton
Greengram	Groundnut
Blackgram	Coconut

Sources: Disaster Management Handbook 2017-18

### **7.7 AGRIBUSINESS OPPORTUNITIES**

The Tiruvarur Market Committee encompasses the entire revenue district of Tiruvarur as its notified area. There are 8 regulated markets under Tiruvarur Market Committee and each having its own notified market area. They are,

Tiruvarur	Mannargudi	Thiruthuraipoondi	Vaduvoor	
Valangaiman	Kudavasal	Poonthottam	Koradacherry	

### **7.8 HORTICULTURE:**

Thiruvarur district is a Delta region. This district is predominantly an Agricultural oriented one and depends mostly on Cauvery water. Horticulture crops are being growninarea of 1534 ha. Among these fruit crops are been cultivated in an area of 618 ha, vegetable crops 612 ha, flower crops 27 ha and spices and plantation crops 217 ha. In Thiruvarur out of 10 blocks mannargudi, needamangalam, kodavasal, valangaiman and nannilam are identified as potential blocks where more area under horticulture crops are cultivated.

The agriculture economy of the district is mainly paddy based, with three fourths of the total geographical area of the district under agriculture, much higher than the state average of 43 %. There is limited potential for the development of horticulture crops in the district for bringing a changed cropping pattern. Horticulture crops are being grown in an area of 1534 ha. Among these fruits crops are cultivated in an area 618 ha, vegetable crops 612 ha, flower crops 27 ha and spices and plantation crops 217 ha.

The horticulture crops grown in the district are Mango, Banana, Tapioca, Flowers, Oyster Mushroom, Guava, Jackfruit and Vegetables. Of the horticulture crops grown in the district, perennial oilseed crop viz. coconut, constitute 88 %. Fruits, vegetables and betel vine and flowers are grown in the remaining area under horticultures. As far as sericulture is concerned, mulberry is planted on a limited scale in Nannilam, Kudavasal, Needamangalam, Valaingaiman and Koradachery.

COMMODITIES	CULTIVATED AREAS (HEC)	PRODUCTION (in tones)
Snakegourd	7	105
Bittergourd	12	91
Green grams	19	133
Brinjal	35	590
Moringa	8	310
Таріоса	138	5244

Vegetable commodity cultivation is done here and there in the district Snake gourd, bitter gourd, green grams, brinjal, moringa, tapioca are cultivated in small scale. The production of brinjal is 590 tones and it is cultivated in an area of 35 hectares. Tapioca is cultivated in 138 hectares and yields a production of 5244 tones in a year. Green gram is cultivated in 19 hectares and gets a production quantity of 133 tons per hectare.

	Table no.26: Fruits and Flower Cultive	ation
CROP	CULTIVATED AREAS (HEC)	PRODUCTION (in tones)
Mango	123	784
Banana	224	7840
Jackfruit	7	160
Lemon	50	100
Rose	16	24
Jasmine	15	70
Source: District Survey H	landbook 2015-16	

Fruits and flowers are cultivated in small scale and out of this banana are highly preferred and cultivated in 224 hectares and the volume of its production is 7840 tones. Mango and lemon comes next in terms of total area cultivation. Mango is cultivated in 123 hectares and lemon is cultivated in 50 hectares with a production volume of 784 tones and 100 tons respectively. In the flower variety rose and jasmine is cultivated in the district. Rose is cultivated in 16 hectares and jasmine is cultivated in 15 hectares.

CROP	CULTIVATED AREAS (HEC)	PRODUCTION (in tones)
Tamarind	70	210
Betel vine	16	7
Areca nut	12	25

In the district, tamarind is being cultivated in 70 hectares and yields a production of 210 tones. Betel vine has been cultivated in 16 hectares and have a production outcome of 7 tones. Whereas areca nut is being cultivated in 12 hectares and it yields 25 tones.

# **8.0 ANIMAL HUSBANDRY**

### 8.1 DAIRY

Animal Husbandry sector plays a crucial role in ensuring the welfare of rural population. A majority of farmers depend on Animal Husbandry for their livelihood. Moreover, livestock sector provides supplementary employment and sustainable source of income to many small and marginal farmers.

	Table No.28: Livestock Pop	oulation - Diary
S.NO	CLASSIFICATION	NUMBERS
	CATTLE	
1	Male	
	i. under one year	11996
	ii. 1 to 2.5 years	16995
	iii. Over 2.5 years	15002
	Total	43993
2	Female	
	i. under one year	24555
	ii. 1 to 2.5 years	31226
	iii. Over 2.5 years:	73566
	iv. In milk	62331
	v. Dry	28559
	vi. Not calved once	11223
	vii. Others	3526
	Total	234986
	TOTAL CATTLE	278979
	BUFFALOES	5
1	Male	
	i. under one year	85
	ii. 1 to 2.5 years	70
	iii. Over 2.5 years	90
	Total	245

i. under one year	200
	300
ii. 1 to 2.5 years	400
iii. Over 2.5 years:	356
iv. In milk	458
v. Dry vi. Not calved once	
	98
vii. Others	12
Total	1959
BUFFALOES TOTAL	2204
	iii. Over 2.5 years: iv. In milk v. Dry vi. Not calved once vii. Others Total

The district has good cattle population. A total of 278979 cattle exists in the district. Male cows in the district comprise 43993 and female cows comprise 234986. 62331 out of the female cows are at the stage of yielding milk. There are 245 male and 1959 female buffalos reared in the district. Out of the 1959 female buffalos, 458 are yielding milk.

The data about the milk yielding and the other growing (calf) cattle population shows that the district has potential enterprises opportunity in the sense of milk collection centers and milk based value added products.

### 8.2 ANIMAL HUSBANDRY - SHEEP, GOAT, PIGGERY ETC.,

Goat rearing is carried out as an important economic activity mainly by landless agricultural laborers in the district. Sheep comprises only 1.6% of the total sheep and goat population as no grazing land is available in the district. Goat rearing is an important subsidiary animal husbandry activity in the district and it involves only low cost technology. It acts as a primary source of income for majority of landless agriculture laborers and supplements the income of small and marginal farmers. Goat, which is poor man's cow and also called as ATM for poor man, comprises 98% of the total sheep and goats reared in the district. The worth of goat rearing lies primarily in their quick proliferation intervals, higher growth rate and the ease with which they can be marketed. In fact goats can survive and flourish in areas where sheep and cattle cannot. They can utilize the crop residues efficiently and have higher digestible efficiency than sheep. In additional among the livestock slaughtered, goat slaughter rate is the highest as goat meat is the most preferred meat for consumption.

S.No	Classification	Numbers
1	SHEEP	6900
2	GOATS	380009
3	HORSES AND PONIES	25
4	PIGS	1250
5	MULES	0
6	CAMELS	0
7	DONKEYS	10

8	DOMESTIC DOGS	35555	
TOTAL LIVESTOCK		704932	

There are 6900 sheep reared in the district. Goat populace is high compared to other breeds. A total of 380009 goats are being reared in the district. This data shows that the intervention districts has the potentiality for goat farm and other allied enterprises promotion.

