



# **SOIL ATLAS**

## **PERAMBALUR DISTRICT**



**SOIL SURVEY & LAND USE ORGANISATION**  
**(DEPARTMENT OF AGRICULTURE TAMIL NADU)**

**THANJAVUR 613 001**

**1998**





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வீரபாண்டி எஸ். ஆறுமுகம்  
வேளாண்மைத் துறை அமைச்சர்



தலைமைச் செயலகம்  
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அணிந்துரை

தமிழ்நாடு வேளாண்மைத் துறையில் உள்ள வேதியியல் பிரிவு தமிழக வேளாண் பெருங்குடி மண்ணின் தேவையை அறிந்து மண்வள தொகுப்பேடு ஒன்று தயாரித்து இருப்பது பாராட்டுக்குரிய செயலாகும்.

வேளாண்மைக்கு அடித்தளமாய் அமைவது நிலமும், நீரும் ஆகும். மண்ணின் வகைகளை அறிந்து அதன் வளத்தை தெரிந்து கொண்டு, அதற்கேற்ற பயிர் வகைகளை பயிர் செய்வதால் உற்பத்தி திறன் அதிகரிப்பதோடு, மண் வளமும் பாதுகாக்கப்படுகிறது. சங்க காலத்தில் மண்வளத்தை அறிந்து கொள்ள குறிஞ்சி, முல்லை, மருதம், நெய்தல் என நம் முன்னோர்களால் நிலப் பாகுபாடுகளை அறிந்து வைத்திருந்தார்கள். பிற்காலங்களில் மண்ணை, செம்மண் என்றும், கரிசல் மண் என்றும், வண்டல் மண் என்றும், மணற்பாங்கான மண் என்றும், மண்ணின் தன்மைக்கு ஏற்ப பிரித்து வைத்திருந்தார்கள். பண்டைய காலங்களில் மண் பாகுபாடு செய்வது தேவையற்ற ஒன்றாக கருதப்பட்டாலும், இன்றைய சூழ்நிலைக்கு மண் பாகுபாடு மிகவும் அவசியமாகிறது. வளர்ந்து வரும் மக்கள் தொகைக்கு ஏற்ப உணவு உற்பத்தியை பெருக்க மண் வரை தொகுப்பு வேளாண்மை ஆராய்ச்சியாளர்களுக்கும், விநிலாக்க அலுவலர்களுக்கும் மிகவும் பயன் உள்ளதாக இருக்கும் என நம்புகிறேன்.

இத்தொகுப்பினை வெளியிட சுடுபட்ட அனைத்து அலுவலர்களுக்கும் எனது பாராட்டுக்களையும், வாழ்த்துக்களையும் தெரிவித்துக் கொள்கிறேன்.

அன்புடன்,

வீரபாண்டி எஸ். ஆறுமுகம்  
29.4.2023



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அணிந்துரை

மண்வளமும் மனித வளமும் ஒரு நாட்டிற்கு இன்றியமையாதன ஆகும். இன்னும் சொல்லப்போனால் நிலத்து மண் ஆனது மனிதச்சரிதையின் பிரதிபலிப்பு ஆகும். ஏனெனில் அதுவே மனித நாகரீகத்தின் மாட்சியையும் வீழ்ச்சியையும் எடுத்துரைப்பதாக இருந்து வந்துள்ளது. இதற்குச் சரித்திரச் சான்றுகளும் பல உண்டு. இப்படித்தான் பெருமைய மடைந்த மண்வளம் பற்றிய விவரங்களை நெறிப்படுத்தி அண்டியோர்க்குப் பயன் அளிக்கும் வகையில் அமையச் செய்வது காலத்தின் கட்டாயமாகும். அதிலும் குறிப்பாக ஒன்பதாவது ஐந்தாண்டுத் திட்டத்தின் துவக்கத்திலேயே இப்பணி நடைபெறுவது சாலச்சிறந்தது ஆகும். ஏனெனில் இத்திட்டப் பெரு நோக்கங்களில் ஒன்றாக மண்வளம் சேர்த்த இனங்களை அடைபடாமல் கண்டு செயல்படுவது மிகவும் வலியுறுத்தப்பட்டுள்ளது.

எனவே, மாவட்ட வாரியாக மண்வள ஆதாரங்களைத் தொகுக்கும் முயற்சி மேற்கொள்ளப்பட்டது. இப்பணி நான் வேளாண்மை இயக்குநராகப் பொறுப்பில் இருந்த காலத்தில் முடிக்கப்பட்டது. தமிழ்நாட்டில் அப்போதிருந்த 15 மாவட்டங்களிலும் தனித்தனியே மண்வளத் தொகுப்புகள் தயாரிக்கப்பட்டன. ஆயினும் அவை வரைவு நகல்களாகவே இருந்து வந்துள்ளன. அதனால் அதன் பயனை நுகர மிகச் சிலருக்கே வாய்ப்பு கிட்டியது.

இத்தொகுப்பேட்டியல் விரலிக்கிடக்கும் விவரங்கள் கீரிய திட்டமிடலுக்கு அடித்தளமாக அமைகின்றன. ஓரிடத்தில் நிலவும் தட்பவெப்ப நிலை, பாசன வளம், பயிர் சாகுபடி விவரங்கள், மண் வகைகள் அவற்றின் விளைதிறன், ஏற்புடைய பயிர்கள் பற்றிய விளக்கங்கள் இடம்பெற்றுள்ளன. ஆக இவற்றின் அடிப்படையில் அமல்படுத்தப்படும் உற்பத்திப் பெருக்குத் திட்டங்கள் அபரிமித விவற்றி அளிப்பதில் ஆச்சரியமில்லை. உதாரணமாக அண்ணாமலையில் மணிகண்டம் ஒன்றியத்தில் நிறைவேற்றப்பட்ட வேளாண் வானியல் வளிமண்டலத் திட்டத்தினைச் சொல்லலாம். இத்திட்டத்தின் முதன்மைச் செயல் அம்சமாக இப்பகுதி நிலங்கள் நெறியடடுத்தப்பட்டன. இத்தகைய அணுகுமுறையினால் களர்த்தளமும் உடைய இப்பகுதி நிலங்களில் சீர்த்திருத்தம் மேற்கொண்டபின் மகதலானது எட்டேருக்கு 100 கிலோ முதல் 700 கிலோ வரை உயர்ந்துள்ளது என்பது பெருமையகரியதாகும்.

மீட்க பயன் அளிக்கும்வல்ல இத்தொகுப்பேட்டு விவரங்களினை உற்பத்தி முனைவோர் அனைவரும் பெற்றிட இதனை அச்சிடும் பணிக்கு ரூ. 10.5 இலட்சம் அனுமதித்து தமிழ்நாடு அரசு ஆணையிட்டுள்ளது. அதன் தொடர் நிகழ்வாகவே ஏட்டளவில் இருந்த இத்தொகுப்பேடுகள் வண்ணமிக வடிவிலும், விவரப்பொலிவுடனும் அச்சேறி தற்போது நற்பயன் அளிக்கும் நிலை பெற்றுள்ளன. வேளாண்மை இயக்குநராக அன்று நான் துவக்கிய பணி, செயலராகப் பொறுப்பேற்றுள்ள இந்நாளில் மலர்ந்து மீளியது குறித்து மட்டற்ற மகிழ்ச்சி அடைகிறேன். அத்துடன் இத்தொகுப்பேட்டுவிவரங்கள் நான் திட்டமிடல், ஏறுமுகத் திட்டம் போன்றவற்றிற்கும் ஆதாரமாய் அமைகின்றன. புதிய சாதனைகளைத் தொடுவோரை வள்ளுவர்,

வாரிப்பெருக்கி வளம்கட்டு உற்றவை  
ஆராய வான் எண்ப் பெருமைப்படுத்துவார்.

அவர் கூற்றுப்படி ஆராய முனைவோர்க்கு முன்னோடியாகவும், முதன்மைப் பின்புலமாகவும் இத்தொகுப்பேடு அமைந்துள்ளது என்பதில் பெரிதும் மகிழ்வடைகிறேன்.

இத்தொகுப்பேடு நுள்த வடிவமைக்கப்பட்டு, விவரங்கள் பயன்தரும் வகையில் தெளிவுப்படுத்தப்பட்டுள்ளமைக்குப் பொறுப்பான அனைவருக்கும் எனது பாராட்டுதலைத் தெரிவித்துக் கொள்கிறேன்.

பு. ஆதித்யமம்  
17.4.98  
அரசு செயலர்  
வேளாண்மைத்துறை

சென்னை  
17. 4, 1998



# PERAMBALUR

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## ABOUT THE SOIL ATLAS

Agriculture play a vital role in the Indian economy and provides occupation to about 75% of the population which in turn depends on several inputs applied on soil. As such soil forms the basic non renewable natural resource, its health and land productivity on a sustained basis have to be maintained for sound production system. All inputs in the production systems can be functional only when there is soil/land which is qualitatively suitable for such purpose.

In this context, soil survey form the basic tool for agriculturI development programmes and provides information on characteristics and location of the different kinds of soils and their management potentials as well as their limitation for different purposes. Keeping this in view a data base on soils of the district have been developed through reconnaissance soil survey and this is useful for planning at regional level.

In the Atlas, all the information pertinent to the socio economic condition of the district is provided briefly. Soil characteristics and their interpretations are subsequently presented at district level in small scale. For better understanding soil information and their interpretations are also given at taluk level. Further, dominant kind of soil at village level and their fertility status have been provided for developing optimum fertility management programmes.

As soil is highly heterogeneous in nature, differences in soil can occur within short distances and therefore it is needless to say that detailed soil surveys at higher intensity are necessary for micro level development programmes.

## LOCATION

### PERAMBALUR DISTRICT

Perambalur district is a newly formed district of Tamilnadu, carved out from the erstwhile composite district of Thiruchirappalli district with the headquarter at Perambalur. The landscape of this district is versatile with hill ranges, series of plains, valley bottoms etc., This district is bounded on the north by Cuddalore district, North-West by Namakkal district and South- West by Thiruchirappalli and South by Thanjavur districts. This district is spread over 3691.07 sq.km. This district is having six taluks, 10 panchayat unions and 336 revenue villages.

#### Geo code :

North latitude :  $10^{\circ} 53'$  to  $11^{\circ} 31'$

East longitude :  $78^{\circ} 38'$  to  $79^{\circ} 31'$

#### Agro Ecological region :

Cd 5.5            dry, sub-humid-coastal plain of Tamilnadu including Cauvery delta with a growing period of 150-180 days and moderately large moisture availability.

#### Agro climatic zone :

This district comes under three major agro-climatic sub-zones namely,

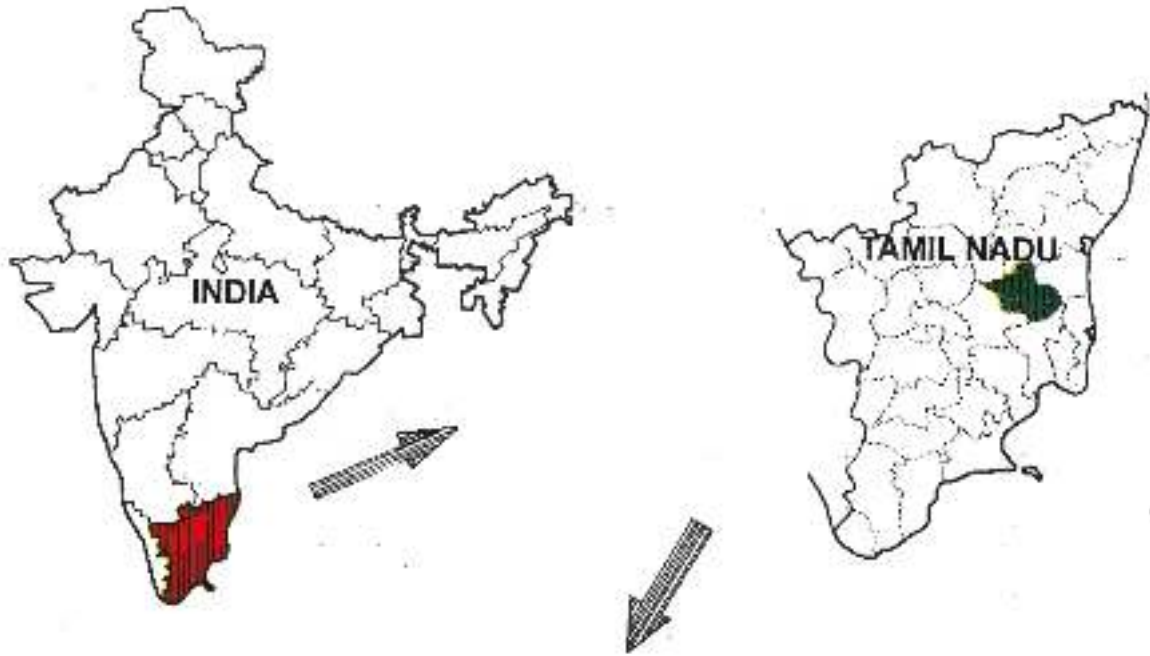
Sub-zone I - North-Eastern zone

Sub-zone II - North-Western zone

Sub-zone III - Cauvery Delta zone (major part)



# LOCATION MAP PERAMBALUR DISTRICT



PERAMBALUR DISTRICT



## TALUKS & PANCHAYAT UNIONS

### PERAMBALUR DISTRICT

Perambalur district consist of 6 taluks. 10 panchayat unions and 336 revenue villages. The details are given below.

Sl.No.	Taluks	Panchayat unions	Extent of taluks (ha)	Per cent to total	No. of revenue villages
1.	Ariyalur	1. Ariyalur 2. Thirumanoor	67,650	18.33	68
2.	Kunnam	3. Veppur 4. Alathur	84,680	22.94	80
3.	Perambalur	5. Perambalur	33,684	9.13	26
4.	Sendurai	6. Sendurai	31,452	8.52	28
5.	Udaiyarpalaiyam	7. Jeyamkondam 8. T.Pazhur 9. Andimadam	94,269	25.54	96
6.	Veppanthattai	10. Veppanthattai	57,372	15.54	38
		Total	3,69,107	100.00	336


The six taluks are spread over in 336 revenue villages covering an extent of 3,69,107 hectares of land. Udaiyarpalaiyam taluk alone has the highest extent of 94,269 (25.54%) hectares as against 31,452 hectares in Sendurai taluk.



# TALUKS & PANCHAYAT UNION PERAMBALUR DISTRICT



## REFERENCE

- District boundary
- Taluk boundary
- Union boundary
- District Head quarters
- ▲ Taluk Head quarters
- Union Head quarters
-  River

## ROADS & RAILWAYS

### PERAMBALUR DISTRICT

Perambalur district is well connected with a network of roads and to some extent, railways. The total length of roads in this district is 1397 km with metalled and non-metalled roads. The important roads are as follows.

**National Highways No** : 47

Chennai to Kanniyakumari - 51km

**State High ways** : 51.6 km

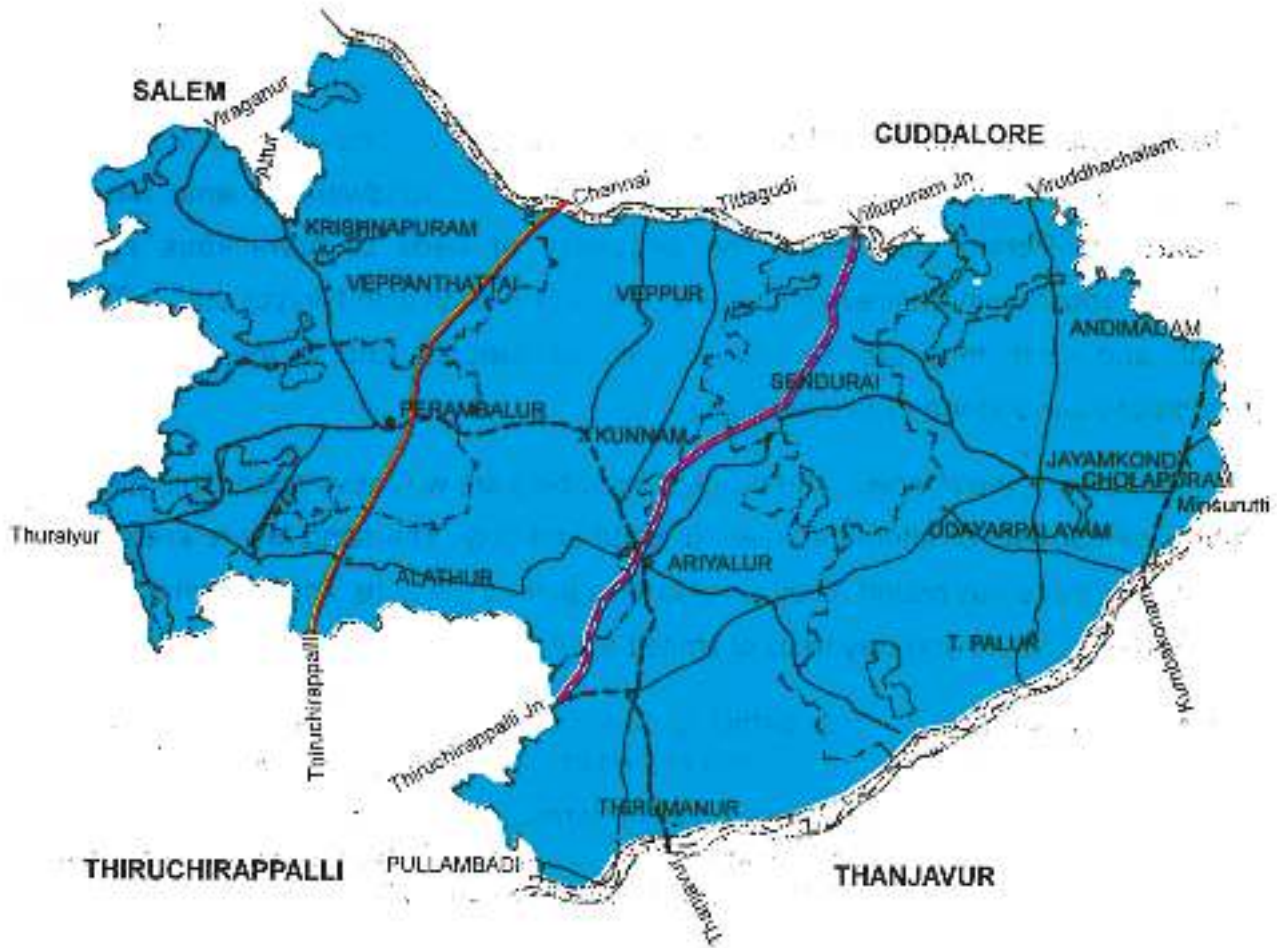
**Major district roads** : 263.20 km

**Other district roads** : 1082.65 km







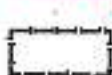
The district is served by broad-gauge railways (Southern railways) to a total length of 42 km with 4 railway stations. Chennai is connected by rail from Thiruchirappalli via Perambalur.



# ROADS & RAILWAYS PERAMBALUR DISTRICT



### REFERENCE

-  District boundary
-  Taluk boundary
-  National Highways road
-  State Highways road
-  Other roads
-  Railway Line (B.G)
-  Reserved Forest

## GEOLOGY

### PERAMBALUR DISTRICT

Perambalur district is made up of Archaean, cretaceous, tertiary and quaternary formation. Formations of upper Gondwana age are also found in a limited extent. The Archaeans consist of biotite and hornblende gneisses, charnockites etc., Upper jurassic formations are represented by equivalents of Gondwana in small patches in parts of Perambalur taluk. The sequence of beds of cretaceous age of Thiruchirappali commences with Uttatur stage and ends with Niniyur stage. To the south and north they are covered by alluvial deposits and to the east by the Cuddalore sand stone of miocene age.