### 8.3 POULTRY

Poultry rearing is not so popular in the district. A minimum number of poultries are maintained in some parts of the district. Special camps have been conducted in imparting training in dairy related activities. Poultry farming provides subsidiary income and gainful employment to farmers throughout the year. Among the various poultry rearing activities, layer, broiler and desi birds farming are popular on commercial lines. The broiler farming is being taken up on contract farming, wherein the small farmers enter into contract arrangement with the larger poultry companies, who provide all the inputs and buy back the birds. Of late, the commercial desi bird farming is gaining momentum in the district for meat production.

S.No	Classification	Numbers
1	POULTRY	236000
2	FOWLS	2500
3	DUCKS	150
OTAL PO	DULTRY	238650

### 8.4 FISHERIES

Fisheries is an important economic activity and contribute to significant growth in nutritional security, employment generation and foreign exchange earnings, fisheries sector encompasses exploitation of fish production from fresh water, marine and brackish water sources. Inland fisheries covers mainly fresh water fish culture and fresh water prawn culture. Fishing is also undertaken by talking village ponds on lease. Inland fishery includes fish farming in ponds, tanks, lakes and other suitable water bodies.

The Fisheries resources in the District provide livelihood to more than fifteen thousand fishermen including those who involved in marine, inland and brackish water fishing. The Government accords utmost priority for the safety and well-being of the fishermen. Augmenting productivity in a sustainable manner and providing quality in value addition for the betterment of the livelihood and living standard of our fishermen are the core objective of the department.

Table No.31: Estimated Marine Fish Production / Inland Fish Production

SL. No	Blocl / Municipali- ties	i- Quantity (in Tonne)		Value ( Rs.Lakhs)		No. of Families engaged	
		Inland	Marine	Inland	Marine	Inland	Marine
1	THIRUVARUR	450		540	-	NIL	NIL
2	NANILAM	350	-	420	-	NIL	NIL
3	KODAVASAL	505		606	<u>-</u>	NIL	NIL
4	KORADACHERRY	550		660	-	NIL	NIL
5	VALANGAIMAN	575	-	690	-	NIL	NIL
6	MANNARGUDI	1000	-	1200	<u></u>	NIL	NIL
7	NEEDAMANGALAM	420		504		NIL	NIL
8	KOTTUR	440		528		NIL	NIL
9	THIRUTHURAIPOONDI	425		510	-	NIL	NIL
10	MUTHUPETTAI	305	425	366	522	NIL	2900
	TOTAL	5020	425	6024	522	NIL	2900

### 8.4.1 COASTAL AREA DETAIL

- 1. Coastal length 47.2 km
- 2. Coastal Villages 13 in which, 2911 families fully engaged in the fishing activities.
- 3. The population of fisher folk is 11439 (5955 males and 5484 females)
- 4. 256 No. of motorized FB are used for fishing activities in the district.

### **8.4.2 MARINE FISHERIES**

Thiruvarur District is one of the coastal district in Tamil Nadu lies on shore of Palk straight having coastal length of 47.2km. The District has 13 coastal villages in which, 2911 families fully engaged in the fishing activities. The population of fisher folk is 11439 which include 5955 males and 5484 females. Approx. 200 No. of Motorized fishing boats are the major craft used for fishing activities in the district.

### The coastal villages are

- Karaiyankadu, Karpaganatharkulam,
- Keezhavadiyakadu,
- Munankadu,
- Thondiyakadu,
- Sengangadu,
- Jambuvanodai,

- Veeranvayal,
- Uppur,
- Karaithidal,
- Alangadu,
- Duraikadu and
- Pettai

Marine fishermen welfare schemes are implemented through Sea Fishermen/Fisherwomen Co-operative societies. In Tiruvarur District, 9 Fishermen and 5 Fisherwomen societies are functioning successfully with a member of 4300 Fishermen and 1700 Fisherwomen.

### **8.4.3 INLAND FISHERIES**

Aquaculture is one of the promising sectors to meet out the nutritional security of ever growing population. Inland Fisheries and Aquaculture are important sectors of the District which generate employment opportunities and better access to protein rich food to the rural masses. Thiruvarur is considered as most productive delta district in Tamil Nadu. Thiruvarur has a highly potential area for inland fisheries activities. The river Cauvery and its tributaries are the main sources for riverine fisheries. Indian major carps and Chinese carps are the major fishes are being cultured. In Thiruvarur district, 4 fish seed production centre, 30 fish seed rearing centers, 650 fish farms are functioning in private sector with an area of 950 Ha for augmenting fish production. At present Government Fish seed production and rearing centre have been established at Nallikottai of Mannargudi taluk for fulfill the seed demand in the District.

- In Tiruvarur district 4 fish seed production centers, 30 fish seed rearing centers, 650 private sector fish farms are functioning with an area of 950 Ha for augmenting fish production.
- District fish production 2017-18 (Provisional)
  - o 1707.06 MT (Marine)
  - o 2885.68 MT (Inland)

### 8.4.4 DISTRICT FISH FARMERS DEVELOPMENT AGENCY (DFFDA)

The District Fish Farmers Development Agency created by merging of Freshwater Fish Farmers Agency (FFDA) and Brackish water Fish Farmers Agency (BFFDA) to popularize the fish culture activities and to generate employment opportunities in rural areas. The main activities of DFFDA is providing technical guidance and encouraging farmers to take up fish culture by extending subsidy assistance, besides imparting technical training and extension support to fish farmers. These District Fish Farmers Development Agencies are functioning under the Chairmanship of the District Collector. Fish Farmers, Fish Seed producers and shrimp farmers are enrolled in DFFDA.

### 8.4.5 INLAND FISHERMEN CO-OPERATIVE SOCIETIES

The Inland fishermen engaged in fishing and allied activities are enrolled in Inland Fishermen Co-operative societies for getting benefitted through schemes. Fishing lease of Government water bodies are preferred to the members of Inland Fishermen Co-operative societies. In Tiruvarur district 6 Inland fishermen Cooperative societies are functioning successfully with a member of 3540.

- > The Inland Fishermen Co-operative societies are in:Kudavasal
- Mannargudi
- Nannilam
- Needamangalam
- Tiruthuraipoondi and Valangaiman

### **8.4.6 BRACKISH WATER FISHERIES**

Coastal Aquaculture has been recognized as an important tool for employment generation and a vital source of food supply for meeting the food security and nutritional requirements of our growing population. In the context of increasing food security in the modern world, fish and fishery products are considered to be among the safest foods of animal origin. Thiruvarur District has rich natural resources in coastal areas for coastal aqua farming. In Thiruvarur District 154 shrimp farms are registered with Coastal Aquaculture Authority.

# 9.0 SERVICE SECTOR – TOURISM and BANKING

### 9.1 TOURISM - DIVINE AND ECO TOURISM

The Thyagarajaswami Temple, dedicated to Lord Siva is located here. The biggest Temple Car [Chariot] called as "Aazhi Ther" in Tamil, is a specimen of magnificent workmanship and its beauty is still an attraction to many millions of pilgrims. The Car Festival of the temple is celebrated during March-April, every year. Kamalalayam Tank adjacent to the temple in a 25 acre area, is one of the largest temple tanks in the State. Muthupettai fulfills the blessings of Nature with mangrove forest/lagoon (alaiyathi kaadu) one of the largest of its kind located between Thiruthuraipoondi and Pattukkottai. Also the nature's gifted presence of Bird Sanctuaries in Udhayamarthandapuram and vaduvur attracts the tourist in large numbers.

Incidentally, Tiruvarur is the birth place of the great Music Trinity Sri Thagaraja Swamigal, Sri Shyama Sastrigal and Sri Muthuswamy Dikshitar. Mannargudy, Enkan, Koothanur, Alangudi are important religious centres nearby Thiruvarur. Thiruveezhimalai, Thirupampuram, Tirumeichur, Srivanjiyam, Tillaivilagam and Thirukkannamangai are the most important, popular and beautiful Temple sites of this district. There is an Art Gallery that exhibits the Collections to show case the greatness of Manuneethi Cholan. Panchamuga and Pari Nadaswaram the enthralling musical instruments of the long past, still continues to be played and patronized.

Round the year the temples are visited by the Pilgrims from local and across the state. It also attracts foreigners during normal and festival days. The Car Festival of the temple is celebrated during March-April, every year. During the time it attracts 165000 approx. people from across the state and country. All the other temples and are visited by pilgrims during the specific festivals. Likewise the lagoon and bird sanctuary are visited round the clock by tourists and scientists.

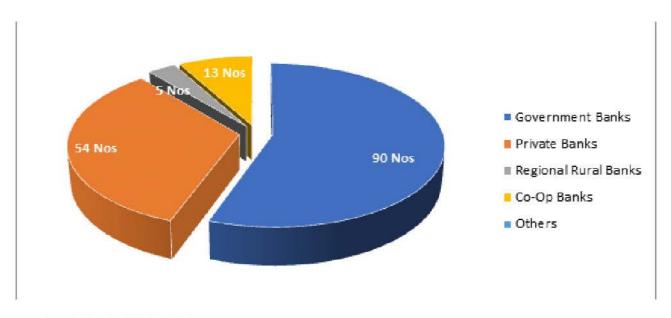
### 9.2 BANKING

Banking and financial services are provided by 24 commercial banks (with 148 branches), Thanjavur DCCB & Kumbakonam DCCB (with 15 branches) & 137 PACS and TamilNadu Grama Bank (with 5 branches). The district has a bank branch for every 4025 peoples.

Bank deposit in the district for 2018-19 has grown by 8.7% over the previous year. CD ratio of the district which was 90.42% in 2017-18 has increased to 94.75% in 2018-19. As on 31st march 2019, the share of priority sector loan outstandingwas 538.34%, agriculture at 45.65%, weaker section at 34.08% and loans to women SHGs at 18.8%.

NABARD is implementing core banking solutions in PACS affiliated to the Kumbakonam & Thanjavur central cooperative banks branches on application service provider model technology service provider, TCS and it is ongoing.

Diagram No. 11: Number of Commercial Banks



Source: Lead Bank, I.O.B., Thiruvarur.

		Priority		10.000 C C C	NON FARM						
SI.	SI.	Bank	Agriculture		MSE		(Education, Housing, Personal Loans under Non Priority		Gre	Grand Total	
No.	bunne	Total A	griculture	N	SME		nd others)				
	-	No	Amt	No	Amt	No	Amt	No	Amt		
1	PUBLIC SECTOR BANKS	192687	23839762	15680	2229520	4130	480000	224080	29424008		
2	PRIVATE SECTOR BANKS	83045	5789456	12040	599200	7382	310000	110678	7410000		
3	RRBs	15800	729200	1150	68200	202	20000	17902	900000		
4	CO- OPERATIVE BANKS	81000	4195912	300	90000	50	2000	81350	4287912		
	GRAND TOTAL	372532	34554330	29570	3215000	11764	812000	434410	42250000		

Source: Disaster Management Handbook 2017-18

The district has considerable number of banks located across the district. Agriculture is the top prioritized sector for the banks. Since the district is agrarian based, the sector (agri) leads the total loan amount sanctioned and distributed. MSME is the second largest sector in the district that attracts bank loans.

# **10.0 INDUSTRIES**

- Agriculture is the main occupation in the district. Being agriculture based district, the predominant industries are agriculture based like modern rice milling, palm oil refinery, poultry, livestock and coir based.
- Tamilnadu civil supplies corporation operating a modern rice mill and South India edible oil involved in refining oil are the large-scale industries in the district.
- Khadi and village industries in the district are limited. Cottage industries and handicrafts like handloom silk and cotton sarees are also found in the district.
- The well-known pure silk sarees of Ammaiyappan are manufactured in the district.
- There is no industrial export from this district.

Table	No.33:	Industri	es in	the	district
I GIDIC	110.00.	III G O JIII	00111	1110	GIJIIICI

TYPE OF INDUSTRY	NUMBER OF UNITS	INVESTMENT (Lakh Rs.)	EMPLOYMENT
Manufacture of Food Products and Beverages & Packaged water	322	2693.31	1662
Cotton Textile & Silk etc.	29	140.87	127
Ready – made gaments & embroi- dery	1788	470.87	3588
Wood/Wooden based furniture	86	234.65	200
Paper & Paper Products	55	359.04	254
Leather based	19	21.10	46
Chemical / Chemical based	33	228.23	199
Rubber, Plastic & petro based	18	130.27	70
Mineral based	69	326.61	507
Metal based (Steel Fab.) furniture etc.	1169	1000.60	1961
Engineering units	13	93.81	111
Electrical machinery and transport equipment	50	103.43	180
Consstruction	2	4.00	22
Repairing & servicing	389	75.76	663
Others	1	4.00	3
Other service enterprises	361	1382.93	1063

Readymade garments and embroidery industry leads the list of industries in the district with a number of 1788 units with an investment of Rs. 470.87 lakhs and have employed a total of 3588 personnel. There are 1169 metal based steel fabric units that has employed 1961

employees with an investment of Rs. 1000 lakhs. There are 322 food products, beverages and packaged water industry with an investment of rs. 2693.31 lakhs and number of personnel employed in these units are 1662. Repairing and servicing industry has 389 units with an investment of rs. 75.76 lakhs and running with 663 employee size. There are 86 wood and wooden based industries and other industries like engineering, leather based industries exist in the district that employs a good number of personnel.