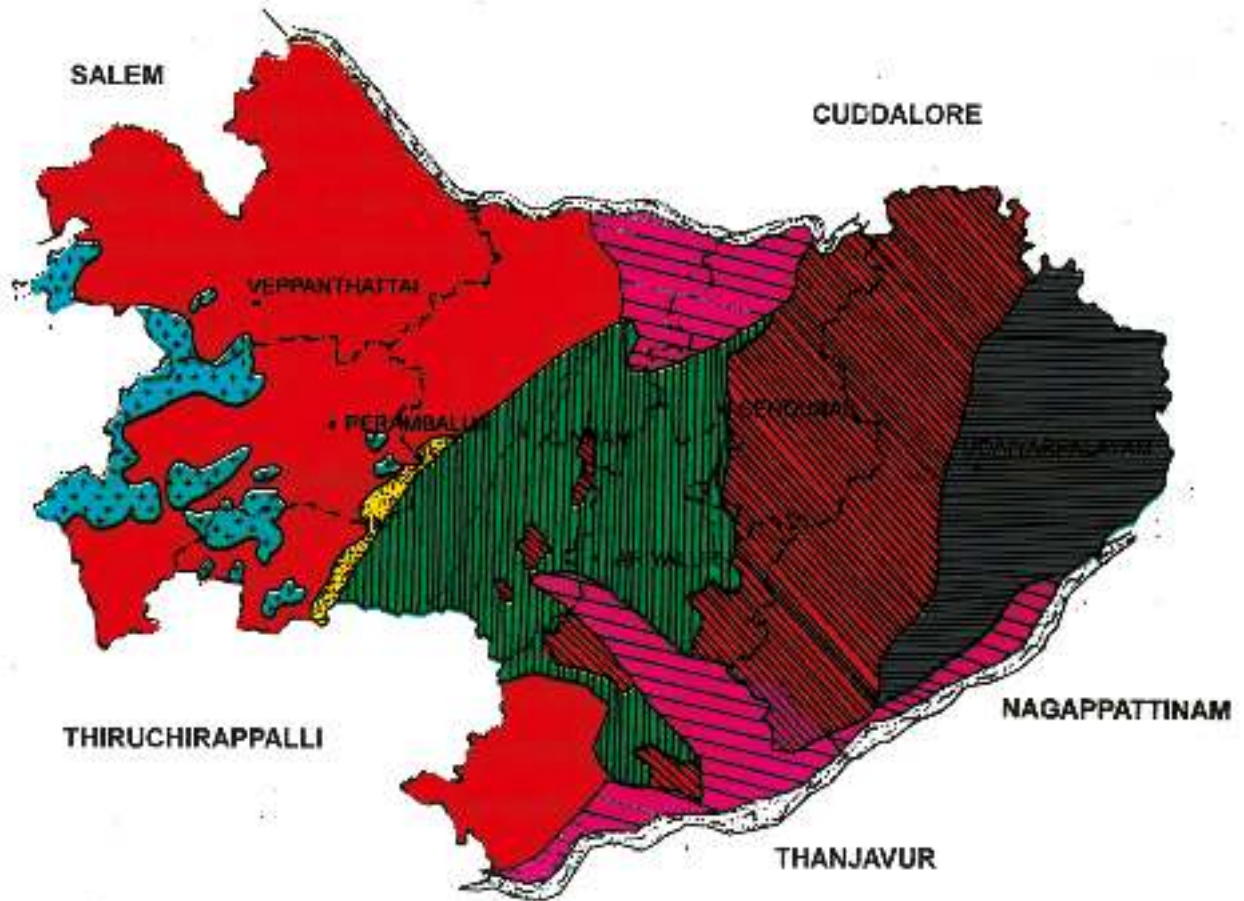
In Tertiary, the miocene and pliocene members are well developed. The miocene formation consists of alternate layers of sand and clay. The sand layers are usually found to be more clay bound. They are also ferruginous in nature. The Pliocene consists of alternating sands and clay beds of limited extent.

- Mineral Resources :** The district is quite rich in minerals like limestone, clays, clayey sand stones etc., The details are given below:
1. Clays : Upper Gondwana, formation is represented by clays which are having economic values. These clays are used locally for superior type of pottery and also for the manufacture of salt glazed pipes, fine bricks and electrical insulators. Alluvial clays of Kollidam river and sandy clays occurring over Cuddalore sand stone, are used locally for bricks making.
  2. Lime stone : Sedimentary lime stone occurring as cretaceous formations and is estimated 2,26,000 tonnes of 50% CaO and 17 million tonnes of 42 to 46% CaO also found in Ariyalur taluk. In Kunnam taluk, 3,00,000 tonnes of 50% CaO is also found.
  3. Garnet : Garnet sand concretions occur on the Eastern and Northern sides. Massive garnet, is reported to occur in crystalline lime stone in Perambalur taluk.
  4. Mineral pigments : Pale yellow ochreous clays associated with cretaceous clays occur in Kunnam taluk.



# GEOLOGY

## PERAMBALUR DISTRICT



### LEGEND

-  QUATERNARY
-  PLIOCENE
-  MIOCENE
-  CRETACEOUS
-  CHARNOKITE
-  GONDWANA
-  BIOTITE & HORNBLende

## PHYSIOGRAPHY

### PERAMBALUR DISTRICT

The general physiography of this district is versatile with hill ranges, series of plains, valley bottoms undulating upland area and broken chains of Eastern Ghats viz., Pachamalai hills. A part of Pachamalai hill is the important hill, in Perambalur taluk of this district. The average height of Pachamalai hill is 600 metres though a few of the peaks raise to about 1020 metres above Mean Sea Level. But for this hill, Perambalur forms a gentle undulating upland and having hilly areas, gullied lands and small hillocks. While Udalyarpalayam taluk is fairly flat and the southern end is very gently sloping. Ariyalur taluk is having slightly elevated, undulated area on the north western portion and rockout crops in central eastern part. A rolling topography is also observed in Ariyalur taluk. The major physiographic divisions for this district are established as follows.

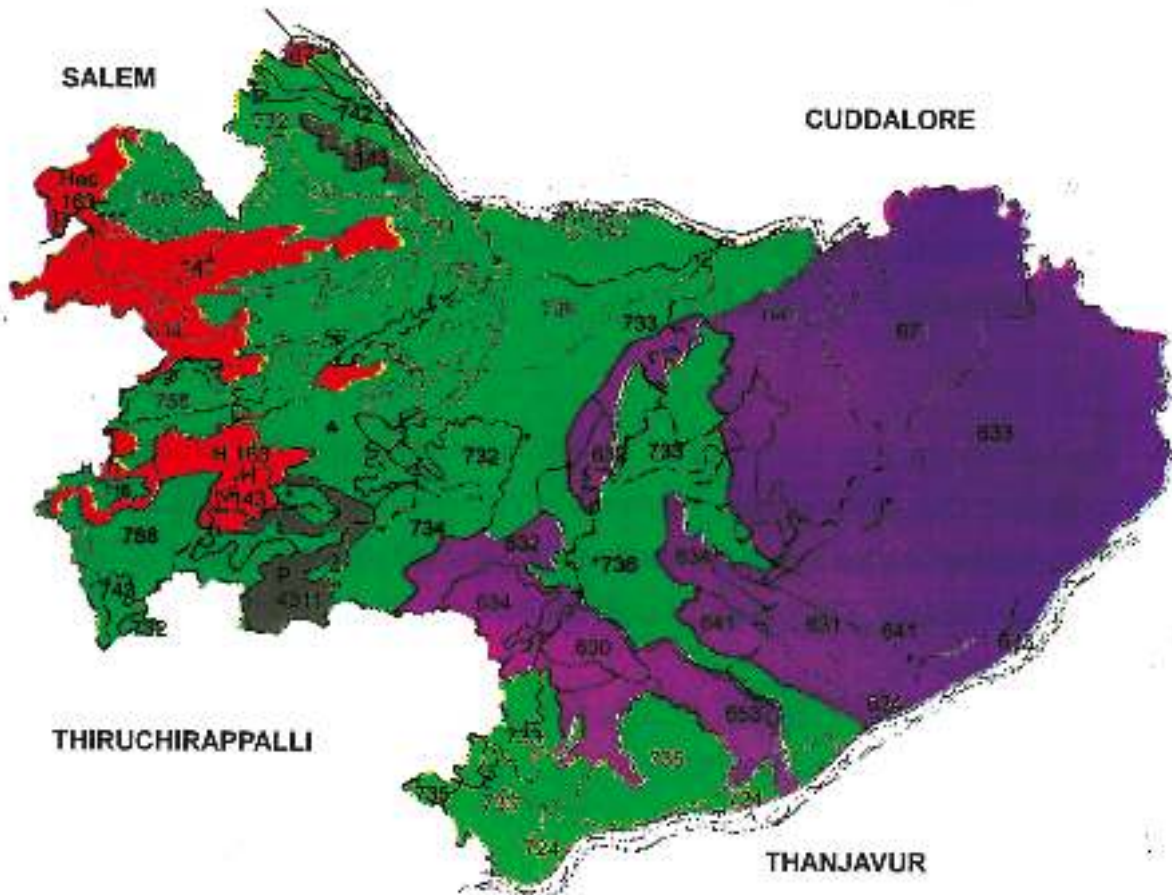
#### Physiographic divisions :

- Pec 4** - Inland plains :
  - 4311 - Gently sloping to undulating uplands
  - 443 - Gently sloping plains
- Pec 6** - Cuddalore sand stone :
  - 631 - Gently sloping lands
  - 632 - Gently sloping lands
  - 633 - Gently sloping lands
  - 634 - Gently sloping lands
  - 641 - Low lands
  - 643 - Low lands
  - 653 - Canal irrigated
- Pec 7** - Limestone form
  - 716 - Isolated hills / hillocks
  - 724 - Undulating to gently sloping
  - 731, 732, 733, 735, 736 - Gently sloping
  - 742, 743 - Low lands / valleys
- HEC** - Tamilnadu uplands
  - 111 - High hills / hill ranges
  - 142, 143 - Isolated hills / hillocks
  - 163, 167 - Undulating to gently sloping foot slopes



# PHYSIOGRAPHY

## PERAMBALUR DISTRICT



### LEGEND

-  Pec - 4 - INLAND PLAINS (4311, 443)
-  Pec - 6 - CUDDALORE SAND STONE (631, 632, 633, 634, 641, 643, 653)
-  Pec - 7 - LIMESTONE FORM (716, 724, 731, 732, 733, 735, 738, 742, 743)
-  Hec - TAMILNADU UPLANDS (111, 142, 143, 163, 167)

## **DRAINAGE & RIVER BASINS**

### **PERAMBALUR DISTRICT**

In this district, Vellar is the important river flowing and substantially benefiting agricultural activities. The Vellar river rises from Salem district and forms boundary between Perambalur and Cuddalore district.

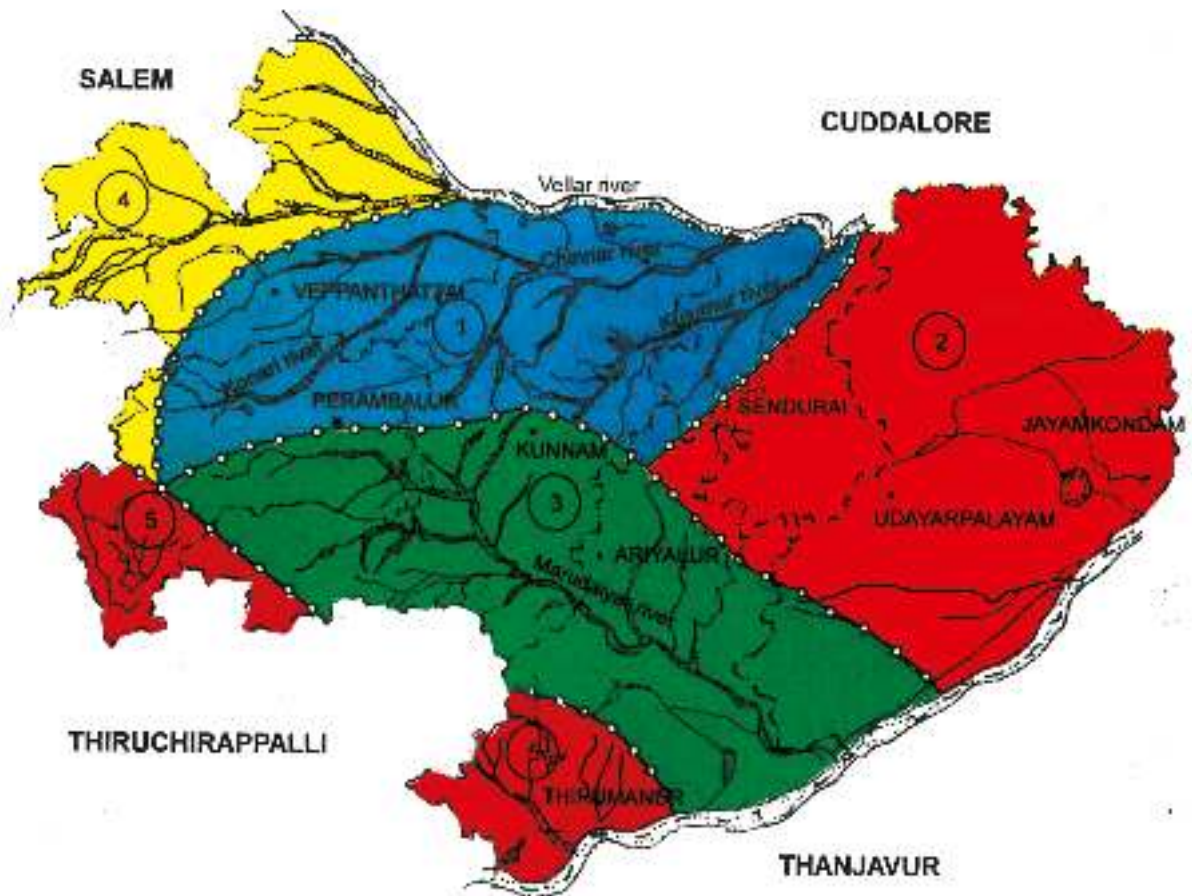
The Marudaiyar river traverse through Ariyalur taluk and empties in to the Coleroon river. Kallar and Chinnar which are tributaries of Vellar and Marudaiyar rivers, traversing through Perambalur taluk and Kallar and Marudaiyar in Udaiyarpalaiyam taluk benefit the agricultural activity. The details of river basins are given below.

<b>SI. No.</b>	<b>River Basins</b>	<b>Taluks</b>
1.	Swedhanadhi minor basin	Perambalur and part of Veppanthattai
2.	Perambalur minor basin	Perambalur, Sendurai, part of Udaiyarpalaiyam and part of Veppanthattai
3.	Marudaiyar minor basin	Ariyalur and Udaiyarpalaiyam
4.	Udaiyarpalaiyam minor basin	Udaiyarpalaiyam






# RIVER BASINS & WATER SHED

## PERAMBALUR DISTRICT



### REFERENCE

-  District boundary
-  Taluk boundary
-  River
-  Minor basin boundary

### LEGEND

-  PERAMBALUR MINOR BASIN
-  UDAIYARPALAYAM MINOR BASIN
-  MARUDAIYAR MINOR BASIN
-  SWEDHANATHI MINOR BASIN
-  LALGUDI MINOR BASIN

## RAINFALL

### PERAMBALUR DISTRICT

The annual distribution of rainfall in all the six taluks of Perambalur district over a period of 70 years (1927 - 1996) is furnished below:

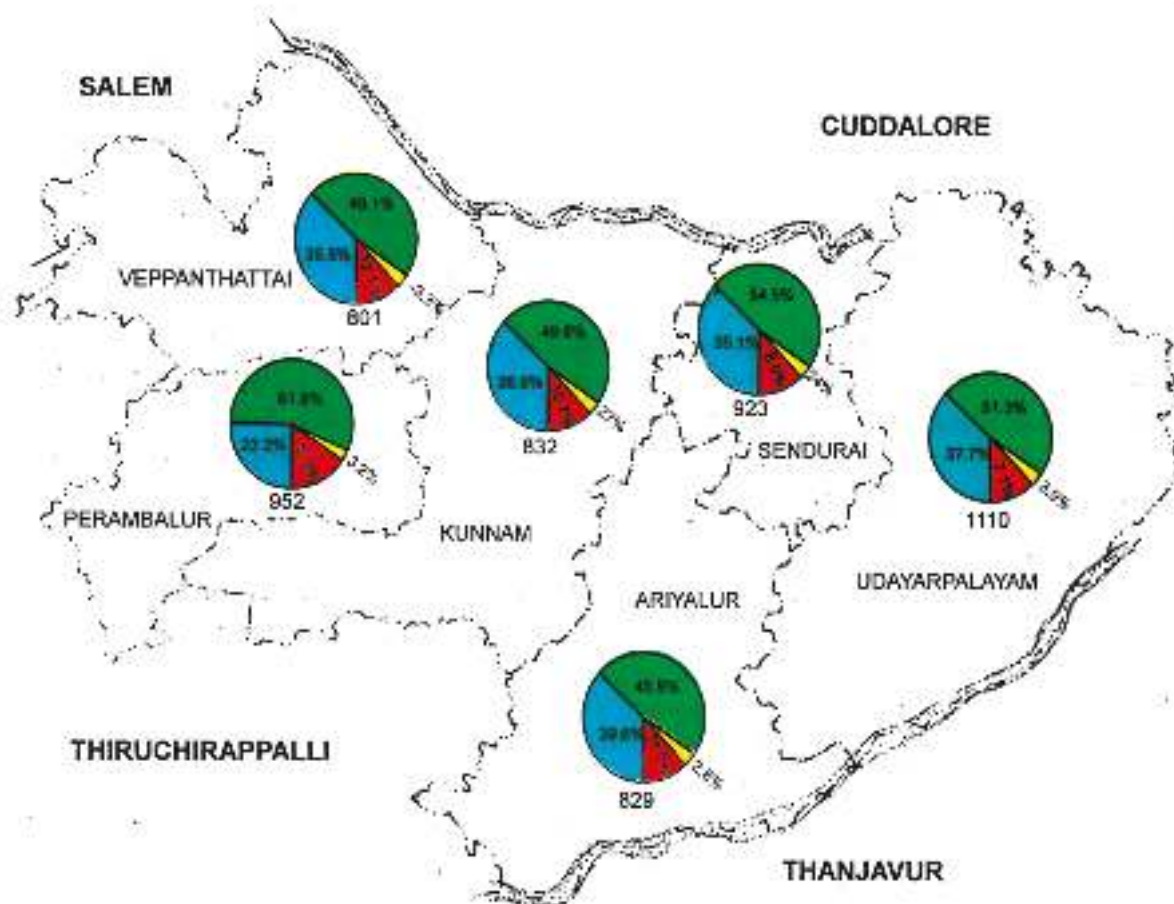
Sl. No.	Taluks	Mean annual rainfall (mm)	Seasonal rainfall							
			South West Monsoon (June - Sep)		North East Monsoon (Oct - Dec)		Winter (Jan - Feb)		Summer (Mar - May)	
			mm	%	mm	%	mm	%	mm	%
1.	Ariyalur	829	328	39.6	381	45.9	23	2.8	97	11.7
2.	Kunnam	832	306	36.8	414	49.8	23	2.7	88	10.7
3.	Perambalur	952	220	23.2	589	61.8	30	3.2	112	11.8
4.	Sendurai	923	324	35.1	503	54.5	22	2.4	74	8.0
5.	Udaiyarpalayam	1110	418	37.7	570	51.3	43	3.9	79	7.1
6.	Veppanthattai	801	284	35.5	394	49.1	26	3.3	97	12.1

In all the six taluks of Perambalur district, North-East monsoon followed by South-west-monsoon are the main sources of water both for agricultural and drinking purposes. The mean annual rainfall is maximum in Udaiyarpalayam (1110 mm) taluk, followed by Perambalur (952 mm) and Sendurai(923 mm) taluks.

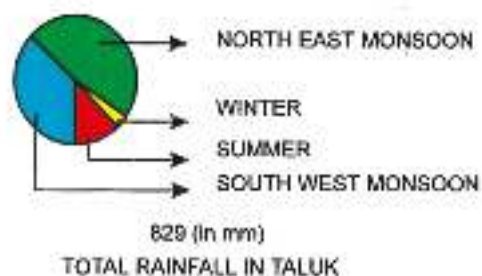


# RAINFALL

## PERAMBALUR DISTRICT



### LEGEND



## TEMPERATURE

### PERAMBALUR DISTRICT

The atmospheric temperature is the primary source of soil temperature. The atmospheric temperature was used for the calculation of soil temperature by adding 3.5°C. The radiation absorbed by soil and the amount of heat entering the soil are controlled by climate, colour of soil, altitude aspect of land and the vegetative cover present on the soil. Soil temperature is one of the important soil properties which controls with in limits plant growth, soil formation and soil properties through controlling evapotranspiration, effective rainfall and type of vegetation and organic matter decomposition. Soil temperature exerts a strong influence on biological activities in soil and plant, rate of physical and chemical process with in the soil and regulates soil-air movement. Nitrification process through micro organisms are at the maximum between 80-90°F. If the soil temperature is 35°C and above, root growth and germination of most of the plants are severely restricted. The soil temperature will give an idea about soil moisture.

The atmospheric temperature data recorded over a period of 70 years (1927 - 1996) was computed and the mean maximum and mean minimum temperature were arrived at and presented in the form of a graph. From the graph, it is seen that the hot months are April, May and June with the maximum temperature ranging from 38° to 39°C and the cool months being January and February with the minimum temperature ranging from 20°C to 21°C.