### **10.1 SILK SAREES PRODUCTION UNIT, AMMAIYAPPAN**

	Table No. 34: Total No. of Families Involved in S	ilk Weaving
SI.No	Name of the Society	No. of members involved
1	Ammaiyappan Pattu Kaithari Nesavalargal Kooturavu Sangam	20
2	Annai Sathiya Pattu Kaithari Nesavalargal Kooturavu Sangam	15
3	Sivasakthi Silks	15
4	J.M Silks	15

Source: District Survey Handbook 2015-16

In Mannargudi town alone there are four streets and lanes containing about 1000 houses of weavers and they operate more than thousand hand-looms engaged in weaving silk sarees. They do not use the fly-shuttle, on the ground of its unsuitability for silk weaving and fabrics. The weavers get their silk from China, Kollegal and Mysore, and the first is preferred for its fineness and cheapness and is available with importers at Mannargudi. The raw silk is distributed among women workers for reeling, and peg- warping is the rule. There are about 400 women reelers.

In Ammayappan Pattu Kaiththari Nesavaalargal Kootturavu Sangam, six hundreds of weavers are engaged in weaving pure silk and artificial silk sarees and Kambayams.

### **10.2 OVERVIEW OF THE INDUSTRIAL SCENARIO**

- Being and agricultural district, rice mills are predominant. There are 50 modern rice mills and 250 cooly rice mills.
- In power sector, there are two large scale units generating 146 M.W., by using natural gas. One unit is put-up by M/s. Southern Energy Development Corporation at Nallur, Mannargudi Taluk and the other by TNEB at Koilkalapal, Kottur Block.
- Based on availability on natural gas, gas based industries have come up. There are 6 industries at present, with break up details as follows.
  - Chemical based industries 4
  - Ceramic industries 1
  - Power generation 1
- Due to inadequate supply of natural gas, new proposals are not encouraged.
- Regarding large scale sector, there are only three units. Due to lack of large scale units or public sector undertaking there is no ancillary industries.
- Next to paddy, coconut yield is predominant. So, there are 7 coir based industries in private sector and 2 in co-operative sector.
- In poultry sector there is only one hatchery put-up by M/s. Aladian Hatcheries at Thiruneiper, Tiruvarur Taluk which produces 30000 chicks per month.
- As per live stock census 2004, the live stock population is 3,32,134 white cattle and 18,286 black cattle. The estimated Milk Production in the district is 90.70 Lakh Litres per annum. For the whole district there is only one bulk chilling unit at Poonthotam, Nannilam Taluk.
- There are 8 states seed farms functioning under the control of Agricultural Department in the district with annual seed production of 1350 M. T.

### **10.3 LARGE SCALE INDUSTRIES**

- Southern Energy Development Corporation Limited, Nallur, Kottur Block, Mannargudi Taluk
- TNEB Power Generation Plant, Kovilkalappal, Kottur Block
- Southern India Edible Oil, Karuppur, Thiruvarur district.
- T.N.C.S.C. Modern Rice Mill, Thiruvarur .
- Pamani Fertilizers Ltd., Pamani, Mannargudi
- T.N.C.S.C. Modern Rice Mill, Sundarakkottai, Mannargudi.

S. No	Block	Name of the Industries	Investment on Plant & Machinery	Employ- ment in Nos.	Installed capacity/ Production Particulars per Annum	Line of Activity
1.	Thiruvarur	Tamilnadu Civil Supplies Corporation, Modern Rice Mill, Thiruvarur.	40.00 lakhs	51 PMT 34 Temp	14986 Tonnes	Modern Rice Milling
2.	Thiruvarur	South India Edible Oil, Karuppur, Thiruvarur.	4.00 Crore	31	10000 Tonnes	Edible Oil Refining Process solvent extraction of Coconut - Cakes
3.	Mannargudi	Tamilnadu Civil Supplies Corporation, Modern Rice Mill, Sundarakkottai, Mannargudi	40.00 lakhs	33 PMT 66 Temp	11350 Tonnes	Modern Rice Milling
4.	Mannargudi	Pamani Fertilizers, Pamani Village, Mannargudi	70.00 lakhs	44	16188 Tonnes	Manufacturing of Fertilizer Granules.
5.	Kottur	Southern Energy Development Corporation Limited, Nallur,Kottur Block, Mangudi Taluk	15.50 Crores	20	48.18 Million units	Electric Power Generation
6.	Kottur	TNEB Power Generation plant, Kovilkalappal, Kottur Bk	263.00 Crores	89	94 MW	Power Generation

Table No. 35: Block – wise details of large scale industries sector-wise showing the number of units, investments, employment and installed capacity.

Source: District Survey Handbook 2015-16

# **11.0 QUALITATIVE SKILL GAP**

The district has abundant resource in the form of youth population. Thiruvarur is an agrarian district and it is an industrially backward district. After completing their studies, the youth in the district are forced to search jobs in other districts/metros. School left outs, youth who have stopped studies after completing their school education and graduates who don't prefers to search jobs outside have no option other than sitting back at home unemployed or forced to opt the underpaid local jobs or the agriculture based work.

Employment Live Register for the period 01.01.2014 to 30.10.2019				
S. No.	Year	Men	Women	Total
1	2014	69764	78793	148737
2	2015	72064	80764	152828
3	2016	68042	79713	147755
4	2017	64380	77702	142082
5	2018	62626	76683	139309
6	2019 – Jan	58286	71377	129663
7	2019 – Oct	54595	66507	121102

### Table No.36: Employment Live register

Source : District employment office, Thiruvarur

### Table No.37 Employment Placement details

Employment Placement details for the period 01.01.2014 to 30.10.2019				
SI. No.	Year	Men	Women	Total
1	2014	292	160	452
2	2015	53	40	93
3	2016	198	177	375
4	2017	19	21	40
5	2018	22	29	51
6	2019	45	26	71

Source : District employment office, Thiruvarur

The following description shows the quantitative reality in the district. During the year 2014 a total of 148737, in 2015 a total of 152828, in 2016 it was 147755, in 2017 it was 142082 and in 2018 a total of 139309 of men and women have registered their qualification in district employment office. Whereas the placement record shows that 452 persons had got placement in 2014, 93 persons had got placement in 2015, 375 registered persons had got placement during the year 2016, 40 persons had got placement during 2017 and 51 persons had been placed in 2018.

This situation shows that there is a huge skill gap in the district. The skill gap will be filled under TNRTP through convergence and community based skilling programme. As an output they will be trained in a particular trade of their option. The trained people will later be linked with employment or the entrepreneurial aspirants among them would be supported under enterprises development.

### Block wise Feasible Skill Development activities in the district

**Mannargudi:-** Driving, Catering technology, tailoring, JCB operation, computer hardware technology, Air condition mechanic, electrician, TV mechanic, cell phone repairing and Beautician training

**Needamangalam:-** Driving, Catering technology, tailoring, JCB operation, computer hardware technology, Air condition mechanic, electrician, TV mechanic, cell phone repairing and Beautician training

**Valangaiman:-** Driving, Catering technology, tailoring, JCB operation, computer hardware technology, Air condition mechanic, electrician, TV mechanic, cell phone repairing and Beautician training

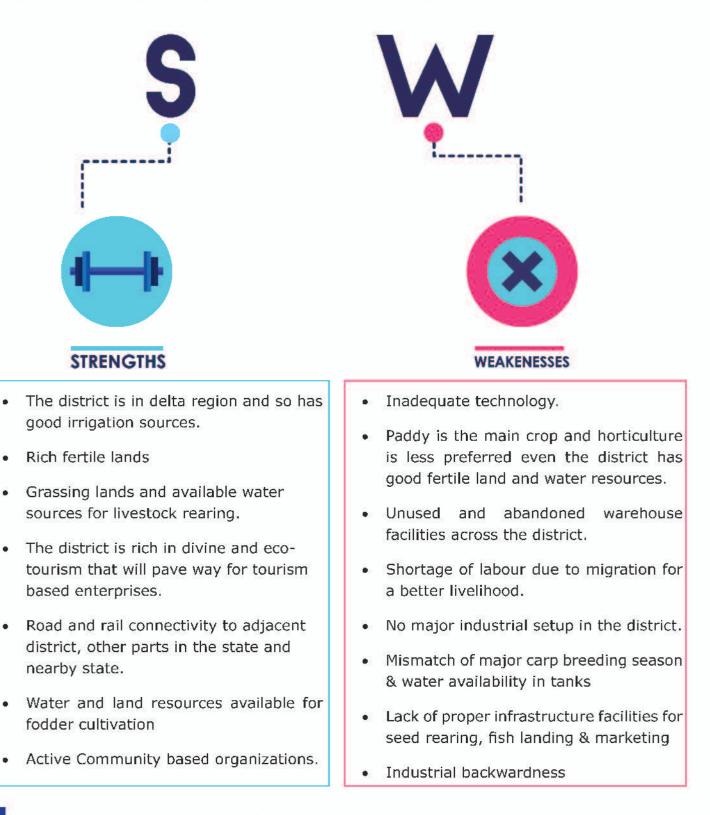
**Muthupettai:-** Driving, Catering technology, tailoring, JCB operation, computer hardware technology, Air condition mechanic, electrician, TV mechanic, cell phone repairing, Beautician training and Boat repairing.

### Probability details of TNRTP activity convergence

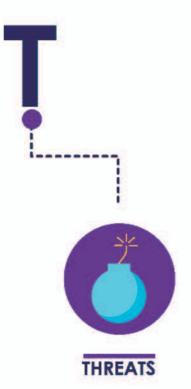
The table given below shows the probable details of schemes and concern department for converging the Producer group/entrepreneurs/enterprises aspirants and the youth. This convergence will be most helpful in filling up the skill gap.

TNRTP ACTIVITIES	CONVERGENCE & LINK DE- PARTMENT	SCHEMES
		1.Seed Multiplication Scheme of Paddy.
	1.Agricultural Department	2.Agricultural Mechanization Programme
		3.National Agricultural Insur- ance Scheme (NAIS)
Group Enterprises:		1.NATIONAL AGRICULTURAL DEVELOPMENT PROGRAMME (NADP)
1. Producer Group(PGs)	2.Horticulture Department	2.Integrated Horticulture Devel- opment Scheme (IHDS)
2. Enterprise Group(EGs)	3.Animal Husbandry	3.National Horticulture Mission. 1.Free Distribution of Milch Cows Scheme
z. Enterprise Group(EGS)	S.Ammar Husbanary	2.Free Distribution of Goat/ Sheep Scheme
<ol> <li>Producer Collectives (PCs)</li> </ol>		3.National Animal Disease Reporting System (NADRS)
	4.NABARD	1.Dairy Entrepreneurship Devel- opment Scheme
	5.KVK	nazi na kananan kana kana na pangan kana kana kanana kanana kana kanana kana kana kana kana kana kana kana kana
	6.Agricultural Business Mar- keting	2.Credit Linked Capital Subsidy Scheme (CLCSS)
NDC IN SIG IN SIG		3.National Livestock Mission
Individual Enterprises:	1.TAHDCO	1.NEEDS scheme
	2.DIC 3.Khadi and Village Industries	2.Employment Intensive Busi- ness Subsidy
1. Nano Enterprises	Commission (KVIC)	3.Back-Ended Interest Subsidy
2. Micro Enterprise	4.Coir Board	4.Capital Subsidy
3. Small Enterprises	5.NI-MSME	
Skill Development:	1.TAHDCO	1. EDP
	2.National Skill Development Agency	2. PMKVY 3. SSC
1. Through	3.Employment Office	4. Career Counseling Scheme
Convergence	5.DDU GKY	
2. Through CSS	6.TNSDC	

Strength weakness opportunity and threat of the district is given below.







- Availability of fertile land and water resources ensure organic farming.
- Easy access to local market
- Since the district has good road and rail connectivity, access to adjacent district market, nearby states like Karnataka
- Support of existing/active community based organizations
- Promotion of cluster level farm based enterprises
- Youth skill gap in the district

- Natural calamities in the form of north east monsoon floods that immerse the farm lands while at growth stage.
- Other disasters such as cyclone, tsunami and drought when north east monsoon fails.
- Pest attack that results in yield and collapses the life of the farmers and the economy
- Political influences.
- Water salinity is the bottleneck for promotion of agriculture in coastal area.

# 13.0 SCOPE FOR ENTERPRISES PROMOTION

- Green gram and black gram which are the top second and third cultivated crops in the district has value added enterprise scope. Green gram and black gram value added products based enterprises can be promoted.
- Although paddy is the main cultivable crop in the district, it does not have sufficient number of modern rice mills. The district has two government owned modern rice mills. There is a possibility to promote a group based small scale modern rice mill enterprise in any one of the project block.
- Thiruvarur district has the scope for horticulture based enterprise promotion. As per DD (Horticulture), the cultivation of mushroom is very much possible in the district. Group enterprise based on this can be promoted and it will satisfy the demand of local and adjacent district hotels. Mushroom cultivation based farmer producer organization can be considered. The district also has the scope for plant nursery and poly house vegetable cultivation.
- Banana is one of the main crops cultivated in Valangaiman block. As learnt from the horticulture department, the cultivation is mainly focused on leaves and not for the fruit. The plantain leaf has good local and adjacent district market in the form of hotels. Banana is treated as secondary and sold for least rate. It shows that the project has a scope for plantain leaf and banana based value added enterprise.
- Groundnut is fairly cultivated in Mannargudi, Needamangalam and Valangaiman blocks. The current scenario as assessed in the district says that a reasonable quantity of groundnut is being purchased by a Thiruvarur based groundnut candy making unit. It gives scope for the promotion of groundnut based value added product enterprises. This enterprise will produce quality groundnut candy and other value added products and would be a good competitor for the existing market.
- Cotton is the fourth major crop cultivated in the district. It gives scope for the promotion of cotton seed oil and cotton seed cake production enterprises in the district.
- Rural based people across the TNRTP blocks are rearing milk animals like cow or buffalos for their livelihood. This may be their main livelihood or doing along with agriculture which is their primary. They sell the milk locally for minimum price and to the middle men like local vendors. This practice does not give them a good earning and they realize that they are cheated. These people, based on their area of living can be gathered for group cattle farm enterprise. The milk farm enterprises have the scope of selling the accumulated raw milk locally and further transform it as the value added products like palcova, butter etc for a good price. Also it has the further scope for the establishment of milk chilling unit. The milk stored in the chilling unit can be marketed to the nearby districts. An end to end commodity chain of milk for understanding the incremental increase of income along with the cost equirment for establishing/meeting the infra requirement for those chains will be useful for deciding the project investment cost and creating readiness for promoting enterprises.