#### Soil Moisture Regime : USTIC

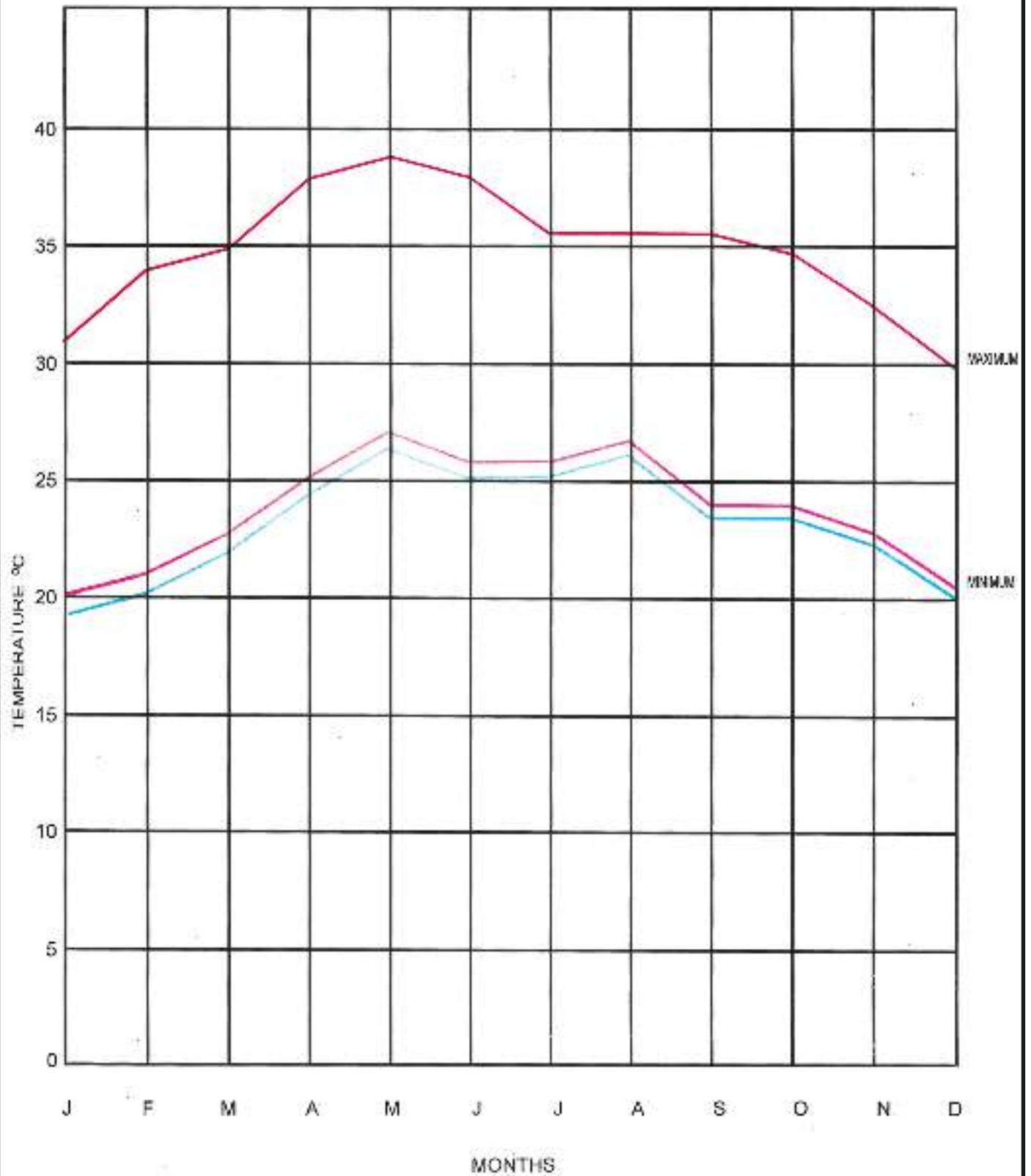
USTIC Moisture Regime : The USTIC (Lustus - burnt, implying dryness)

The USTIC moisture regime is the one that is limited but is present at a time when conditions are suitable for plant growth. If soil is dry in some or all parts for 90 or more cumulative days per year. But the moisture control section is moist in some part either for more than 180 cumulative day per year or for 90 or more consecutive days. In tropical and sub-tropical regions, the moisture regime is USTIC if there is atleast one rain season of three months or more.

Sl. No.	Months	Temperature (°C)		
		Maximum	Minimum	Mean
1.	January	31.0	20.0	25.5
2.	February	34.0	21.0	27.5
3.	March	35.0	23.0	29.0
4.	April	38.0	25.0	31.5
5.	May	39.0	27.0	33.0
6.	June	38.0	26.0	32.0
7.	July	36.0	26.0	31.0
8.	August	36.0	27.0	31.5
9.	September	36.0	24.0	30.0
10.	October	35.0	24.0	29.5
11.	November	33.0	23.0	28.0
12.	December	30.0	21.0	25.5

# TEMPERATURE

## PERAMBALUR DISTRICT



## OMBROTHERMIC DATA

### PERAMBALUR DISTRICT

The mean monthly rainfall and temperature of Perambalur district over a period of 70 years (1927 - 1996) are furnished in the form of an Ombrothermic diagram. Dry spell is most common and lasts for two months only. The wet and dry periods in the year have been depicted as Ombrothermic diagram and are furnished in this report. Agricultural activities can be programmed accordingly.

Sl. No.	Months	Mean Rainfall (mm)	Mean Temperature (°C)
1.	January	16.0	25.5
2.	February	12.0	27.5
3.	March	12.0	29.0
4.	April	24.0	31.5
5.	May	55	33.0
6.	June	42	32.0
7.	July	48	31.0
8.	August	95	31.5
9.	September	129	30.0
10.	October	172	29.5
11.	November	223	28.0
12.	December	80	25.5

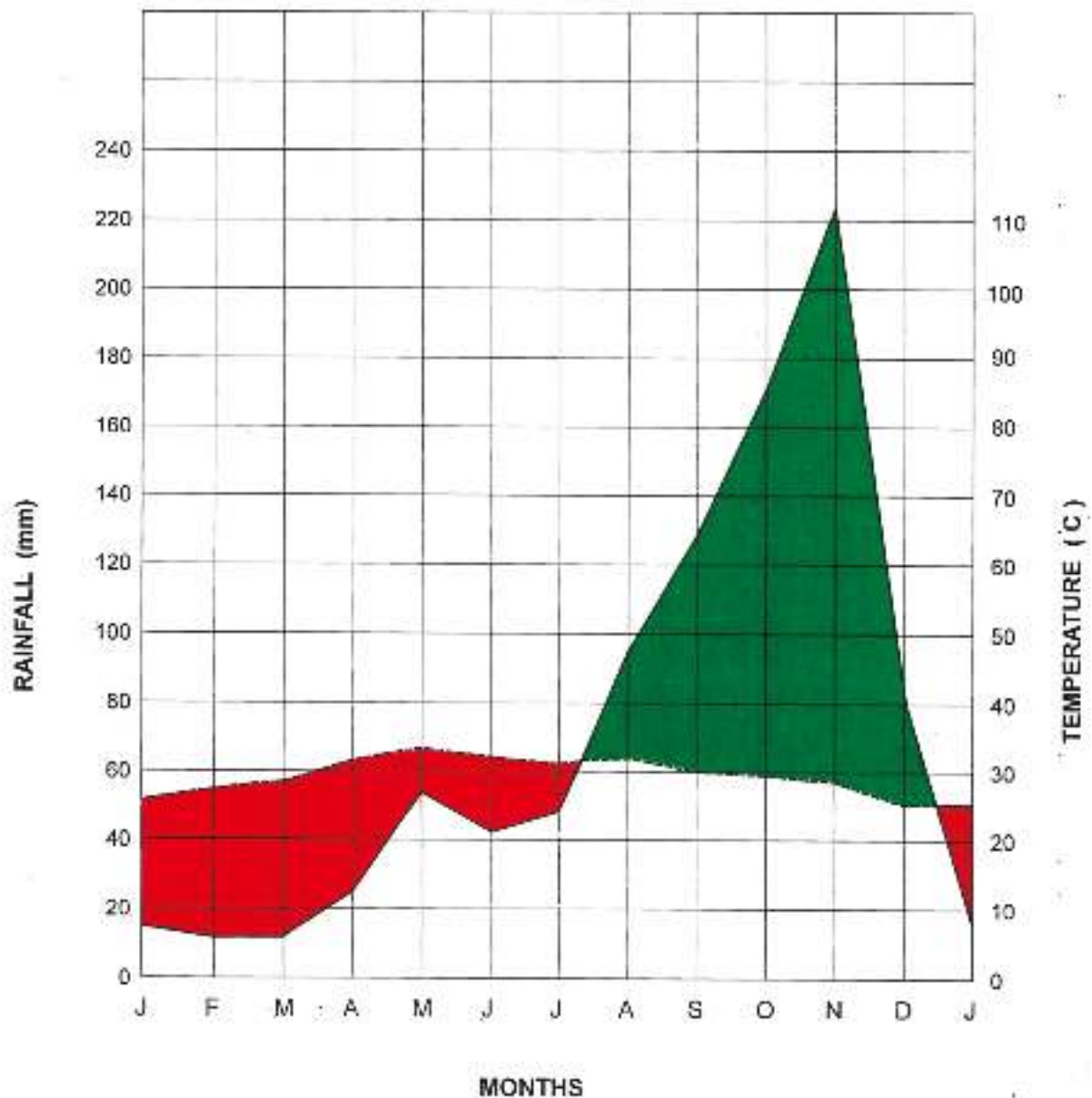
Season	(mm)
Winter (January & February)	= 28
Summer (March to May)	= 91
South West monsoon (June to September)	= 314
North East monsoon (October to December)	= 475
Total	= 908

#### TEMPERATURE REGIME :

Mean annual temperature is above 28°C and the difference between the mean summer (April - June) and the mean winter (November - January) temperature is less than 5°C, thus falling under "ISO MEGATHERMIC" soil temperature regime.

# OMBROTHERMIC DIAGRAM

## PERAMBALUR DISTRICT



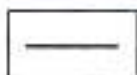
WET MONTHS



DRY MONTHS



RAINFALL (mm)



TEMPERATURE (°C)



## LAND USE PATTERN

### PERAMBALUR DISTRICT

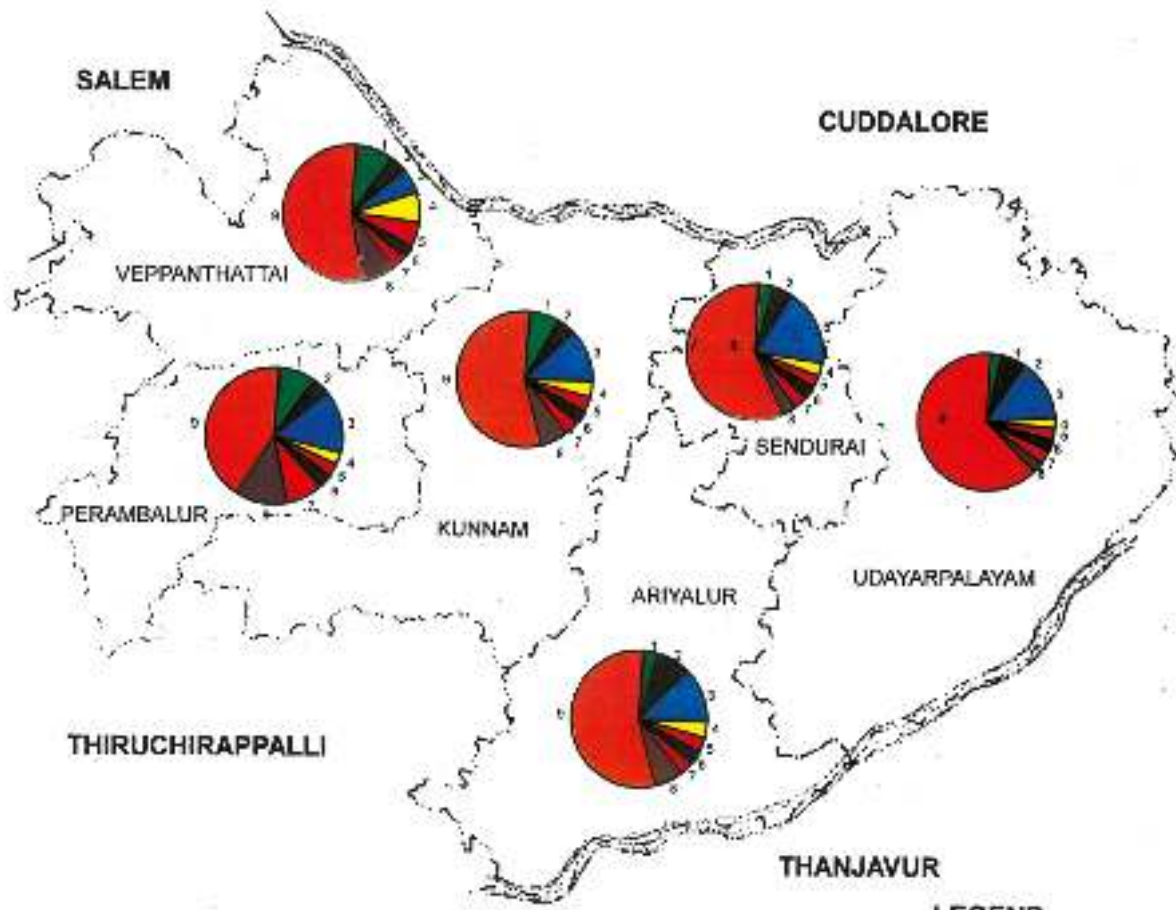
In this district, out of the total geographical extent of 3,69,107 hectares only 2,38,814 hectares (64.70%) are used for agricultural purposes. A total of 32,933 hectares (8.92%) are kept as fallow lands. The lands put to non-agricultural purposes occupy 43,953 (11.91%) hectares. The cultivable waste lands of 7,742 (2.10%) hectares can be brought in to agricultural uses by suitable measures.

Sl. No.	Particulars	Taluks with extent (ha)						Total Extent (ha)	Per cent to total
		Ariyalur	Kunnam	Perambalur	Sendurai	Udaiyarpalayam	Veppanthattal		
1.	Net Area sown	41,317 (61.08)	64,448 (76.11)	18,149 (53.887)	22606 (71.87)	60,872 (64.57)	31,422 (54.77)	2,38,814 (64.70)	64.70
2.	Forests	248 (0.37)	4,278 (5.05)	4,904 (14.56)	1780 (5.66)	7,023 (7.45)	7,114 (12.40)	25,347 (6.84)	6.87
3.	Uncultivable waste	5,275 (7.80)	929 (1.10)	1,262 (3.75)	441 (1.40)	2,903 (3.08)	574 (1.0)	11,384 (3.08)	3.08
4.	Land put to non Agricultural uses	12,727 (18.80)	5,385 (8.36)	3,880 (11.52)	4874 (15.50)	9,871 (10.47)	7,216 (12.58)	43,953 (11.91)	11.91
5.	Cultivable wastes	2,078 (3.07)	1,275 (1.51)	679 (2.01)	408 (1.30)	1,358 (1.44)	1,944 (3.39)	7742 (2.10)	2.10
6.	Permanent pasture	966 (1.46)	137 (0.16)	9 (0.03)	55 (0.18)	257 (0.27)	71 (0.12)	1515 (0.41)	0.41
7.	Land under trees not included under net area sown	509 (0.75)	698 (0.82)	63 (0.19)	111 (0.35)	5,849 (6.21)	189 (0.33)	7419 (2.21)	2.01
8.	Current Fallows	2,981 (4.41)	5,274 (7.41)	3,862 (11.46)	1022 (3.25)	5,145 (5.46)	7,668 (13.37)	26952 (7.30)	7.30
9.	Other Fallows	1,529 (2.26)	1,256 (1.48)	876 (2.60)	155 (0.49)	991 (1.05)	1,174 (2.05)	5981 (1.62)	1.62
10.	Total geographical extent	67,650 (100.00)	84,880 (100.00)	33,684 (100.00)	31452 (100.00)	94,269 (100.00)	57,372 (100.00)	369107 (100.00)	100.00

Note : The figures with in brackets refers to per centage of land uses to the total geographical extent of a particular taluk.



# LAND USE PATTERN PERAMBALUR DISTRICT



## THANJAVUR LEGEND

1. FOREST
2. UNCULTIVABLE WASTE
3. LAND PUT TO NON - AGRICULTURAL USES
4. CULTIVABLE WASTE
5. PERMANENT PASTURE
6. LAND UNDER TREE CROPS NOT INCLUDED UNDER NET AREA SOWN
7. CURRENT FALLOWS
8. OTHER FALLOWS
9. NET AREA SOWN

## FOREST

### PERAMBALUR DISTRICT

The total forest wealth of this district is 25,347 hectares which represent 6.87 percent of the total geographical extent of Perambalur district. The types of forest include

1. Dry mixed deciduous forest
2. Tropical dry deciduous forest
3. Tropical evergreen forest
4. Sub-tropical hill forest

The vegetative cover of the forest is being destroyed by nearby villagers for fuel consumption; Afforestation measures must be taken up in all these forests and in the hill bottom which in addition to providing a proper vegetative cover on the hills, helps to prevent the sedimentation in rivers and to preserve the fertile soils from erosion.

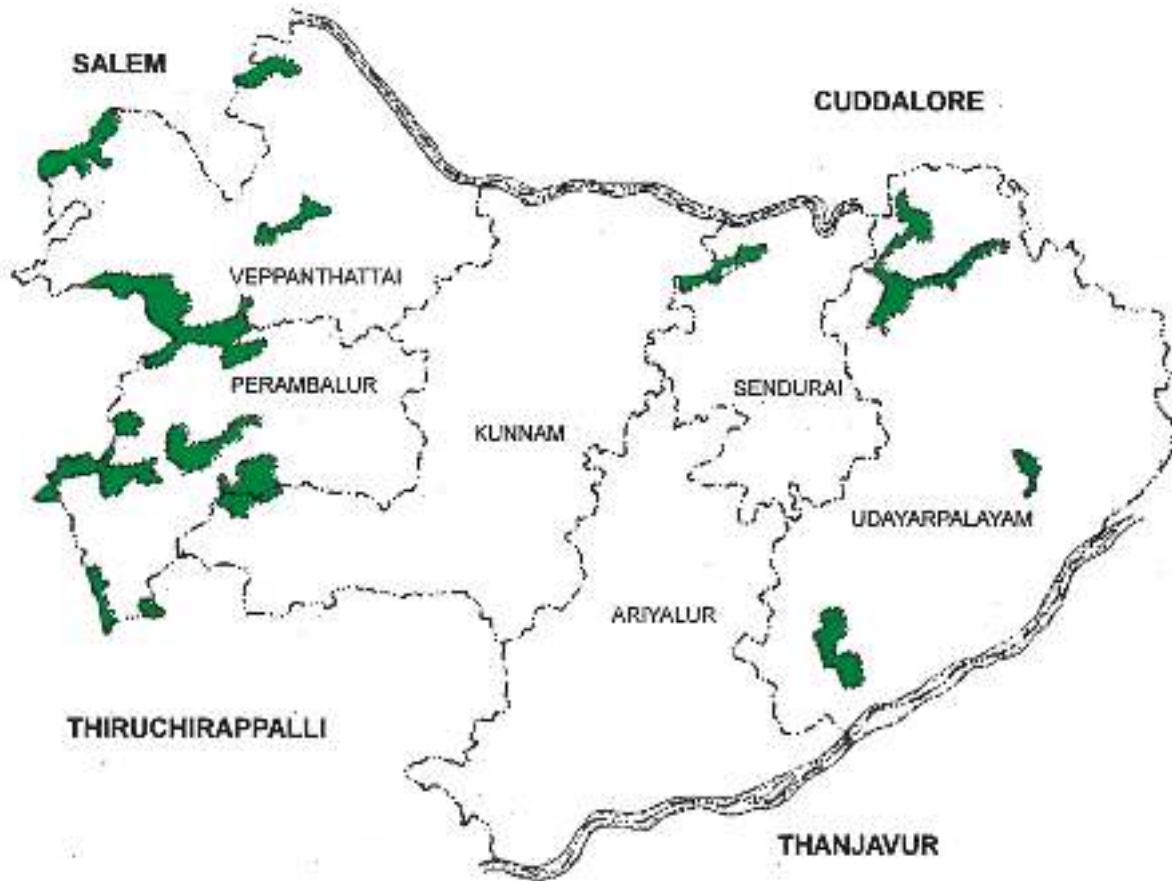
The extent of forest in Veppanthattai taluk is 7,114 hectares (28.07%), 7023 hectares (27.71%) in Udaiyarpalaiyam and 4,904 hectares (19.35%) in Perambalur taluk. The taluk wise distribution of forest is given below.

Taluks	Extent (ha)	Percent to total
1. Ariyalur	248	0.98
2. Kunnam	4,278	16.88
3. Perambalur	4,904	19.35
4. Sendurai	1,780	7.01
5. Udaiyarpalaiyam	7,023	27.71
6. Veppanthattai	7,114	28.07
<b>Total</b>	<b>25,347</b>	<b>100.00</b>



# FOREST

## PERAMBALUR DISTRICT



### REFERENCE

- District boundary
- Taluk boundary

### LEGEND

-  FOREST

## CROP AREA

### PERAMBALUR DISTRICT

The major crops of this district are rice, oilseeds and sugarcane, pulses and millets are also grown in some area. In uplands, millets like sorghum, pearl millet, finger millet, and oilseeds such as groundnut and gingelly are grown both under irrigated and rainfed conditions. Cotton is also grown in both irrigated and rainfed conditions and the cotton area is mainly distributed in Veppanthattai, Kunnam and Perambalur taluks.

#### Extent under different crops (thousand hectares)

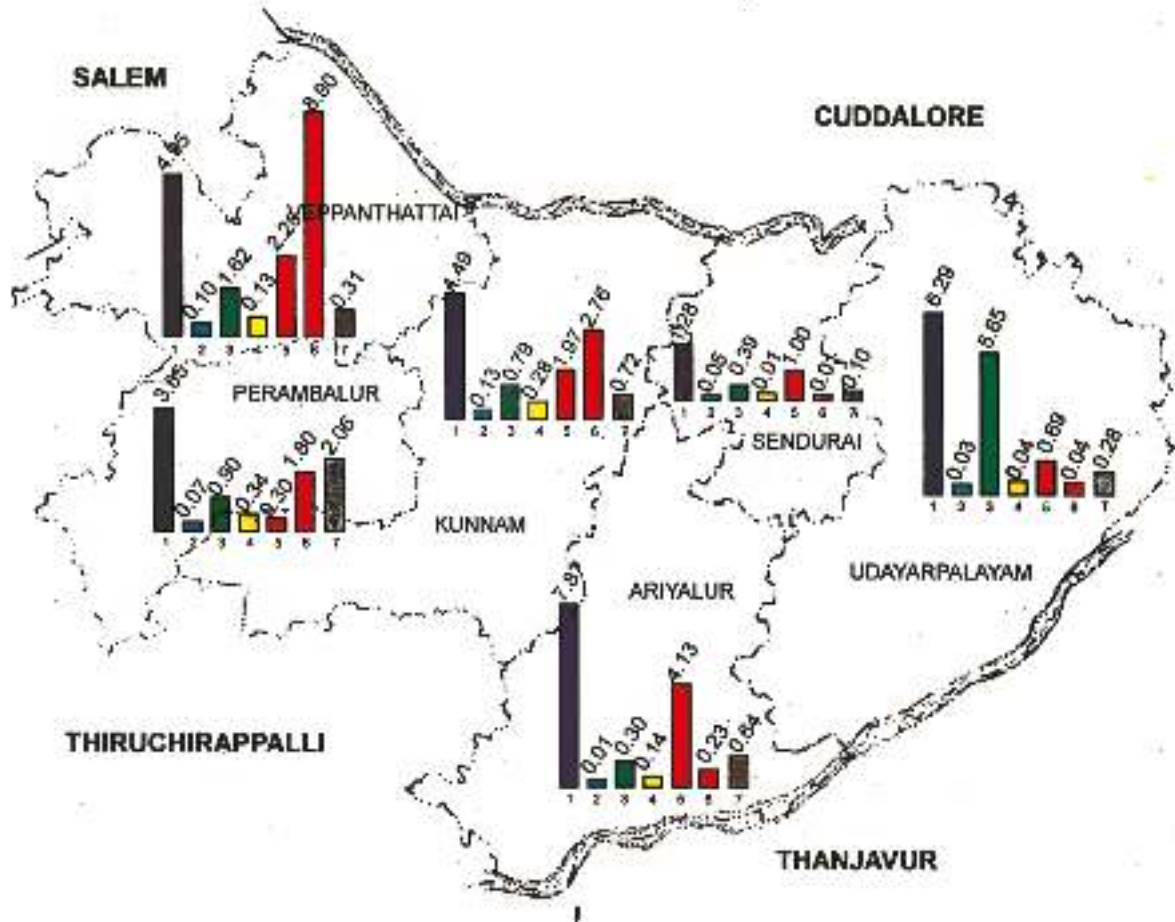
Sl. No.	Taluks	Rice	Pulses	Oilseeds	Millets	Sugarcane	Cotton	Other	Total
1.	Perambalur	3.05	0.07	0.90	0.34	0.30	1.80	2.06	8.52
2.	Veppanthattai	4.95	0.10	1.62	0.13	2.28	8.90	0.31	18.29
3.	Kunnam	4.49	0.13	0.79	0.28	1.97	2.76	0.72	11.14
4.	Ariyalur	7.87	0.01	0.30	0.14	4.13	0.23	0.64	13.32
5.	Sendurai	1.28	0.05	0.39	0.01	1.00	0.01	0.10	2.84
6.	Udaiyarpalayam	6.29	0.03	5.65	0.04	0.69	0.04	0.28	13.02
	Total	27.93	0.39	9.65	0.94	10.37	13.74	4.11	67.13
	Per cent to total	41.61	0.58	14.37	1.40	15.45	20.47	6.12	100.00

In Perambalur district, out of the total cropping area of 67,130 hectares, Rice alone occupy 27,930 (41.61%) hectares, cotton and sugarcane are grown in 13,740 hectares and 10,370 hectares respectively. Pulses are grown in least area of 390 hectares (0.58%)

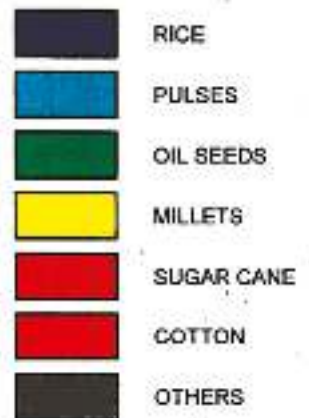


# CROP AREA

## PERAMBALUR DISTRICT



### LEGEND



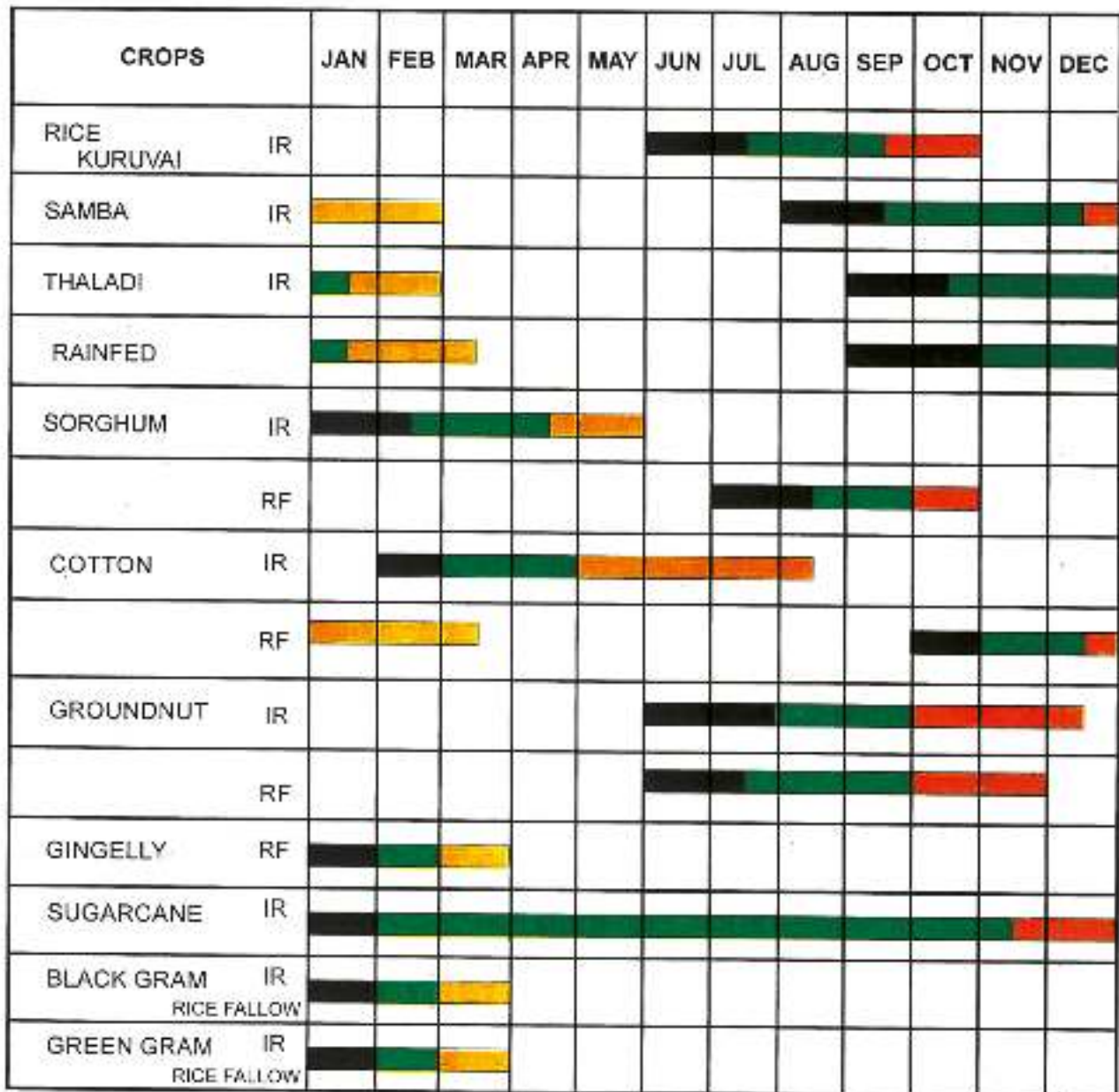
## CROPPING CALENDAR

### PERAMBALUR DISTRICT

The major crops cultivated in this district are rice, millets, pulses, sugarcane, cotton and oil seeds. Rice is grown in three seasons viz., Kuruvai, Samba and Thaladi wherever water resources are available at that particular season. In upland area, rice is grown as rainfed crop. Oil seeds such as groundnut and gingelly are grown both under irrigated and rainfed conditions. Pulses like blackgram, greengram and redgram are grown in rice fallows.

Crops	Irrigated / Rainfed	Seasons	Months
Rice	Irrigated	Kuruvai Thaladi Samba	June to October September to February August to February
Rice	Rainfed	—	September to March
Cotton	Irrigated	—	February to August
Cotton	Rainfed	—	September to March
Sugarcane	—	—	January to December
Sorghum	Irrigated	—	January to May
Sorghum	Rainfed	—	June to October
Groundnut	Irrigated	—	June to December
Groundnut	Rainfed	—	June to November
Gingelly	Rainfed	—	January to March
Blackgram	In rice fallows	—	January to March
Greengram	In rice fallows	—	January to March

## CROPPING CALENDAR PERAMBALUR DISTRICT



Sowing Stage    █                      Vegetative Stage    █                      Harvest Stage    █  
 IR    IRRIGATED                      RF    RAINFED

## SOURCES OF IRRIGATION

### PERAMBALUR DISTRICT

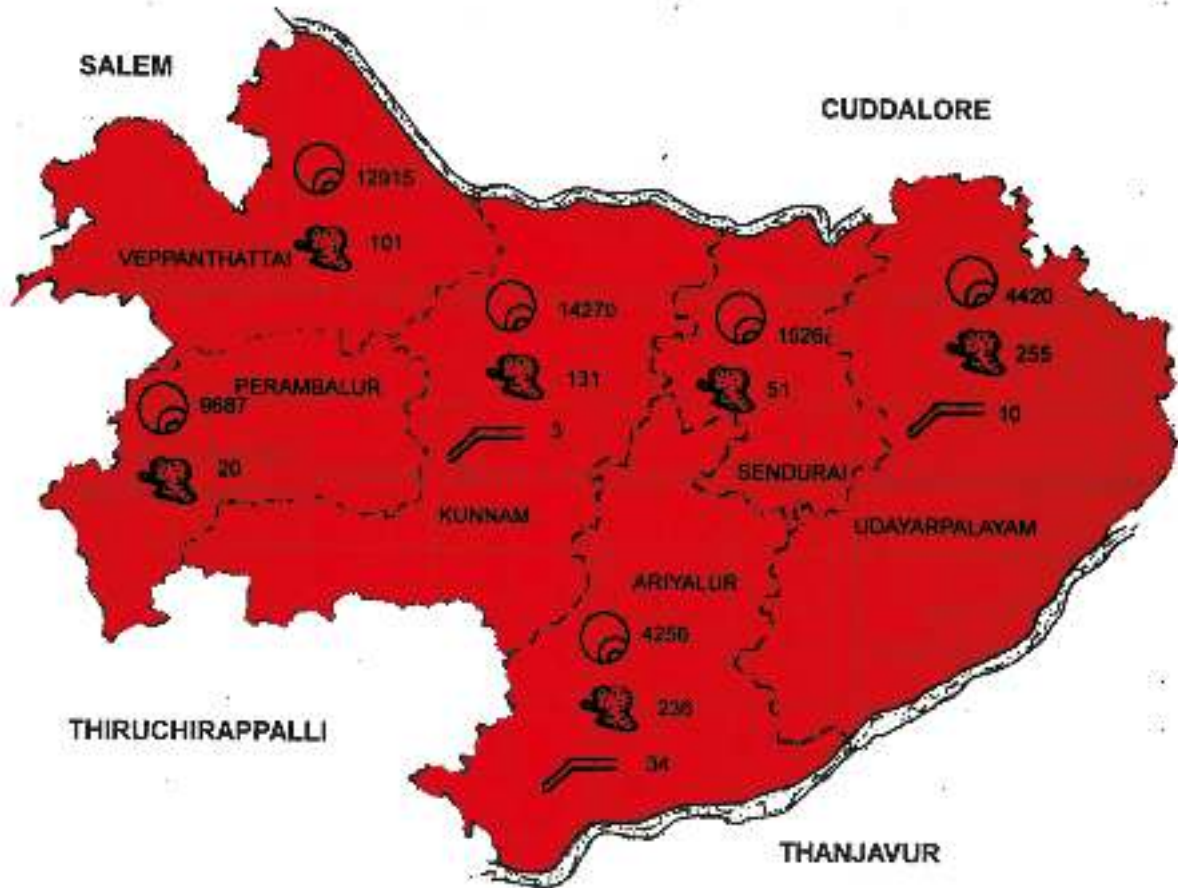
Vellar is the important river benefiting agricultural activities in Perambalur and Veppanthattai taluks. Kallar river in Udaiyarpalaiyam benefits the agricultural activities.

Apart from river irrigation, rainfed tanks scattered all over Perambalur district benefiting considerable extent of lands. Besides rivers and tanks, the other main source of irrigation is wells.

Sl. No.	Taluks	Sources of Irrigation		
		Tanks (Nos)	Wells (Nos)	Canal length (Km)
1.	Ariyalur	236	4256	34
2.	Kurnam	131	14270	3
3.	Perambalur	20	9687	—
4.	Sendurai	51	1526	—
5.	Udaiyarpalaiyam	255	4420	10
6.	Veppanthattai	101	12915	—
Total		794	47074	47



# SOURCES OF IRRIGATION PERAMBALUR DISTRICT



### REFERENCE

- District boundary
- Taluk boundary
- River

### LEGEND

- WELL
- TANK
- CANAL

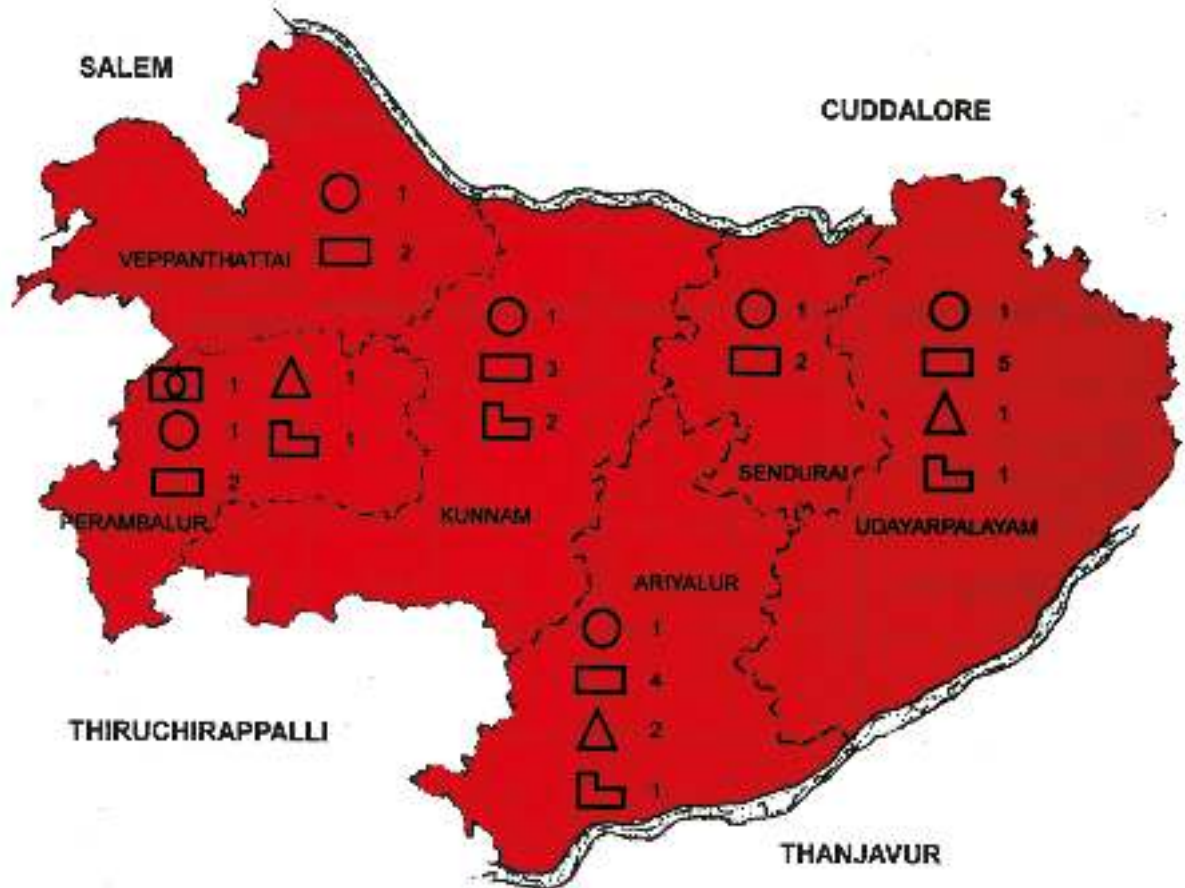
## AGRICULTURAL INSTITUTIONS

### PERAMBALUR DISTRICT

Since it is a newly formed district the various agricultural institutions are less.