- Except Muthupettai all the other blocks in the district has great scope for integrated farming comprising of goat, chicken (including Kadaknath variety hen and country chicken), duck and cow.
- The district has good scope for the promotion of Goat/poultry (hen and duck) farm based enterprises. The rural agrarian populace rears goat/poultry as their primary livelihood or as secondary along with agriculture. The rich grassing land and the after harvest field would be a good food hunting place for goats and ducks respectively. Promotion of goat/ poultry farms will attract the local market and adjacent district market.
- Muthupettai which is a coastal block with fishing hamlets has the scope for fish outlets, fish freezing units, fish processing units, fish related value added products like dry fish, fish pickles and fish food selling hotels. There is also a scope for promoting boat building yard unit.
- Muthupettai block is rich in eco-tourism. Short stay home near the lagoon and bird sanctuary have a reasonable scope. There is also a scope for training the interested youth on tourist informer skill. Later the trained youth will lead the tourist group who visits the spot with his information.
- Most of the women across the project blocks are skilled in tailoring and few among them are running individual tailoring units in their houses. The community living around is their customers. Few women among them are working as piece rate earners or for monthly wage in the local tailoring shops. This scenario shows that the project blocks have the scope for group tailoring enterprises. Apart from doing business in local, the promoted group can be tied up with the garment units in Thirupur. Developing Community Skill School for addressing this skill gap could be explored in assisting and strengthening these enterprises as a sustainable livelihood options.
- Youth skill gap analysis of the district gives scope for convergence with various skill development schemes, job linkages and enterprise promotion.

### Farm sector

The following table shows the crop wise cultivation in hectares in the district and its ranking.

Sl.No	Crops Name	Year Wise Crop Cultivated(Ha)									
		2014	Rank	2015	Rank	2016	Rank	2017	Rank	2018	Rank
1	Paddy	193961	1	195726	1	187469	1	181046	1	177942	1
2	Black Gram	60554	2	64857	2	42343	2	55221	2	56570	3
3	Green Gram	60369	3	56879	3	32733	3	45436	3	93820	2
4	Cotton	2733	5	5772	4	6919	4	4197	4	6913	4
5	Sugar cane	584	7	468	7	365	8	168	9	71	8
6	Gingelly	161	8	384	8	539	7	555	7	60	9
7	Ground Nut	1652	6	1942	6	2339	6	2974	6	1109	6
8	Oil palm	96	9	185	9	221	9	208	8	233	7
9	Coconul	4021	4	4021	5	4030	5	4030	5	4059	5

Table No.39: Crop wise cultivation ranking

Source : Agriculture department, Thiruvarur district

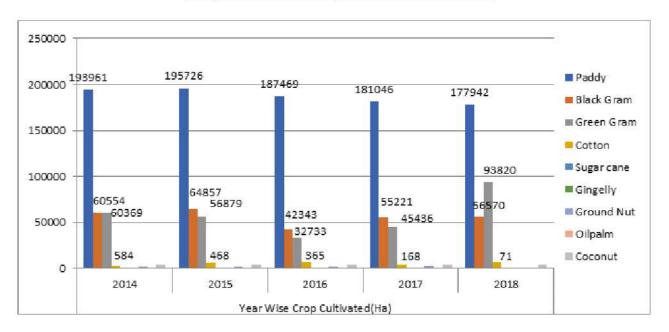


Diagram No.12: Crop wise area cultivated

For the cultivated area trend analysis, previous five years data has been taken and analyzed. Total net cultivated area during the last five years was about 280143 hectares. As per the table, paddy leads the cultivation during all the five years taken for the study. Although the cultivation area has decreased over the years it leads the cultivated area list and ranks first. It was cultivated for about 193961 hectares of the total cultivated area in the year 2014 and about 177942 area during hectares in the year 2018.

Black gram was the second leading cultivated crop in Thiruvarur district. It had been cultivated in 60554 area hectares during the year 2014 and ranks second. During the year 2018 it was cultivated about 56570 hectares out of the total area cultivated and ranks third. Green gram was cultivated in an area of 60369 hectares and ranked third during the year 2014. In 2018 it had been cultivated in 93820 area hectares and ranked second. Cotton was the fourth leading cultivated crop from the year 2015 to 2018.

Based on this analysis the following commodities are prioritized for intervention under TNRTP.

### 1. Paddy

Since paddy is the water intensive crop, it is not taken as primary prioritized crop. But it will be considered for the value added product enterprises.

Although paddy is the leading cultivated crop in the district and will be considered for value added enterprises, the following crops which are leading among other crops in the district also be considered for the prioritized commodity based enterprises.

### 2. Green gram

Green gram is the second leading crop cultivated in the district. Since green gram has good demand and marketing scope across the state for its nutritious value, it is taken as one of the priority crop to support the existing and new cultivators. It can also be considered for value added product enterprises.

### 3. Black Gram

Black gram is the third leading crop cultivated in the district. Culturally, it is the main ingredient for the making of few dishes like Idly and dhosa. Since black gram has good demand and marketing scope across the state for its nutritious value, it is taken as one of the priority crop to support the existing and new cultivators. It can also be considered for value added product enterprises.

### 4. Ground Nut

Ground nut is the sixth leading crop in the district. It is very rich in nutritious value and has very good market. It is prioritized as one of the commodity to support the new and existing enterprises for cultivation and/or value added product.

### 5. Coconut

Coconut is the fifth leading cultivated crop in the district. It is mostly cultivated in the coastal area (Muthupettai block). Coconut farm enterprise is prioritized to be promoted in the district. Coconut based value added enterprise in the form of coconut leaf thatching and coir production will also be promoted. Coconut leaf thatching and coir production are the main livelihood of a segment of women in the block. They are working for main producers who daily supplies coconut leaves and getting back as thatched leave. For this the women are getting Rs 100/ per day, which is very meager. Likewise coir production (which is the main earning source for a segment of population in the block) can be promoted as an enterprise.

### **Allied Farm Sector**

### 1. Backyard Poultry

Hen rearing is one of the major secondary income source of the rural population. Backyard poultry unit is one of the prioritized enterprises for the intervention. It can be promoted as individual or group enterprises. Kadaknath, a rich chicken variety is being reared here and there in the district. The promoted enterprises will include Kadaknath and country chickens. It is very profitable and has a good local and nearby district markets.

### 2. Goat Rearing

The rural agrarian populace rears goat as their primary or as secondary livelihood along with agriculture. The rich grassing land would be a good food hunting place for goats. Promotion of goat farms will attract the local market and adjacent district market.

### Non Farm Sector

### 1. Garment & Embroidery Unit

Promotion of group tailoring enterprises and linking them with Tirupur garment units. Since the district is an agrarian based and back ward in industrialization, the community in general and youth in the district has no option other than going for an underpaid jobs or to go for agriculture based work. Intervention with garment industry will serve a lot to fill the employment gap.

### 2. Cattle Feed unit

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The district has a good number of cattle population. Promoting the feeding units at right points will give good earnings for the promoted enterprise.

### 3. Groundnut Candy Unit

Groundnut candy unit can be a right and profitable enterprise. Groundnut is the sixth leading cultivated crop in Thiruvarur district. Its nutritious value creates all time demand for the product. Promoting group enterprises is one of the commodity priority under non-farm sector. This enterprise will produce quality groundnut candy and other value added products and would be a good competitor for the existing market.

### 4. Diary Product

Rural based people across the TNRTP blocks are rearing milk animals like cow or buffalos for their livelihood. They market the milk to the locally or to the middlemen or the nearby milk societies for a meager amount. This practice does not give them a good earning and they realize that they are cheated. These people, based on their area of living can be gathered for group cattle farm enterprise. The milk farm enterprises have the scope of selling the accumulated raw milk locally and further transform it as the value added products like palcova, butter etc for a good price. Also it has the further scope for the establishment of milk chilling unit.

### Service Sector

### **1. Eco Tourism**

A short stay home with quality food hotels focusing fish foods can be promoted near to the Muthupettai lagoon and bird sanctuary.

### 2. Sanitary Napkin Unit

The district has a potential for promoting social enterprise in the form of sanitary napkin enterprise. Cotton is one of the leading crops in the district and ranks fourth. The enterprise will produce and market the quality and organic napkins to health department (Government hospitals, Medical College in the district, private hospitals, pharmacies etc) for a reasonable cost which can be a part of the green enterprises innovation activity of the project.

### 3. Agricultural clinic

Agricultural clinic is a support services center run by agricultural professionals. This support services is very precious for any farmer to solve his problem instantly, to get a sustainable agriculture crop based solution and to overcome the loss from farming. Promoting an enterprise in a block will be more helpful for the district's agrarian community.

### 4. Boat repairing and Engine servicing

Quality and low cost boat repairing unit in the coastal area will satisfy the marine folks to repair their boats. Currently there is no specific boat repairing units in the district. The fisher community in the district is supposed to depend on the individual servicing people or other district boat repairing unit. A boat repairing enterprise that only includes beneficiary from fisher folk will be promoted under the project.

### Block wise key existing and feasible commodities for Enterprise Development

The following table shows the sector wise key existing and feasible commodities for enterprises development in each block.

SI.		sectors					
No:	Name of the block	Farm	Non-farm	Service			
1	Mannargudi	Paddy, Black gram, Green gram, Gin- gili, Vegetables, Groundnut and Cotton	Tailoring –(Gar- ment and embroidery), Backyard poul- try, Goat rear- ing, cattle feed units, groundnut candy units, dairy products, Phenyl and allied products, hollow block manufac- turing unit and Pottery.	Agricultural clinics and Sanitary napkin unit			
2	Needamangalam	Paddy, Black gram, green gram, Groundnut, Veg- etables, Cotton and Coconut	Tailoring –(Gar- ment and em- broidery), back- yard poultry, Goat rearing, cattle feed units groundnut can- dy units, dairy products, Brick production unit and Pottery.	Agricultural clinics			

3	Valangaiman	Paddy, Black gram, green gram, Gin- gelly, Groundnut, Betel leaf, Banana and Cotton	Garment and embroidery, backyard poul- try, Goat rear- ing, cattle feed units groundnut candy units, dairy products, Brick production unit.	Agricultural clinics and Sanitary napkin unit	
4	Muthupettai	Paddy & Coconut	Pottery, Back- yard poultry, Goat rearing, net grass (korai paai) mat, coco- nut leaf thatch- ing, fish related value added products.	Boat repairing, Eco tourism based en- terprises	

S. No	CRITERIA	DESCRIP- TION	COMMODITY						
			Paddy/ Sugar Cane	Black Gram	Green Gram	Cotton	Groundnut		
1	Trend in number of producers involved in the com- modity	For commodi- ties which has large number of produc- tions.	Water Inten- sive crop.	<100%	Positive	Positive	Positive		
2	Community Interest	Economic vi- ability, Staple food, Knowl-		Priorities given crops	Priorities given crops	farmer can start growing with minimal	Top most district in pro- duction,		
		edge and technology availability, Ex- tension servic- es, Awareness about Market availability	Paddy is cultivated in three seasons	seasonal crops	seasonal crops	investment	Ready to markets pro- duction		

3	State/Na- tional Prior- ity (Thrust from gov- ernment)	State/National Government Schemes and Investments	One of the chosen districts for Oilseeds mission and seed produc- tion, NFSM scheme and SSI (Sustainable Sugarcane Initiatives)	One of the chosen districts for Oilseeds mission and seed produc- tion, MSDA scheme.	Collective farm- ing, Comprehen- sive watershed development activities, Water management through Micro Ir- rigation Systems,	Government interest and prioritizing cotton as an important for clothing fac- tory	One of the chosen dis- tricts for Oil- seeds mission and seed produc- tion, MSDA scheme.
4	Compara- tive advan- tage	Production, Favorable cli- matic condi- tions, GI type characteris- tics, Unique- ness emerging out of Ethnicity and culture, A prevalent cluster.	Major share in state produc- tion, .High demand for Certain Traditional varieties	atmo- spheric nitrogen to enrich the soil fertility, its source of protein for poor in rural	atmospheric nitrogen to enrich the soil fertility	Favorable climate con- ditions for its growth and economic profitability	Major share in state produc- tion, High demand for Certain varieties, Soil and climate favorable for groundnut production
5	Access to Market	Ability to sell the pro- duce at a remunerative price-Local, National & International markets.	NABARD with Gra- meen Agricultural Markets also link with lo- cal market	Ability to sell the pro- duce at a remunera- tive price- Local, National & Internation- al markets.	Ability to sell the produce at a re- munerative price- Local, National & International markets.	Ability to sell the pro- duce at a remunerative price-Local, National & International markets.	High de- mand for groundnut for oil extrac- tion.
6	Opportunity for Value Chain Inter- ventions	Productiv- ity and value-added products.	besides crop diver- sification to fetch better return and value addition to agricultural produce are also giv- en priority to improve the economic status of the farming commu- nity of the district.	Productivity and value- added products.	Productivity and value-added products.	Productiv- ity and value-added products like surgical and sanitary pads and cooking oil	Productivity significantly lower than the State Average though largest producing state, Value added prod- ucts