Sl. No.	Name of the Institutions	Ariyalur	Kunnam	Perambalur	Sendurai	Udaiyar-palaim	Veppan thattal	Total
1.	Office of The Joint Director of Agriculture	—	—	1	—	—	—	1
2.	Office of the Assistant Director of Agriculture	1	1	1	1	1	1	6
3.	Agricultural depots	4	3	2	2	5	2	18
4.	Regulated markets	2	—	1	—	1	—	4
5.	Agro service centre	1	2	1	—	1	—	5

# AGRICULTURAL INSTITUTIONS PERAMBALUR DISTRICT



### REFERENCE

- District boundary
- Taluk boundary
- River

### LEGEND

- OFFICE OF JOINT DIRECTOR OF AGRICULTURE
- ASST. DIRECTOR OF AGRICULTURE
- AGRICULTURAL DEPOTS
- REGULATED MARKETS
- AGRO SERVICE CENTRE

## AGRO BASED INDUSTRIES

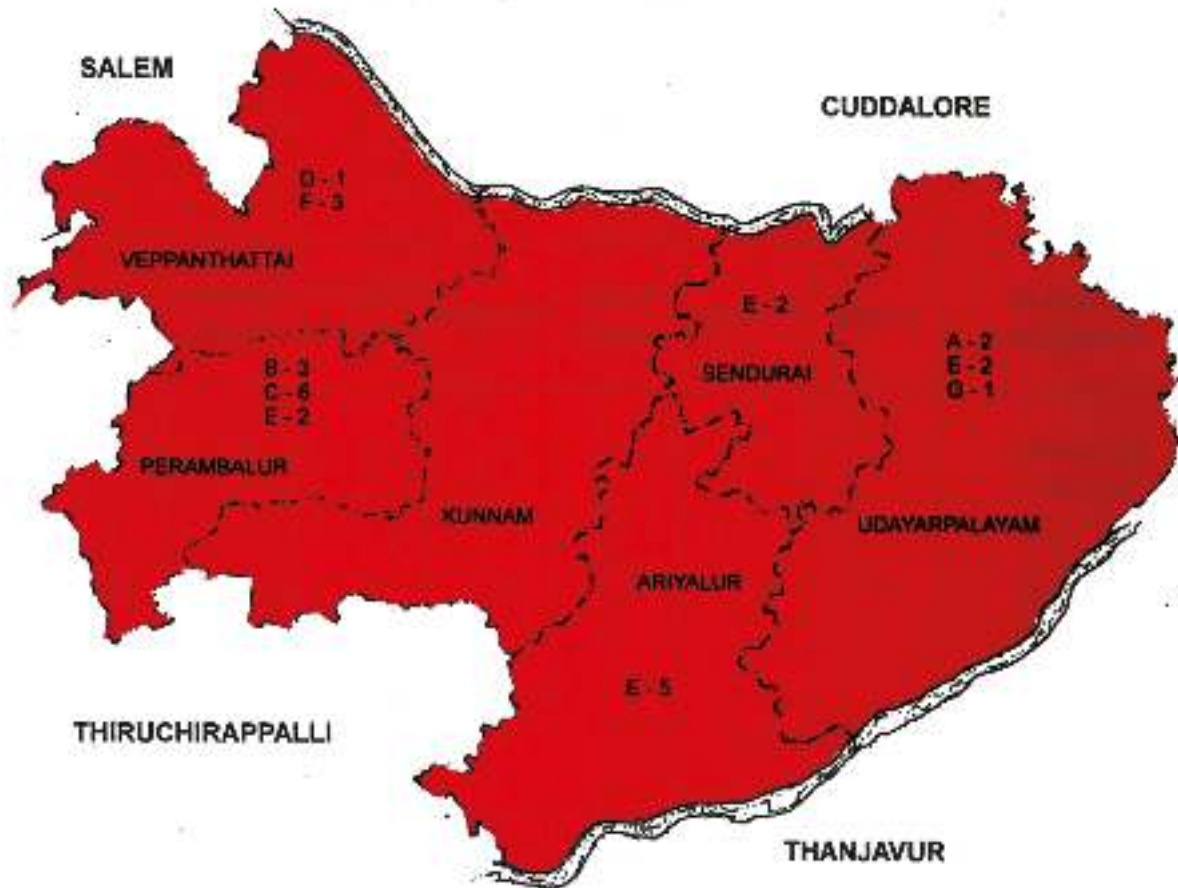
### PERAMBALUR DISTRICT

Since it is a newly formed district the various agricultural institutions are less.

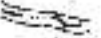
Sl. No.	Name of the industry	Ariyalur	Kunnam	Perambalur	Sendurai	Udaiyar-palaim	Veppan thattai	Total
1.	Coir and coir Product industry	—	—	—	—	2	—	2
2.	Cotton ginning mills	—	—	3	—	—	—	3
3.	Modern Rice mill	—	—	6	—	—	—	6
4.	Sugar factory	—	—	—	—	—	1	1
5.	Oil centre	5	—	2	2	2	—	11
6.	Sago industry	—	—	—	—	—	3	3
7.	Cashew industry	—	—	—	—	1	—	1
	Total	5	—	11	2	5	4	27



# AGRO INDUSTRIES PERAMBALUR DISTRICT



### REFERENCE

- District boundary
- Taluk boundary
-  River

### LEGEND

- A - COIR & COIR PRODUCTS INDUSTRIES
- B - COTTON GINNING MILLS
- C - MODERN RICE MILLS
- D - SUGAR FACTORY
- E - OIL CENTRES
- F - SAGO INDUSTRIES
- G - CASHEW INDUSTRIES

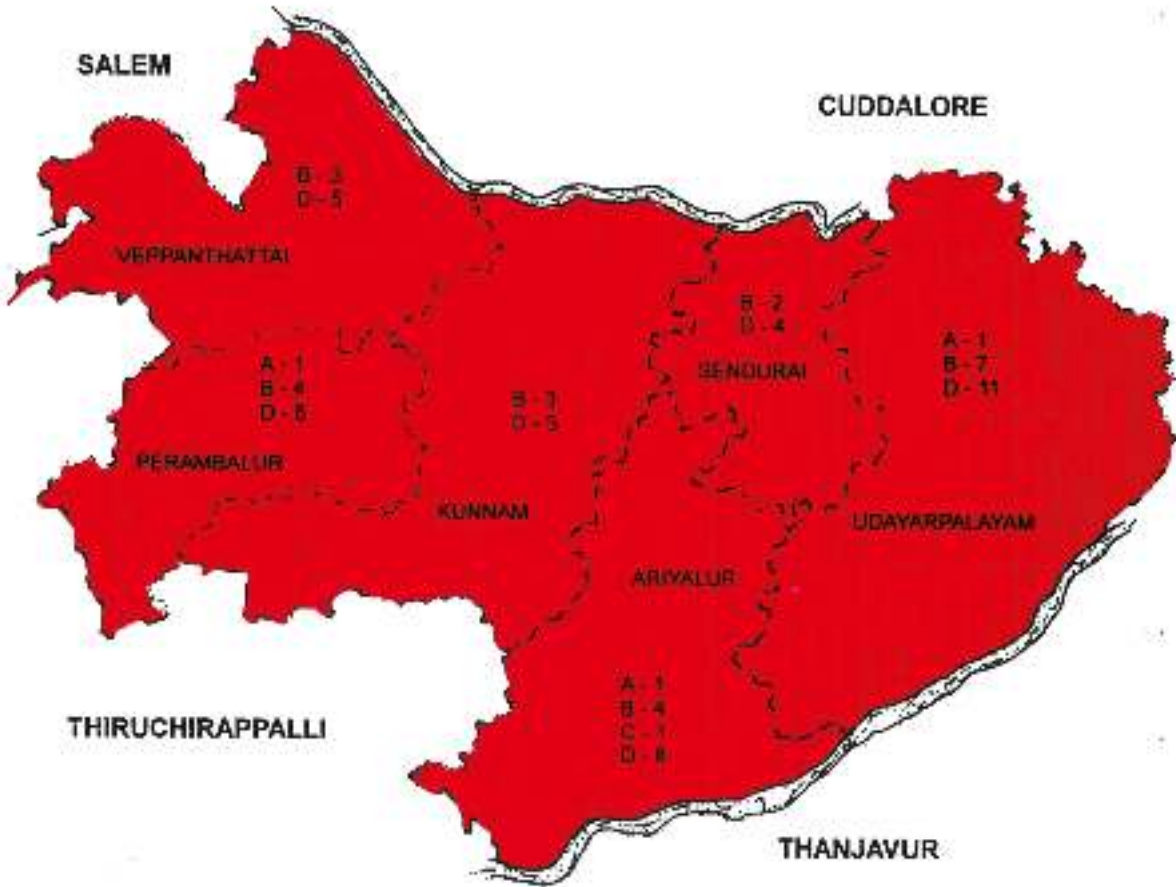
## ANIMAL HUSBANDRY INSTITUTIONS

### PERAMBALUR DISTRICT

Sl. No.	Name of Institutions	Ariyalur	Kunnam	Perambalur	Sendurai	Udaiyarpalayam	Veppanthattai	Total (nos)	Map Symbol
1.	Veterinary Hospital	1	—	1	—	1	—	3	A
2.	Veterinary Dispensary	4	3	4	2	7	3	23	B
3.	Mobile Veterinary Dispensary	1	—	—	—	—	—	1	C
4.	Animal Husbandry sub centre	8	5	8	4	11	5	41	D
Total		14	8	13	6	19	8	68	—



# ANIMAL HUSBANDRY INSTITUTIONS PERAMBALUR DISTRICT



### REFERENCE

-  District boundary
-  Taluk boundary
-  River

### LEGEND

- A - VETERINARY HOSPITAL
- B - VETERINARY DISPENSARY
- C - MOBILE VETERINARY DISPENSARY
- D - ANIMAL HUSBANDRY SUB - CENTRE

# DISTRIBUTION OF SOIL SERIES

## PERAMBALUR DISTRICT

Soil series is a grouping of soil having similar profile characteristics developed from similar parent material under the same climatic conditions. In Perambalur district, 18 soil series have been identified in six talukas. Pkineedu (82187 ha), followed by Madukkur (81632 ha) had the highest extent of soils.

Sl. No.	Name of soil series	Symbol	Ariyalur	Kunnam	Perambalur	Sendurai	Udaiyarpalayam	Veppanthai	Total (ha)	Per cent to total
1.	Alangudi	Alp	569						569	0.15
2.	Angarur	Ang	5,811			4,722			10,533	2.85
3.	Arivakir	Arv	7,827			2,045			9,872	2.67
4.	Ayichavad	Ad	6,084			476			6,560	1.77
5.	Kalathur	Kl	11,749				4,470		16,219	4.39
6.	Kalligam	Klg		7,351					7,351	1.99
7.	Kalshibud	Kk		23,487				1,391	24,878	6.74
8.	Kurumbalur	Kur			6,254				6,254	1.68
9.	Madakur	Mdk	3,537			7,655	50,440		61,632	16.70
10.	Madukulam	Mud				2,926	6,012		8,938	2.42
11.	Navakarpalayam	Npm	126	1,652	4,478			1,899	8,129	2.18
12.	Packalur	Pdl							401	0.12
13.	Padugal	Pdg				922			922	0.27
14.	Palathurai	Pth	2,662			8,086			10,748	2.85
15.	Pattikkottai	Pkt	2,842				23,851		34,509	9.37
16.	Plamedu	Pm	6,821	16,741	11,215			27,420	62,197	16.85
17.	Thesavayir	Tvr		2,033				1,452	3,485	0.94
18.	Vallam	Vlm	11,748			1,584			13,332	3.59
	Others		7,656	29,138	6,238	1,264	1,470	18,036	63,857	17.30
	Forest		248	4,278	4,904	1,780	7,023	7,114	25,347	6.87
	Total		67,650	94,690	33,084	31,432	96,299	67,372	3,69,107	100.00

Taluka with extent (ha)

Note : Others : It includes soil associations, miscellaneous land type etc.,

Sl. No.	Name of soil series	Symbol	Ariyalur	Kunnam	Perambalur	Sendurai	Udaiyarpalayam	Veppanthai	Total (ha)	Per cent to total
1.	Kalligam+Kallibud+Miscellaneous Land Type	Km+Kk+MLT		2,552					2,552	4.30
2.	Kalligam+Sendurai+Miscellaneous Land Type	Km+Pth+MLT		1,206					1,206	1.89
3.	Kalshibud+Miscellaneous Land Type	Kk+MLT		20,340	1,168				21,508	33.66
4.	Kurumbalur+Collywam	Km+Collywam			7,635				7,635	2.58
5.	Kurumbalur+Plamedu	Km+Pm			1,480				1,480	2.32
6.	Padalur+Palathurai	Pdl+Pth		1,871					1,871	2.93
7.	Padalur+Plamedu	Pdl+Pm						275	275	0.43
8.	Palathurai+Ayichavad	Pth+Ad	1,200			320			1,520	2.38
9.	Palathurai+Vallam	Pth+Vlm	4,358						4,358	6.82
10.	Plamedu+Padalur	Pm+Pdl			117			536	653	0.18
11.	Plamedu+Periyavalkarpalayam	Pm+Pvk							312	0.49
12.	Plamedu (surface salinity)+Kurumbalur	Pm(sal)+Km							117	0.16
13.	Plamedu+Miscellaneous Land Type	Pm+MLT			312				312	0.49
14.	Thesavayir+Plamedu	Tvr+Pm					267		267	1.14
15.	Vallam+Pattikkottai	Vlm+Pkt							726	1.14
16.	Miscellaneous Land Type	MLT	1,011	2,386	691	922		4,022	9,012	14.11
17.	Others		1,087	713	880	22	1203	6202	10,667	15.20
	Total		7,656	29,130	6,233	1264	1470	19786	63957	100.00

SOIL ASSOCIATIONS

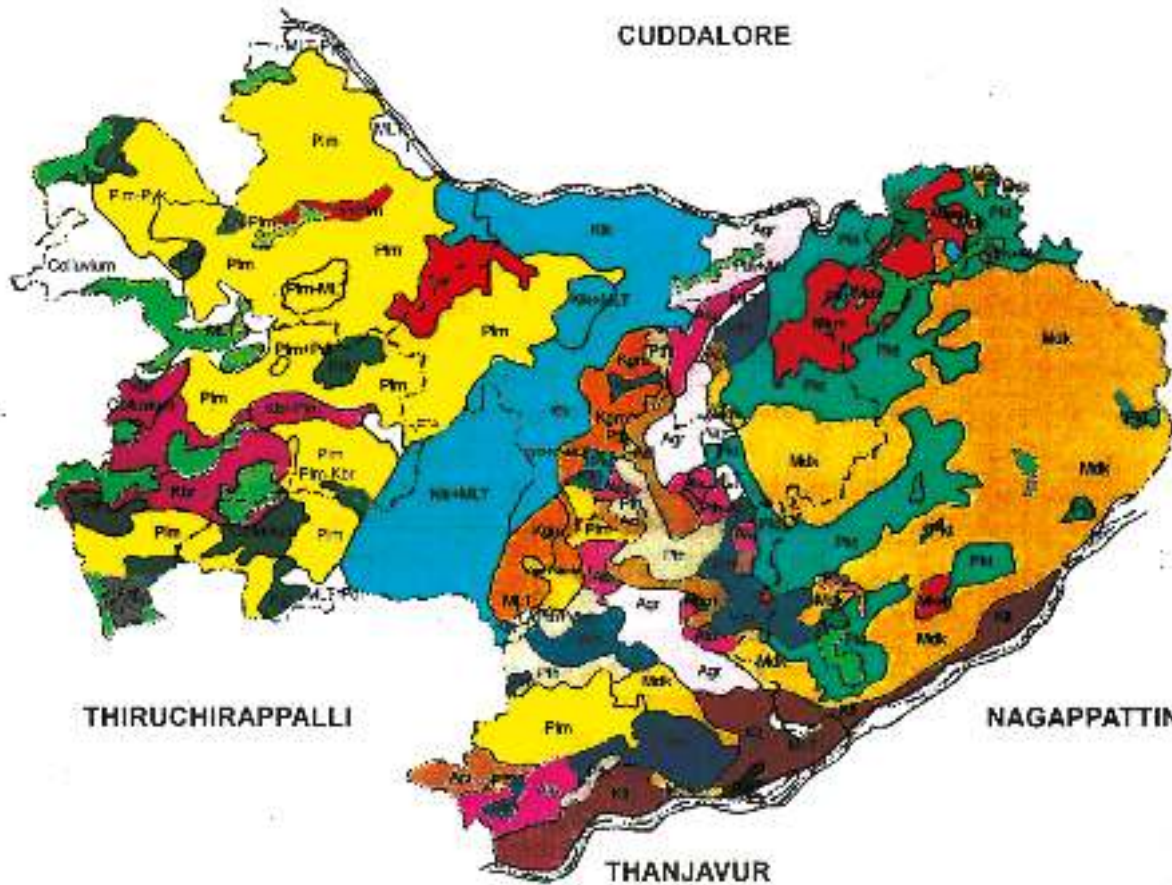
Note : Soil Associations : It was the mapping unit adopted to delineate the boundaries of two or three soil series, when their boundaries change abruptly at short intervals. Miscellaneous Land Type : It was the name given to the soils which are inaccessible for orderly examination or where, for other reasons, it is not feasible to classify the soil.



# SOILS PERAMBALUR DISTRICT

SALEM

CUDDALORE



THIRUCHIRAPPALLI


NAGAPPATTINAM

THANJAVUR

## LEGEND

 Pm	PILAMEDU.	 Ar	ARIYALUR
 Mdk	MADUKKUR	 Pth	PALATHURAI
 Kk	KALLAKUDI	 Kk	KURUMBALUR
 Pm	PATTUKOTTAI	 Ayc	AYICHAWADI
 Kk	KALATHUR	 Th	THEVAIYUR
 Vll	VILLAM	 Al	ALANGUDI
 Agr	ANGANUR	 Pdg	PADUGAI
 Pad	PADALUR	 Npm	NAYAKKANPALAYAM
 Mdk	MUDUKULAM	 MLT	MISCELLANEOUS LAND TYPE & COLLUVIUM
 Kga	KALLAGAM	 Rf	RESERVED FOREST

## REFERENCE

District boundary	-----
Taluk boundary	-----
Rivers	
Forest boundary	[ - - - ]

## ALANGUDI (Alg) SOIL SERIES

Brief description	:	Dark greyish brown clayey very deep calcareous alluvial soil
Physiography	:	Tamilnadu east coast plain-riverine flat land form
Drainage	:	Moderately drained
Taxonomy	:	Fine montmorillonitic isomegathemic very deep Typic Haplusterts
Typifying pedon	:	Alangudi-sandy clay loam-cultivated

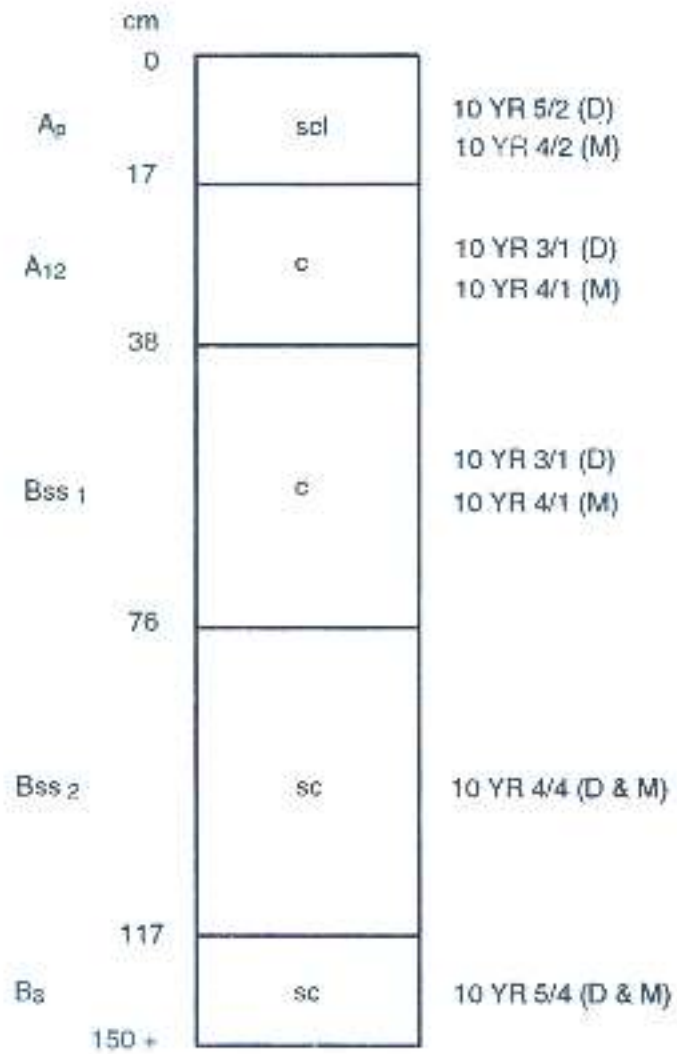
### Profile Description

Horizon	Depth(cm)	Description
A <sub>0</sub>	0 - 17	Greyish brown (10 YR 5/2 D) dark greyish brown (10 YR 4/2 M); sandy clay loam; weak medium sub angular blocky; hard, firm, slightly sticky and slightly plastic; common fine roots; violent effervescence; moderately rapid permeability; clear smooth boundary; pH 8.0.
A <sub>12</sub>	17 - 38	Very dark grey (10 YR 3/1 D) dark grey (10 YR 4/1 M); clay; very strong medium angular blocky very hard, firm, slightly sticky and slightly plastic; medium irregular calcium carbonate concretions; violent effervescence very few very fine roots moderately slow permeability diffused boundary; pH 8.6.
B <sub>ss1</sub>	38 - 76	Very dark grey (10 YR 3/1 D) dark grey (10 YR 4/1 M); clay; very strong, medium sub angular blocky; very hard, very firm, sticky and plastic; many medium irregular calcium carbonate concretions; violent effervescence; very few medium to coarse roots; intersecting slickensides; slow permeability; clear smooth boundary; pH 8.8.
B <sub>ss2</sub>	76 - 117	Dark yellowish brown (10 YR 4/4 D & M); sandy clay; weak medium subangular blocky; slightly hard; very firm; sticky and plastic; very few prominent irregular calcium carbonate concretions; many medium yellowish brown (10 YR 5/6) mottlings; violent effervescence moderately rapid permeability; clear smooth boundary; pH 8.2.
B <sub>s</sub>	117 - 150+	Yellowish brown (10 YR 5/4 D & M); sandy clay; weak medium sub angular blocky; slightly hard, firm, slightly sticky and slightly plastic; prominent irregular calcium carbonate concretions; many medium yellowish brown (10 YR 5/6); mottlings violent effervescence; intersecting slickensides; moderately rapid permeability; pH 7.9.