# 15.0 COMMODITY PRIORITIES UNDER HORTICULTURE CROPS









### Banana

Mango Jack Guava Papaya Acid Lime

### Bhendi Brinjal Beans Gourds Drumstick Radish Greens Beans

Arecanut Chillies Turmeric Tamarind Betelvine Tapioca Sweet Potato Coleus Yam

# **16.0 CONCLUSION**

- The river Cauvery and its tributaries are the main rivers of the district.
- Thiruvarur lies in the Cauvery River basin and the main occupation of the inhabitants of the town and surrounding regions is agriculture.
- It is cultivated both under irrigated and rained conditions and in all three seasons in a year.
- Paddy is cultivated during three seasons and it ranks first in the net area cultivated and production.
- Thiruvarur has no major mineral resources. Sand is the only minor mineral available in the river beds. It has got natural gas deposits.
- Though it has a few irrigated pockets, majority of the area under cultivation is rained. The rainfall pattern of the district is erratic. During failure of monsoon producers generally skip cropping or opting crops like millets and pulses which requires less water.
- FPO's presence can be a resource for the project in future.
- Paddy, black gram, green gram and cotton leads the net cultivated area and production.
- The district has good scope for farm based, non-farm based and service sector enterprises. The local area and the adjacent districts are the potential markets for the promoted enterprises.
- Paddy (value added), black gram, green gram are prioritized under the farm sector for enterprise promotion. Garment enterprise prioritized under non farm sector, short stay home and organic based sanitary napkin unit are prioritized under service sector for enterprise promotion.
- This is an industrially back ward district. There are no major industries in the district except government owned modern rice mills.
- Muthupet mangrove forest is an important marine ecosystem which acts as a bio shield in this district. Round the year it is visited by the tourists.
- Paddy (value added), green gram, black gram, ground nut and coconut are prioritized under farm sector, Garment and embroidery unit, backyard poultry, livestock rearing (goat rearing), cattle feed unit, ground nut candy unit and dairy products has been prioritized under non-farm sector and Eco tourism, Agricultural clinic, sanitary napkin unit and boat repairing are prioritized under service sector.

## Annexure 1: LIST OF VISITED LINE DEPARTMENT & STAKEHOLDER OFFICIALS

	Name	Designation & Dept.				
1.	Thiru. T. Anand I.A.S	District Collector				
2	Tmt.C.Ponnammal M.A.,	District Revenue Officer				
3	Thiru A.K.Kamal Kishore I.A.S	Additional Collector /Project Director				
4	Tmt.Sreelekha Thamizhselvan	PD - TNSRLM				
5	Thiru.Suresh kumar	DD – Horticulture Department				
6	Thiru. Sivakumar	AD – Fisheries Department				
7	Thiru. Ravichandran	General Manager, DIC				
8	Thiru. Santhanam	AD - Panchayat				
9	Thiru. P. Shivakumar	JD – Agriculture Department				
10	Thiru. A. Ravindran	DD (National schemes) – Agriculture Department				
11	Thiru. Ruthrabathi	DD (State schemes) – Agriculture Department				
12.	Thiru. Arivoli	FO – Forest Department				
13.	Thiru. Chandrasekar	District Employment Officer – Employment Department				
14.	Thiru. Thanabalan	Regional Joint Direct – Animal Husbandry Department.				
15	5 Thiru. K. Raja FPO's – Chairman (Karikalan FPO)					

# Annexure 2 : DISTRICT DIAGNOSTIC REPORT ACTIVITY PHOTOS

### STAKEHOLDER & LINE DEPARTMENT MEETING





FIELD VISIT







WOMEN' S ENTREPRENEURS MEETING











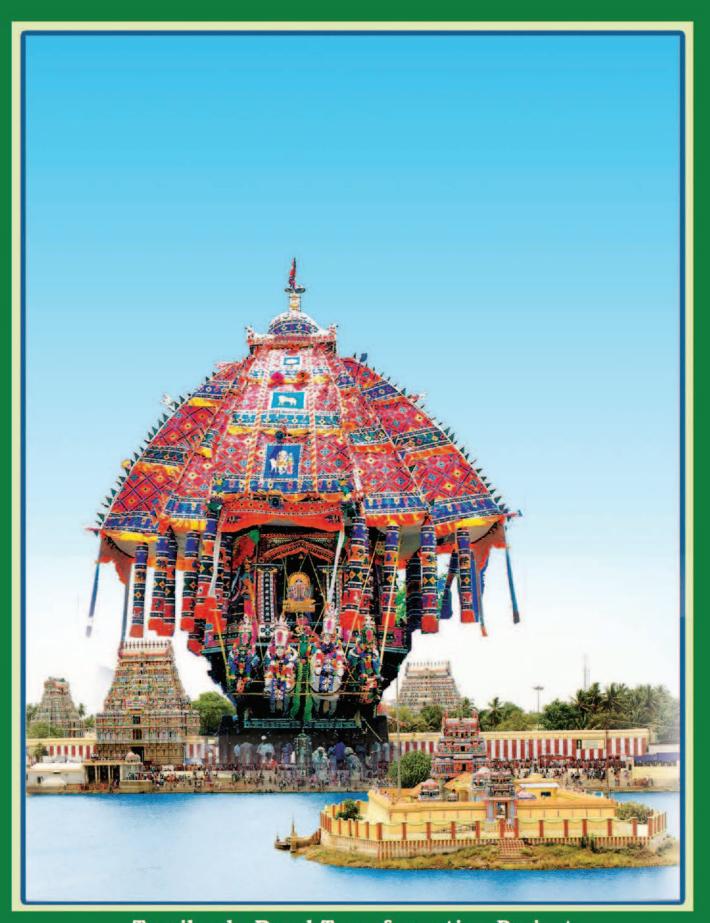
72 STAKEHOLDER' S & DDR SUBMISSION MEETING



DDR BOOK RELEASE - RECEIVED BY ADDITIONAL COLLECTOR

# Prepared By

DISTRICT PROJECT MANAGEMENT UNIT & BLOCK PROJECT MANAGEMENT UNIT TAMILNADU RURAL TRANSFORMATION PROJECT THIRUVARUR DISTRICT



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# DISTRICT DIAGNOSTIC REPOR





**RURAL DEVELOPMENT & PANCHAYAT RAJ DEPARTMENT GOVERNMENT OF TAMILNADU** 



# **DISTRICT DIAGNOSTIC STUDY** THIRUVARUR (THE LAND OF BIG CAR AND PADDY)



# Tamil Nadu Rural Transformation Project