### Potentials and limitations of Alangudi soil series

<i>Potentials</i>	<i>Limitations</i>
- Very deep soil	- Moderately slow to slow permeability
- Loamy textured soil	- Low organic matter
- Moderately drained	- Alkaline in reaction
- Medium to high cation exchange capacity	- Critical to injuries salinity
- High water holding capacity	- Calcareousness

## ALANGUDI (Alg) SOIL SERIES



## ANGANUR (Agr) SOIL SERIES

Brief description	:	Dark grey very deep clayey soil occurring on level to very gently sloping lands
Physiography	:	Tamilnadu east coast plain - very gently sloping uplands
Drainage	:	Moderately drained
Taxonomy	:	Fine mixed, isomegathemic, calcareous, very deep Typic Haplusterts
Typifying pedon	:	Anganur-clay loam-cultivated

### Profile Description :

Horizon	Depth(cm)	Description
A <sub>p</sub>	0 - 18	Dark grey (10 YR 4/1 D & M); clay loam; loose crumb; loose firm sticky and very plastic; very few fine calcium concretions; few very fine roots; rapid permeability; clear smooth boundary; pH 8.0.
B <sub>1</sub>	18 - 44	Dark grey (10 YR 4/1 M) clay loam; strong medium sub angular blocky; hard, very firm, sticky and plastic; very few very fine calcium concretions; very few very fine roots; intersecting slickensides; sand pockets of 1cm size seen distributed in this horizon; moderately rapid permeability; clear smooth boundary; pH 8.0.
B <sub>ss2</sub>	44 - 150+	Dark grey (10 YR 4/1 M) clay; medium sub angular blocky; very hard, very firm, sticky and very plastic; very few fine to medium calcium concretions; intersecting slickensides; moderately slow permeability pH 8.5.

### Potentials and limitations of Anganur soil series

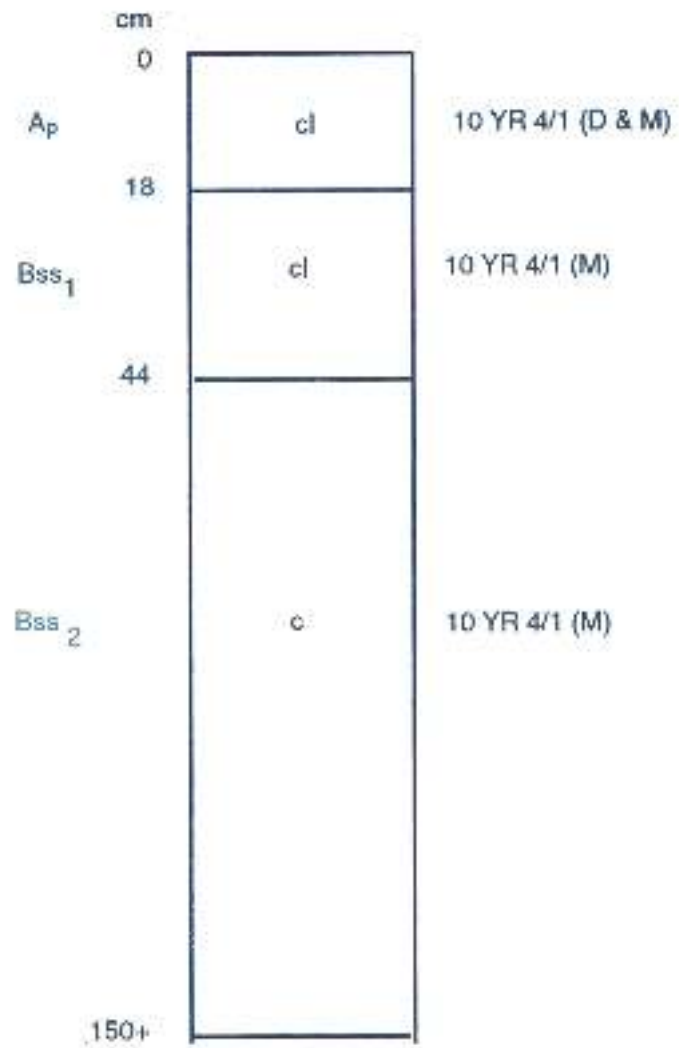
#### **Potentials**

- very deep
- clay loam to clay in surface
- Moderately slow permeability
- Moderately drained
- High water holding and cation exchange capacities
- High organic matter
- Free from salinity
- Non-calcareousness
- No erosion hazard

#### **Limitations**

- Moderately alkaline

## ANGANUR (Agr) SOIL SERIES



## ARIYALUR (Alu) SOIL SERIES

Brief descriptions	:	Grey to dark grey, very deep, calcareous, clayey soils present on the nearly level lands
Physiography	:	Tamilnadu east coast plain - flat lands
Drainage	:	Moderately drained
Taxonomy	:	Fine, mixed, isomegathemic, calcareous very deep Typic Haplusterts
Typifying pedon	:	Ariyalur-clay-cultivated

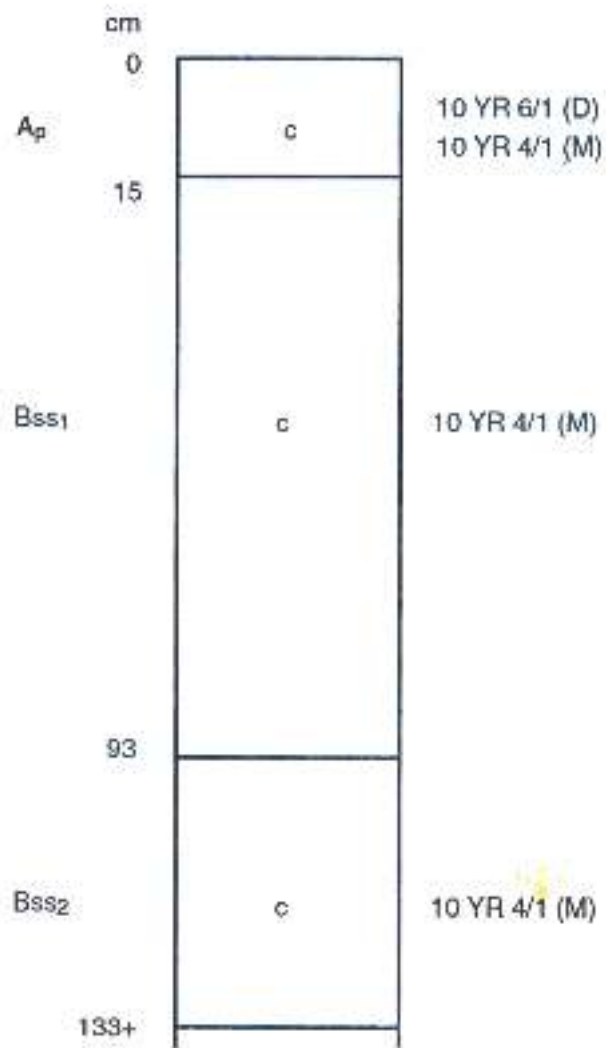
### Profile description

Horizon	Depth(cm)	Description
A <sub>p</sub>	0 - 15	Grey (10 YR 6/1 D) dark grey (10 YR 4/1 M); clay; moderately strong medium to coarse subangular blocky; very hard, very firm, very sticky and very plastic; fine to medium common roots; few round irregular fine to medium calcium concretions; violent effervescence; moderately rapid permeability; clear smooth boundary; pH 8.1.
B <sub>SS1</sub>	15 - 93	Dark grey (10 YR 4/1 M); clay; very strong medium to coarse subangular blocky; very hard, very firm, very sticky and plastic; very few fine roots; intersecting slickensides; common medium calcium concretions; violent effervescence; moderately slow permeability; clear smooth boundary; pH 8.9.
B <sub>SS2</sub>	93 - 133+	Dark grey (10 YR 4/1 M); clay; very strong medium to coarse angular blocky; very hard, very firm, very sticky and plastic; intersecting slickensides; few fine calcium concretions; violent effervescence; slow permeability; clear smooth boundary; pH 8.1.

### Potentials and limitations of Ariyalur soil series

<i><b>Potentials</b></i>	<i><b>Limitations</b></i>
- Very deep	- Moderately slow permeability
- Moderately drained	- Moderately alkaline reaction
- High water holding and cation exchange capacities	- Calcareousness
- Free from salinity	
- No erosion hazard	

## ARIYALUR (Alu) SOIL SERIES



## AYICHAVADI (Aci) SOIL SERIES

Brief description	:	Very dark greyish brown, deep, calcareous clayey soils developed <i>in situ</i> over a calcareous gneiss
Geography	:	Tamilnadu east coast plain - laterite land form
Drainage	:	Moderately well drained
Taxonomy	:	Fine isomegathemic calcareous deep Vertic Ustropepts.
Typifying pedon	:	Ayichavadi-clay-cultivated

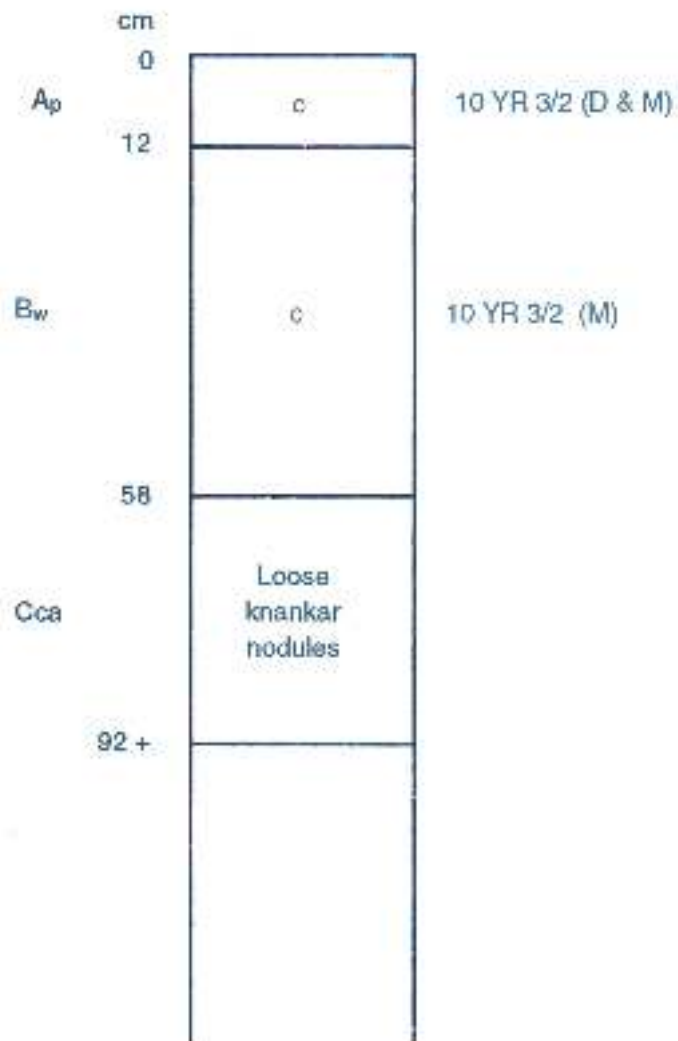
### Profile Description

Horizon	Depth(cm)	Description
A <sub>p</sub>	0 - 12	Very dark greyish brown (10 YR 3/2 D & M); clay; weak medium sub angular blocky; hard, very firm, sticky and plastic; very few very fine roots; very few, fine to medium irregular calcium concretions; violent effervescence; moderately rapid permeability; clear smooth boundary; PH 7.9.
B <sub>w</sub>	12 - 58	Very dark greyish brown (10 YR 3/2 M); clay; strong medium subangular blocky; very hard, very firm, very sticky and plastic; very few, very fine, roots; thin patchy clay films on ped faces; very few, fine to medium, irregular calcium concretions; violent effervescence; moderately slow permeability; clear smooth boundary; pH 8.0.
Cca	58 - 92+	Loose kankar nodules extending below.

### Potentials and limitations of Ayichavadi soil series

<b>Potentials</b>	<b>Limitations</b>
- Deep soil	- Gravelly clay loam to clay in sub surface
- Loamy textured	- Moderately slow permeability
- Moderately well drained	- Moderately alkaline reaction
- High water holding and cation exchange capacities	- Calcareousness
- High organic matter	
- Free from salinity	

## AYICHAVADI (Aci) SOIL SERIES



## KALATHUR (Kit) SOIL SERIES

Brief description	:	Brown to very dark greyish brown, very deep, fine moderately alkaline alluvial soils
Physiography	:	Tamilnadu east coast plain - riverine land form (away from the river course) of deltaic plain
Drainage	:	Poorly well drained
Taxonomy	:	Fine montmorillonitic isomegathemic calcareous very deep Typic Haplusterts
Typifying pedon	:	Kalathur-clay-cultivated

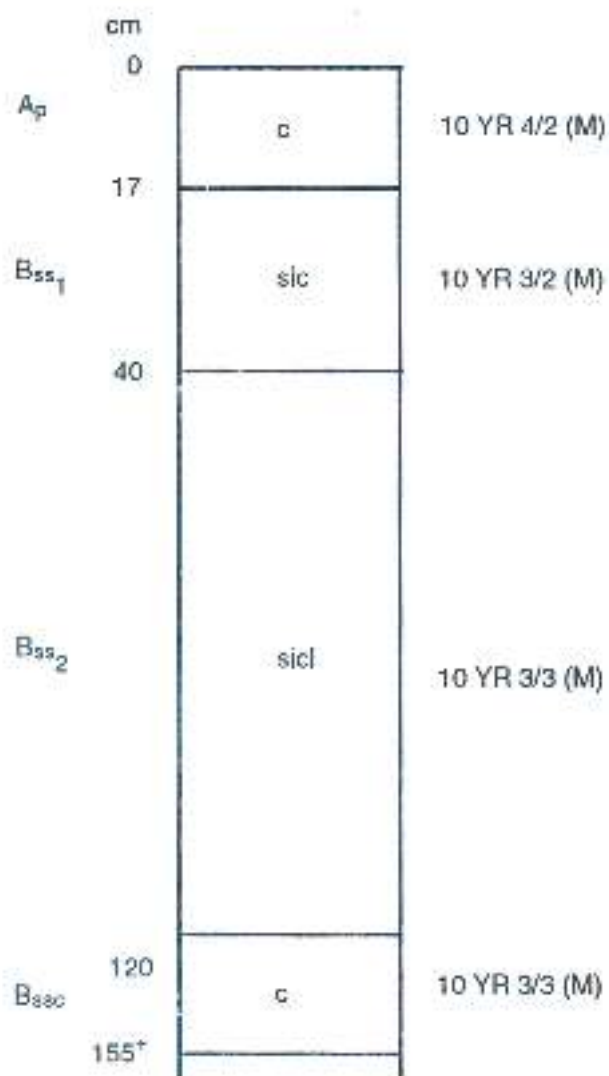
### Profile Description :

Horizon	Depth(cm)	Description
A <sub>11</sub>	0 - 17	Dark greyish brown. (10 YR 4/2 D & M); clay; strong medium subangular blocky; very hard, firm, sticky and plastic strong effervescence; common fine roots; moderately rapid permeability; clear smooth boundary; pH 6.4
A <sub>12</sub>	17 - 40	Very dark greyish brown (10 YR 3/2 D & M); silty clay; strong, medium, to coarse subangular blocky; very hard, firm, sticky and plastic; very few very fine roots; strong effervescence; moderately slow permeability; clear smooth boundary; pH 6.7.
B <sub>1</sub>	40 - 120	Dark brown (10 YR 3/3 D & M); silty clay; strong, medium, angular blocky; very hard, very fine, very sticky and very plastic; very few fine roots; distinct pressure faces; strong effervescence; Moderately slow permeability; clear smooth boundary; pH 6.6.
B <sub>ss</sub>	120 - 155+	Dark brown (10 YR 3/3 D & M); clay; very strong; medium to coarse angular blocky; very hard, very firm; very sticky and very plastic; thick prominent intersecting slickensides; strong effervescence; slow permeability; pH 6.6.

### Potentials and limitations of Kalathur soil series

<i><b>Potentials</b></i>	<i><b>Limitations</b></i>
- Very deep	- Slow permeability
- Loamy texture	- Mild to strongly alkaline reaction
- Very gently sloping	- Critical EC in sub soil
- High water holding and cation exchange capacities	- Calcareousness
- High organic matter	- Slight erosion

## KALATHUR (Kit) SERIES



## KALLAGAM (Kgm) SOIL SERIES

Brief description	:	Red to dark reddish brown, very deep fine loamy soil developed on sand stone
Physiography	:	Tamilnadu east coast plain uplands
Drainage	:	Moderately well drained
Taxonomy	:	Fine loamy kaolinitic isomegathemic very deep Typic Rhodustalfs
Typifying pedon	:	Kallagam-sandy clay-cultivated

### Profile Description

Horizon	Depth(cm)	Description
Ap	0 - 15	Red (2.5 YR 4/8 D & M); sandy clay; massive; hard, firm slightly sticky and plastic; common fine to medium, distinct dark reddish brown (5 YR 3/2); mottlings; very few fine and few very fine pores; few coarse and common fine roots; moderately rapid permeability; clear smooth boundary; pH 4.5.
B <sub>1</sub>	15 - 34	Red (2.5 YR 4/8 M); sandy clay loam; moderate, coarse, subangular blocky; firm, slightly sticky and slightly plastic; few fine to medium; dark (5 YR 2/1); mottlings; very few medium and few fine roots; thin patchy clay films in pores; moderate permeability; clear smooth boundary; pH 4.5.
Bt <sub>1</sub>	34 - 74	Red (2.5 YR 4/8 M); clay loam; moderate coarse subangular blocky; firm, sticky and plastic; common fine, distinct, black (2.5 YR 2/0) mottlings patchy clay films in pores, very few medium common fine and very fine pores; very few fine roots; moderately slow permeability; pH 4.8.
Bt <sub>2</sub>	74 - 128	Dark red (2.5 YR 3/6 M); sandy clay loam; strong, coarse, subangular blocky firm sticky and plastic; many fine to medium distinct black mottlings; many medium common fine and very fine pores; thin patchy clay films; very few very fine roots; moderately slow permeability; clear smooth boundary; pH 5.8.
B <sub>3</sub>	128 - 145	Dark reddish brown (2.5 YR 3/4 M); clay loam; strong, coarse, subangular blocky; firm, sticky and plastic; many fine to medium prominent very dark grey mottlings; common coarse and many fine pores; moderately slow permeability; pH 6.4.

### Potentials and limitations of Kallagam soil series

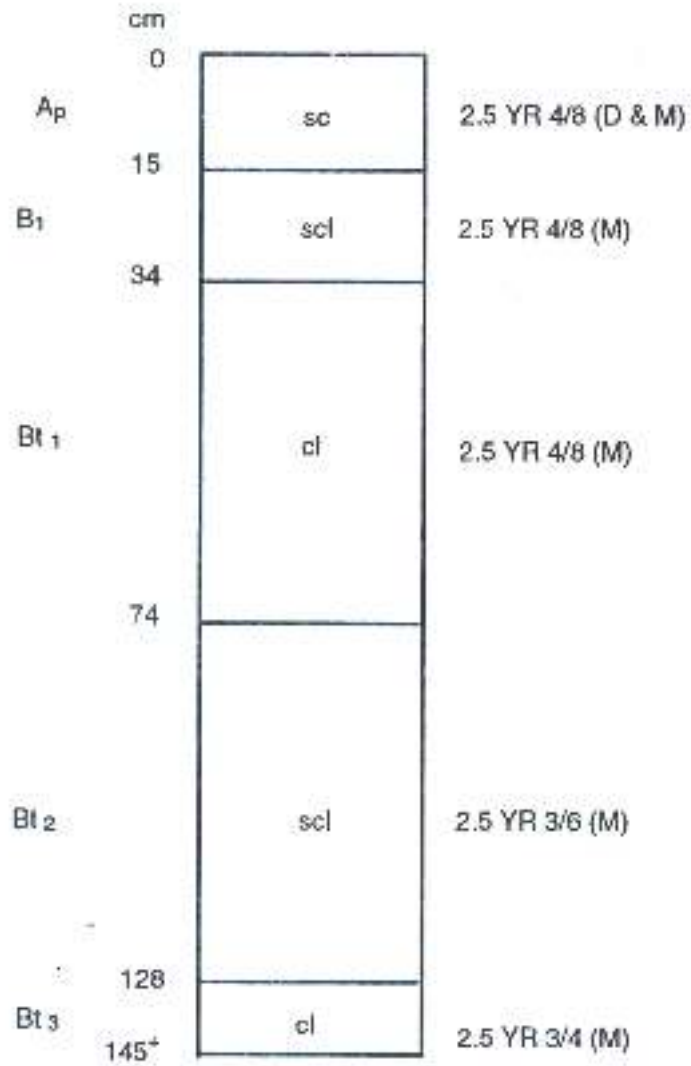
#### *Potentials*

- Very deep
- Fine loamy
- Very gentle sloping
- Moderate permeability
- High water holding capacity
- Medium cation exchange capacity
- Neutral reaction
- Free from salinity
- Non-calcareousness

#### *Limitations*

- Low cation exchange capacity
- Slightly acidic reaction
- Moderate sheet erosion

## KALLAGAM (Kgm) SERIES



## KALLAKKUDI (KIK) SOIL SERIES

Brief description	: Dark grey to very dark brown very deep, fine textured, moderately well drained soil
Physiography	: Taimlnadu east coast plain-very gently sloping uplands
Drainage	: Moderately well drained
Taxonomy	: Fine montmorillonitic isomegthemtic very deep Typic Haplusters
Typifying pedon	: Kallakkudi-clay-cultivated

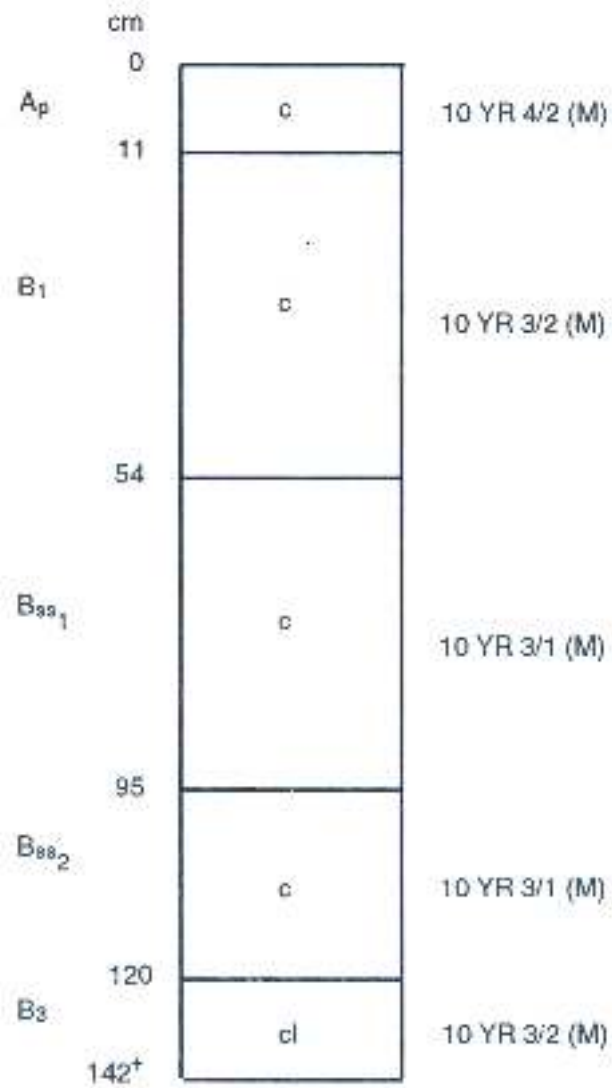
### Profile Description

Horizon	Depth(cm)	Description
A <sub>p</sub>	0 - 11	Dark greyish brown (10 YR 4/2 M); clay; weak, medium, subangular blocky; slightly hard, friable sticky and plastic; few small lime concretions; very few coarse and few fine roots; few coarse and common fine to medium pores; violent effervescence; moderately rapid permeability; clear smooth boundary; pH 8.4.
B <sub>1</sub>	11 - 54	Very dark greyish brown (10 YR 3/2 M); clay; moderate coarse subangular blocky; firm, sticky and plastic; few small irregular lime concretions; violent effervescence; few small irregular lime concretions; few fine to coarse roots; distinct pressure faces; common very fine to fine pores; violent effervescence; moderate permeability; diffused wavy boundary; pH 8.3.
B <sub>ss1</sub>	54 - 95	Very dark greyish brown (10 YR 3/1 M); clay; strong coarse, subangular blocky; firm, sticky and plastic; few small irregular lime concretions; common very fine to fine pores; few very fine to fine roots; distinct pressure faces and indistinct slickensides; violent effervescence; moderately slow permeability; gradual smooth boundary; pH 8.1.
B <sub>ss2</sub>	95 - 120	Very dark greyish brown (10 YR 3/1 M); clay strong medium to coarse angular blocky; firm, sticky and plastic; few small irregular lime concretions; common very fine to fine and very few medium roots; common very fine to fine pores; intersecting slickensides; violent effervescence; slow permeability; gradual smooth boundary; pH 8.0.
B <sub>3</sub>	120 - 142+	Very dark greyish brown (10 YR 3/2 M); clay loam; strong medium subangular blocky; firm, sticky and plastic; common medium prominent yellowish brown (10 YR 5/4); mottlings; many small irregular lime concretions; common very fine to fine pores; few very fine to fine roots; distinct pressure faces; violent effervescence; moderately slow permeability; pH 8.4.

### Potentials and limitations of Kallakkudi soil series

<i>Potentials</i>	<i>Limitations</i>
- Very deep	- Moderately slow permeability
- Fine textured	- Well drained
- Very gentle slope	- Low organic matter
- High water holding and cation exchange capacities	- Mild to moderately alkaline
- Free from salinity	- Calcareousness
	- Slight sheet erosion

## KALLAKUDI (Kik) SERIES



## KURUMBALUR (Kbr) SOIL SERIES

Brief Description	:	Yellowish red to dark red, deep to very deep, fine loamy soil developed on weathered gneiss
Physiography	:	Tamilnadu east coast plain
Drainage	:	Well drained
Taxonomy	:	Fine, loamy, kaolinitic, isomegathemic, deep Typic Haplustalfs
Typifying pedon	:	Kurumbalur-loamy sand-cultivated fallow

### Profile description

Horizon	Depth (cm)	Description
A <sub>p</sub>	0 - 13	Yellowish red (5 YR 5/6 D & M); loamy sand; weak, medium granular; slightly hard, friable, non sticky and non plastic; common fine and very fine and very few coarse pores; few fine and very fine roots; rapid permeability; pH 6.9.
Bt <sub>1</sub>	13 - 30	Dark red (2.5 YR 3/6 M); sandy clay loam; strong coarse sub angular blocky; extremely hard, firm, sticky and slightly plastic; many fine and very fine common medium pores; very few coarse few fine roots; thin patchy clay film; very few small irregular quartz gravels; moderately rapid permeability; clear smooth boundary; pH 6.9.
Bt <sub>2</sub>	30 - 51	Dark red (2.5 YR 3/6 M); sandy clay loam; strong medium sub angular blocky; slightly firm, sticky and slightly plastic; many fine and very fine, common medium pores; few very fine roots; thin patchy clay films; very few small irregular quartz gravels; moderately rapid permeability; clear smooth boundary; pH 6.9.
B <sub>3</sub>	51 - 69	Yellowish red (5 YR 4/8 M); gravelly sandy clay loam; moderate medium subangular blocky; slightly firm, stricky and slightly plastic; slight effervescence; common fine and very fine and very few medium pores; very few very fine roots; moderately rapid permeability; diffused irregular boundary; pH 6.9.
C	69 - 86+	Gneiss.

### Potentials and limitations of Kurumbalur soil series:

#### **Potentials**

- Very deep
- Loamy textured
- Very gentle sloping
- Moderately rapid-permeability
- Well drained
- Neutral reaction
- Free from salinity
- Non-calcareousness

#### **Limitations**

- Low water holding and cation exchange capacities
- Low organic matter
- Moderately alkaline-reaction
- Moderate sheet erosion

## KURUMBALUR (Kbr) SOIL SERIES

	cm		
A <sub>p</sub>	0	ls	5 YR 5/6 (D & M)
	13		
Bt <sub>1</sub>		scl	2.5 YR 3/6 (M)
	30		
Bt <sub>2</sub>		scl	2.5 YR 3/6 (M)
	51		
B <sub>3</sub>		(g)scl	5 YR 4/8 (M)
	69		
C	86+	Gneiss	

## MADUKKUR (Mdk) SOIL SERIES

Brief description :	Yellowish brown to reddish brown, very deep, fine loamy, moderately well drained soil with iron concretions in the solum
Physiography :	Tamilnadu east coast plain - very gently sloping land of laterite land form
Drainage :	Moderately well drained
Taxonomy :	Fine loamy kaolinitic isomegathemic very deep Udic Haplustalfs
Typifying pedon :	Madukkur - sandy loam - cultivated

### Profile Description :

Horizon	Depth (cm)	Description
A <sub>p</sub>	0 - 15	Light yellowish brown (10 YR 6/4 D) yellowish brown (10 YR 5/8 M); sandy loam; weak, medium, sub angular blocky; hard, firm, slightly sticky and slightly plastic; common fine to medium roots; moderately rapid permeability; clear smooth boundary; pH 6.2.
B <sub>1</sub>	15 - 41	Light yellowish brown (10 YR 6/4 D) yellowish brown (10 YR 5/6 M); sandy loam; weak, medium, subangular blocky; hard, firm, slightly sticky and slightly plastic; few fine to medium iron concretions; common prominent reddish brown (5 YR 4/4) and very dark grayish brown (5 YR 3/1) mottlings; very few very fine roots; moderately rapid permeability; diffused wavy boundary; pH 7.4.
B <sub>1</sub>	41 - 101	Light yellowish brown (10 YR 6/4 D) yellowish brown (10 YR 5/4 M); sandy clay loam; very weak, medium, subangular blocky; slightly hard, firm, slightly sticky and slightly plastic; very few very fine roots; thin patchy clay films; few medium to coarse iron concretions; common prominent reddish brown (5 YR 4/4) and very dark greyish brown mottlings; moderately rapid permeability; clear smooth boundary; pH 7.4.
B <sub>t2</sub>	101 - 150	Strong brown (7.5 YR 5/6 M); sandy clay loam; very weak, medium, sub angular blocky breaking to granules slightly hard, firm, slightly sticky and slightly plastic; very few fine roots; thin patchy clay films; few medium to coarse iron concretions; common prominent reddish brown (5 YR 4/4) and very dark greyish brown (5 YR 3/1) mottlings; moderately rapid permeability; pH 7.3.

### Potentials and limitations of Madukkur soil series :

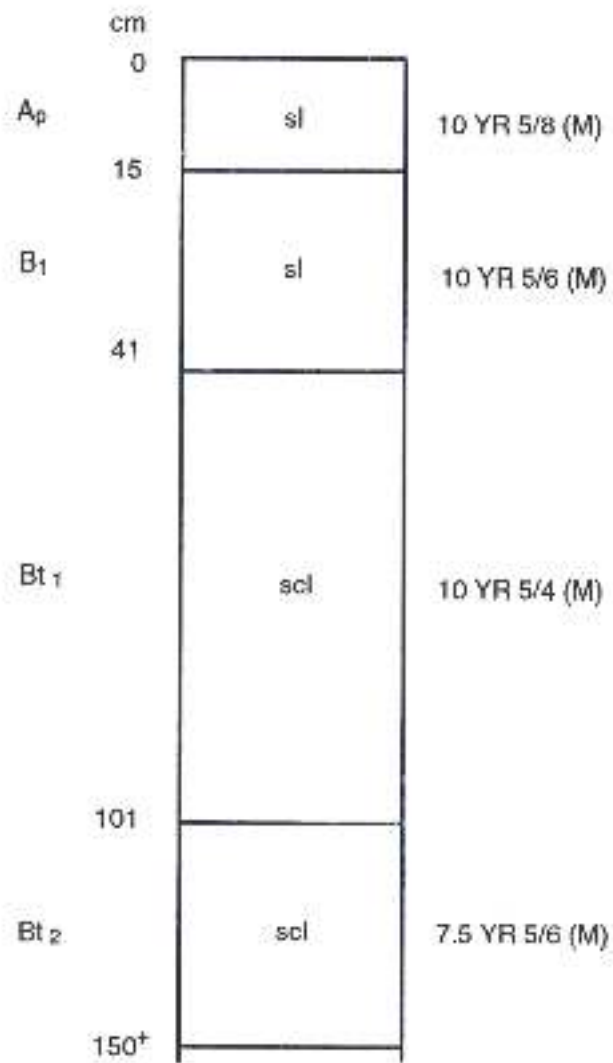
#### **Potentials**

- Very deep
- Loamy textured in surface
- Very gentle slope
- Moderate rapid permeability
- High water holding capacity
- Neutral reaction
- Free from alkalinity
- Non-calcareousness

#### **Limitations**

- Clay in sub-surface
- Moderately well drained
- Low cation exchange capacity
- Moderately alkaline reaction
- Moderate erosion

## MADUKKUR (Mdk) SERIES



## MUDUKULAM (Mkm) SOIL SERIES

Brief description	:	Dark red very deep fine loamy soil developed from laterite parent material
Physiography	:	Tamilnadu east coast plain-middle of the undulating to gently sloping land of laterite land form
Drainage	:	Well drained
Taxonomy	:	Fine, loamy, kaolinitic, isomegathemic, very deep Typic Rhodustalfs
Typifying pedon	:	Mudukulam-sandy loam-cultivated

### Profile Description

Horizon	Depth(cm)	Description
A <sub>p</sub>	0-19	Light brown (7.5 YR 6/4 D) dark brown (7.5 YR 4/4 M); sandy loam; granular; loose friable; very few very fine roots; rapid permeability; clear smooth boundary; pH 5.5.
Bt <sub>1</sub>	19 - 62	Red (2.5 YR 5/6 D), (2.5 YR 3/6 M); clay; strong medium subangular blocky; hard, slightly firm, sticky and plastic; very few fine roots; thin patchy clay films on ped faces; moderately slow permeability; diffused boundary; pH 4.6.
Bt <sub>2</sub>	62-150+	Red (2.5 YR 5/6 D), (2.5 YR 3/6 M); clay; strong medium sub angular blocky; very hard, firm, sticky and plastic; very few very fine iron concretions; thin very fine iron concretions; thin patchy clay films on ped faces; moderately slow permeability; pH 6.0.

### Potentials and limitations of Mudukulam soil series

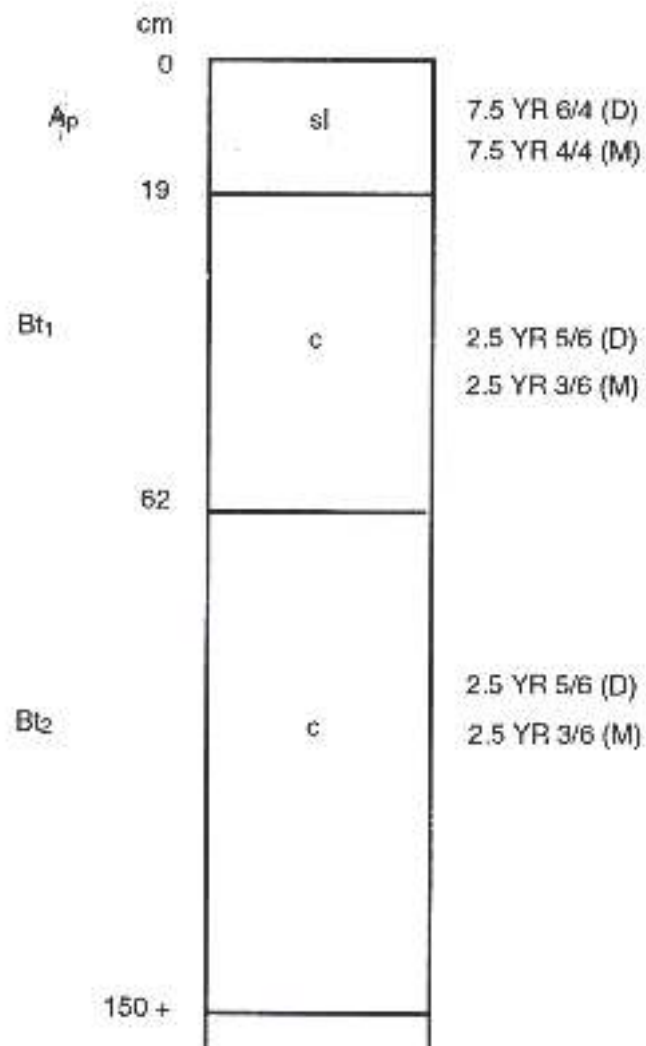
#### **Potentials**

- Very deep
- Loamy textured
- Gentle sloping
- Free from salinity
- Non calcareousness
- Low erosion hazard

#### **Limitations**

- Clay textured in sub-surface
- Rapid permeability
- Low water holding and cation exchange capacities
- Low organic matter
- Acidic reaction

## MUDUKULAM (Mkm) SOIL SERIES



## NAYAKKANPALAYAM (Npm) SOIL SERIES

Brief description	:	Yellowish brown to reddish brown soils lying over a very dark greyish brown calcareous soils
Physiography	:	Tamilnadu east coast plain - flat lands
Drainage	:	Moderately well drained
Taxonomy	:	Fine loamy, mixed isomegathemic very deep Typic Haplustalfs
Typifying pedon	:	Nayakkanpalayam - sandy loam - cultivated

### Profile Descriptions

Horizon	Depth(cm)	Description
A <sub>p</sub>	0 - 12	Yellowish brown (10 YR 5/4 D & M); sandy loam; crumb; loose friable, non sticky and non-plastic; few fine roots; rapid permeability; clear smooth boundary; pH 7.2
A <sub>12</sub>	12 - 48	Reddish brown (5 YR 4/4 D & M); sandy clay loam; weak medium sub angular blocky; slightly hard, slightly firm, sticky and plastic; common fine roots; rapid permeability; clear smooth boundary; pH 7.3
Bt <sub>1</sub>	48 - 61	Dark yellowish brown (10 YR 3/4 M); sandy clay loam; weak medium sub angular blocky; slightly hard, firm, slightly sticky and plastic; very few fine to coarse roots; moderately rapid permeability; abrupt smooth boundary; pH 7.3.
Bt <sub>2</sub>	61 - 93	Very dark greyish brown (10 YR 3/2 M); sandy clay; strong, medium, sub angular blocky; hard, very firm, sticky and plastic; very few coarse roots; moderately slow permeability; pH 7.4.
B <sub>s</sub>	93 - 117	Dark brown (10 YR 3/3 M); gravelly clay; strong medium sub angular blocky; hard, very firm, sticky and slightly plastic; very few fine calcium carbonate concretions; violent effervescence; moderately slow permeability; diffused boundary; pH 7.4.
Cca	117+	Weathered parent material mixed with calcium carbonate.

### Potentials and limitations fo Nayakkanpalayam soil series

#### **Potentials**

- Loamy textured soil
- Moderately well drained
- Medium cation exchange capacity
- High water holding capacity
- Neutral reaction
- Free from salinity

#### **Limitations**

- Moderately deep soil
- Moderately slow permeability
- Low organic matter
- Moderately alkaline soil
- Calcareousness

## NAYAKKANPALAYAM (Npm) SOIL SERIES

	cm		
A <sub>p</sub>	0	sl	10 YR 5/4 (D & M)
	12		
A <sub>12</sub>		scl	5 YR 4/4 (D & M)
	48		
Bt <sub>1</sub>		scl	10 YR 3/4 (D & M)
	61		
Bt <sub>2</sub>		sc	10 YR 3/2 (M)
	93		
B <sub>3</sub>		gc	10 YR 3/3 (M)
	117		
Cca		Weathered Parent material mixed with calcium carbonate	

## PADALUR (PdI) SOIL SERIES

Brief description	:	Yellowish red to dark reddish brown moderately deep coarse to fine loamy soil developed on gneiss
Physiography	:	Tamilnadu east coast plain-very gently sloping uplands
Drainage	:	Well drained
Taxonomy	:	Coarse loamy, kaolinitic, isomegathemic, moderately deep Typic Ustorthents
Typifying pedon	:	Padalur-loamy sand-cultivated

### Profile Description

Horizon	Depth(cm)	Description
A <sub>p</sub>	0 - 15	Reddish brown (5 YR 5/4 D) red (2.5 YR 4/6 M); loamy sand; weak medium sub angular blocky; friable, slightly hard, non sticky and non plastic; very coarse and few fine roots; few coarse and common medium pores; rapid permeability; clear smooth boundary; pH 6.9.
A <sub>12</sub>	15 - 35	Dark red (2.5 YR 3/6 M); sandy clay loam, moderate, medium sub angular blocky; slightly sticky and slightly plastic; very few fine and very fine roots; common fine and very fine and few medium pores; few small irregular fragments of gneiss; moderately rapid permeability; gradual wavy boundary; pH 6.9.
C	35 - 82 <sup>+</sup>	(Granite) gneiss.

### Potentials and limitations of Padalur soil series

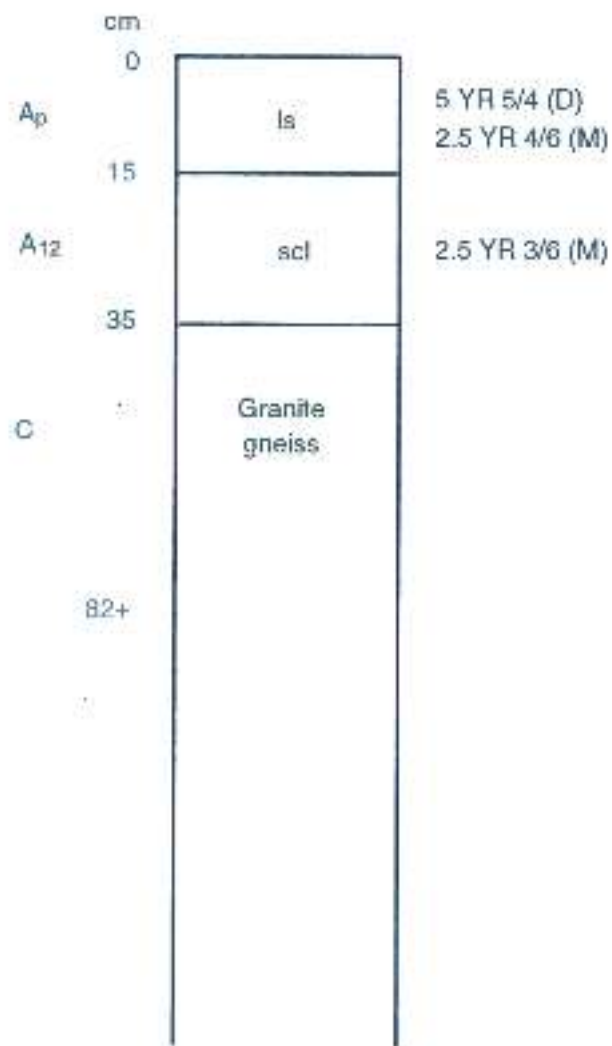
#### **Potentials**

- Coarse loamy textured
- Rapid permeability
- Well drained
- Neutral reaction
- Free from salinity
- Non-calcareousness

#### **limitations**

- Shallow to moderately deep
- Coarse loamy on sub-surface
- Low water holding and cation exchange capacities
- Low organic matter
- Mildly alkaline reaction
- Moderate to severe sheet erosion

## PADALUR (PdI) SOIL SERIES



## PADUGAI (Pdg) SOIL SERIES

Brief description	:	Light yellowish brown to yellowish brown, very deep, alluvial soil occurring along the river and stream courses
Physiography	:	Tamilnadu east coast plain-almost flat lands of riverine land form
Drainage	:	Excessively drained
Taxonomy	:	Fine, loamy, mixed, isomegathemic, very deep Typic Ustifluvents
Typifying pedon	:	Padugai-loam-cultivated

### Profile description

Horizon	Depth(cm)	Description
A <sub>p</sub>	0 - 14	Light yellowish brown (10 YR 6/4 D) dark brown (10 YR 4/3 M); loam; weak medium sub angular blocky; slightly hard, firm, sticky and slightly plastic; common fine roots; thin patchy clay films on ped faces; moderately rapid permeability; clear smooth boundary; pH 6.7.
A <sub>12</sub>	14 - 32	Yellowish brown (10 YR 5/4 D) dark brown (10 YR 4/3 M); sandy clay; very strong, medium to coarse sub angular blocky; very hard, very firm, sticky and plastic; common fine roots; slight effervescence; moderately slow permeability; clear smooth boundary; pH 6.7.
A <sub>13</sub>	32 - 38	Pale brown (10YR 6/3 D) dark yellowish brown (10 YR 4/4 M); sandy loam; weak medium sub angular blocky; slightly hard, slightly firm slightly sticky and slightly plastic; slight effervescence rapid permeability; clear smooth boundary; pH 6.8.
A <sub>14</sub>	38 - 92	Yellowish brown (10 YR 5/4 D); dark brown (10 YR 4/3 M); sandy clay; strong medium to coarse sub angular blocky; very hard, very firm, sticky and slightly plastic; few fine to medium calcium carbonate concretions; thin patchy clay films on ped faces; very few very fine roots; moderately slow permeability; clear smooth boundary; pH 6.9.
A <sub>15</sub>	92 - 111	Brown (10 YR 5/3 D); dark yellowish brown (10 YR 4/4 M); sandy clayey loam weak medium sub angular blocky; loose slightly firm, slightly sticky and slightly plastic; very few very fine roots; few fine to medium calcium concretions; moderately rapid permeability; clear smooth boundary; pH 6.5.
A <sub>16</sub>	111 - 144	Pale brown (10 YR 6/3 D) yellowish brown moist (10 YR 5/4 M) loamy sand; single grained; loose, friable; very fine roots; rapid permeability; clear smooth boundary; pH 6.9.
A <sub>17</sub>	144 - 165 <sup>†</sup>	Yellowish brown (10 YR 5/4 D & M); loam; weak medium sub angular blocky; slightly hard, firm, slightly sticky and slightly plastic; very few very fine roots; slight effervescence; moderately slow permeability; pH 7.1.

### Potentials and limitations of Padugai soil series

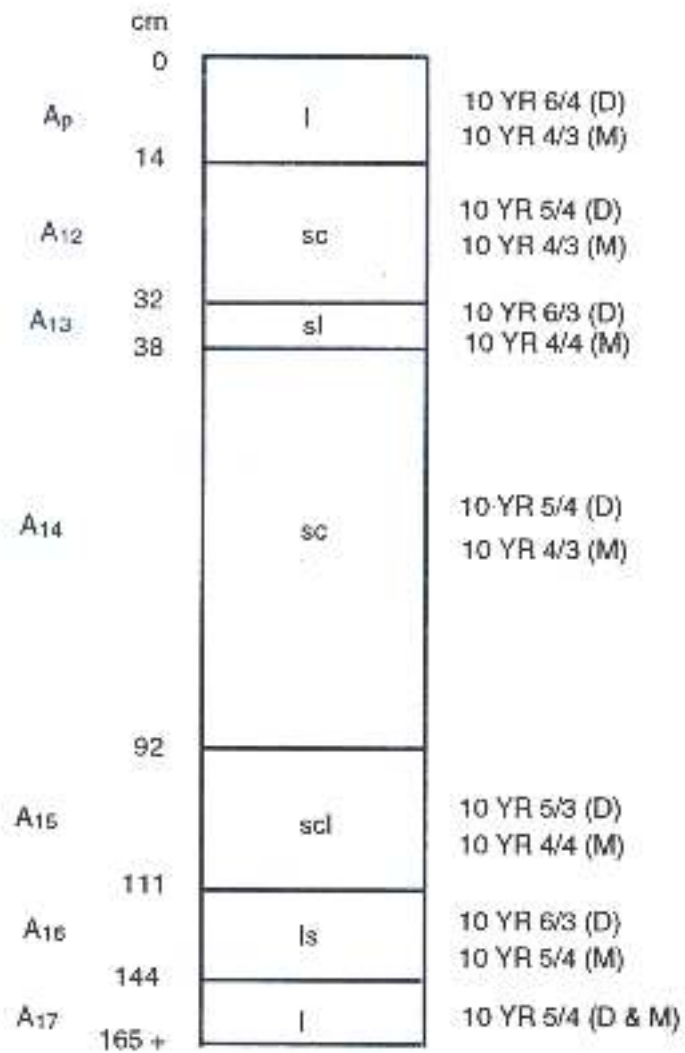
#### **Potentials**

- Very deep soil
- Loamy textured soil
- Medium cation exchange capacity
- Neutral reaction
- Free from salinity

#### **Limitations**

- Rapidly permeable soil
- Excessively drained
- Low water holding capacity
- Low organic matter

## PADUGAI (PdG) SOIL SERIES



## PALATHURAI (Pth) SOIL SERIES

Brief description	:	Dark red to dark brown, moderately deep to deep, fine loamy occurring on very gently sloping lands
Physiography	:	Tamilnadu east coast plain - very gently sloping lands
Drainage	:	Moderately well drained
Taxonomy	:	Coarse loamy kaolinitic isomegathemic calcareous deep Typic Haplustalfs
Typifying pedon	:	Palathurai-loamy sand-cultivated

### Profile description

Horizon	Depth(cm)	Description
A <sub>p</sub>	0 - 7	Dark red (2.5 YR 3/6 M); loamy sand; moderate medium, granular; loose friable, non sticky and non plastic; very few, medium roots; common medium pores; slight effervescence; moderately rapid permeability; clear smooth boundary; pH 7.9.
B <sub>1</sub>	7 - 22	Dark red (2.5 YR 3/6 M); sandy loam; moderate, medium sub angular blocky; friable slightly sticky; common coarse pores; very few, very fine roots; slight effervescence; moderately rapid permeability; clear smooth boundary; pH 7.7.
B <sub>t1</sub>	22 - 35	Dark red (2.5 YR 3/6 M); sandy loam, moderate medium subangular blocky; friable slightly sticky, many coarse pores; very few very fine roots; slight effervescence; thin clay films; moderately rapid permeability; clear smooth boundary; pH 7.9.
B <sub>t2</sub>	35 - 65	Dark reddish brown (2.5 YR 3/4 M); sandy clay; moderate medium subangular blocky; firm sticky and slightly plastic; very few very fine roots; few round to irregular calcium concretions; violent effervescence; thin clay films; common coarse pores; moderate permeability; clear wavy boundary; pH 8.0.
Cca	65 <sup>+</sup>	Kankar with gneiss

### Potentials and limitations of Palathurai soil series

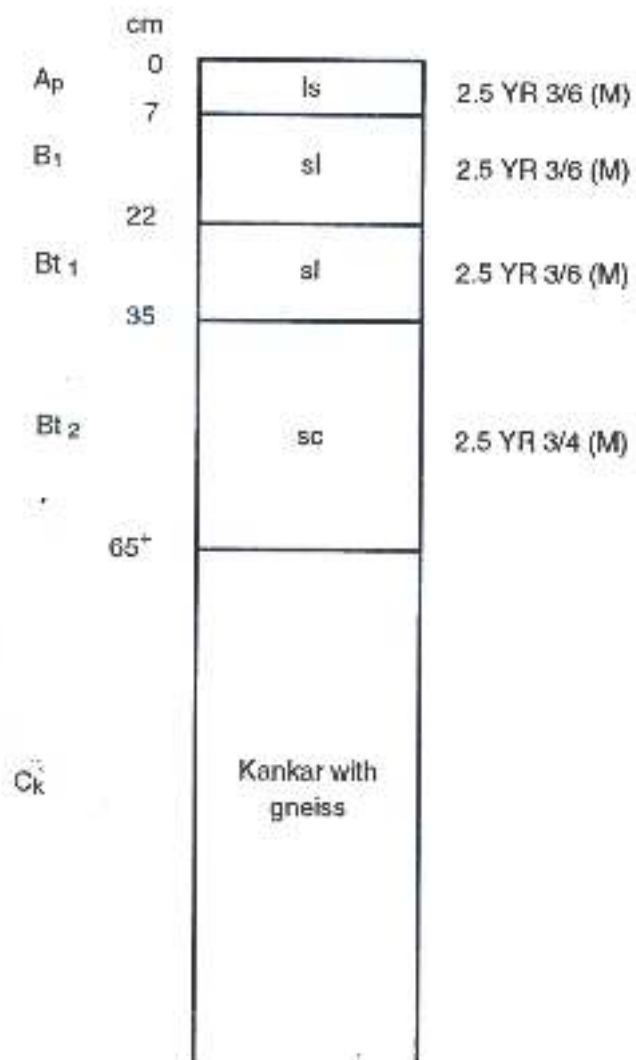
#### **Potentials**

- Deep soil
- Loamy textured soil
- Gentle sloping
- Medium cation exchange capacity
- Neutral reaction
- Free from salinity

#### **Limitations**

- Moderately rapid permeability
- Moderately well drained
- Medium water holding capacity
- Low organic matter
- Mildly alkaline reaction
- Calcareousness

## PALATHURAI (Pth) SERIES



## PATTUKKOTTAK (Pkt) SOIL SERIES

Brief description	:	Yellowish brown to reddish brown very deep fine loamy well drained soils
Physiography	:	Tamilnadu east coast plain-gently sloping land of laterite land form well drained
Taxonomy	:	Fine loamy mixed isomegathemic very deep Ultic Haplustalfs
Typifying pedon	:	Pattukkottai-sandy loam-cultivated
Profile description		

Horizon	Depth(cm)	Description
A <sub>p</sub>	0 - 13 cm;	reddish yellow (7.5 YR 6/6 D), brown (7.5 YR 5/4 M); sandy loam; very weak, medium subangular blocky; slightly hard firm, slightly sticky and slightly plastic; very fine to medium common roots; moderately rapid permeability clear smooth boundary; pH 5.5.
B <sub>1</sub>	13 - 39 cm;	reddish yellow (5 YR 6/6 D); yellowish red; sandy clay loam; weak medium, subangular blocky, slightly hard, firm, slightly sticky and slightly plastic; very few, medium to coarse roots; rapidly permeable; diffused boundary; pH 5.2.
B <sub>21t</sub>	39 - 127 cm;	reddish yellow (5 YR 6/6 D); yellowish red (5 YR 5/8 M); sandy clay loam; weak medium subangular blocky; firm, slightly, sticky and slightly plastic; thin patchy clay films on ped faces; very few very fine to fine roots; moderately rapid permeability; diffused boundary; pH 4.4.
B <sub>22</sub>	127 - 145 cm;	reddish yellow (5 YR 6/8 D); yellowish red moist (5 YR 5/8 M); sandy clay loam; loose, slightly sticky and slightly plastic; very fine iron concretions; very few fine roots; rapidly permeable; pH 4.3.

### Potential and limitations of Pattukkottai soil series

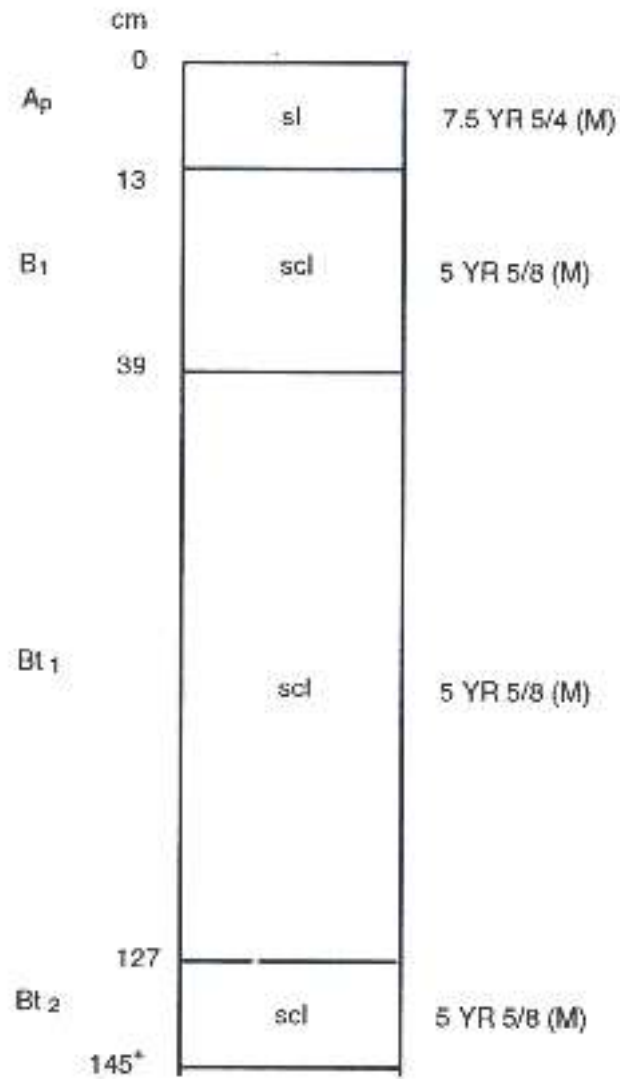
#### **Potentials**

- Very deep
- Loamy on sub-surface
- Level to gently sloping
- Moderately to rapid
- Neutral reaction
- Free from salinity
- Non-calcareousness

#### **Limitations**

- Heavy hand in surface
- Well drained
- Low water holding and cation exchange capacities
- Low organic matter
- Acidic reaction
- Slight sheet erosion

## PATTUKKOTTAI (Pkt) SERIES



## PILAMEDU (Pim) SOIL SERIES

Brief description	:	Dark brown to very dark greyish brown, deep to very deep, calcareous, moderately alkaline soils.
Physiography	:	Tamilnadu east coast plain - Flat to very gently sloping
Drainage	:	Moderately well drained
Taxonomy	:	Fine montmorillonitic isomegathemic very deep Typic Haplusterts
Typifying pedon	:	Pilamedu - clay - cultivated fallow

### Profile Description

Horizon	Depth(cm)	Description
Ap	0 - 13	Very dark grey (10 YR 3.5/1 M); clay; moderate coarse subangular blocky; sticky and plastic, few fine and common very fine pores; very few medium and few fine roots; firm, hard, common small lime concretions; very few irregular quartz bits; violent effervescence; moderate permeability; clear smooth boundary; pH 8.2
B <sub>1</sub>	13 - 32	Very dark grey (10 YR 3/1 M) clay; strong coarse subangular blocky; firm, sticky and plastic, few medium and common fine pores and very fine pores; common fine very few very fine roots; common small and irregular concretions; irregular quartz bits present; violent effervescence; moderately slow permeability; clear smooth boundary; pH 8.2
Bss <sub>1</sub>	32 - 54	Very dark grey (10 YR 3/1 M); clay; strong, firm, coarse subangular blocky; sticky and plastic; common fine and very fine pores; common fine and very fine roots; distinct pressure faces and indistinct slickensides; common small irregular lime concretions; violent effervescence; slow permeability; clear smooth boundary; pH 8.3
Bss <sub>2</sub>	54 - 105	Very dark grey (10 YR 3/1 M); clay; moderate, coarse, wedge shaped structure; firm, sticky and plastic; few medium and common fine very fine roots; dominant pressure faces and distinct intersecting slickensides; common small irregular lime concretions; few small irregular quartz bits; violent effervescence; slow permeability; clear smooth boundary; pH 8.2
B <sub>3</sub>	105 - 112	Very dark grey (10 YR 3/1 M); gravelly clay; moderate, coarse subangular blocky; firm and sticky; few fine and very fine pores; few very fine roots; common large powdery lime concretions; violent effervescence; moderately slow permeability; abrupt irregular boundary; pH 8.2
Cca	112 <sup>+</sup>	Gneiss mixed lime

### Potentials and limitations of Pilamedu soil series.

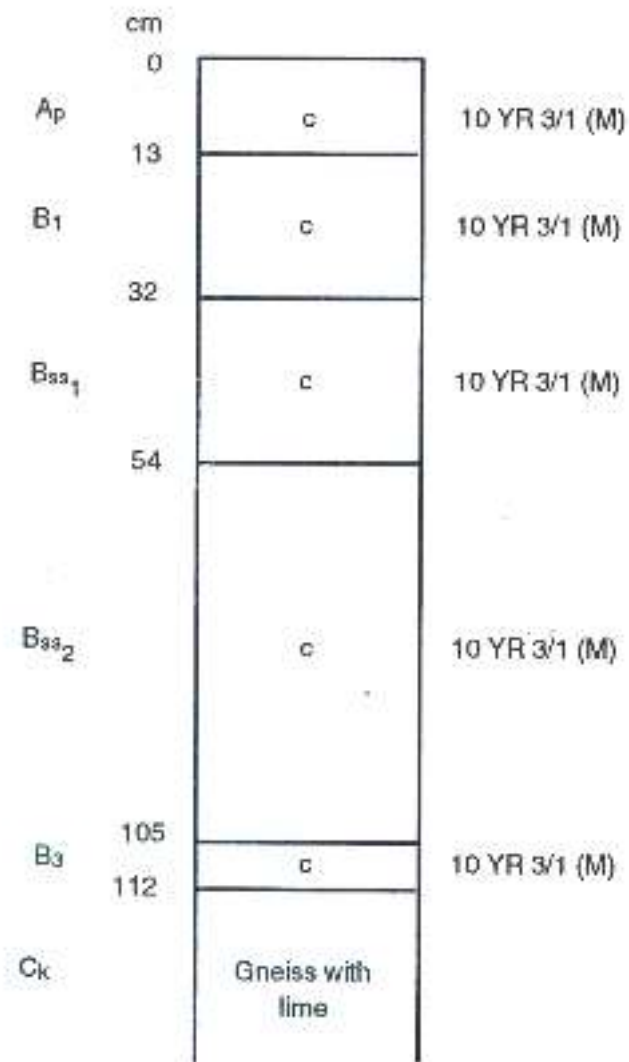
#### **Potentials**

- Very deep
- Clay loam to clay
- Very gentle sloping
- High water holding and cation exchange capacity
- High organic matter
- Free from salinity

#### **Limitations**

- Clay loam to clay in surface
- Moderately slow permeability
- Moderately well drained
- Mild to moderately alkaline reaction
- Strongly calcareous
- Severe sheet to gully erosion

## PILAMEDU (PIm) SERIES



## THEVAIYUR (Tvr) SOIL SERIES

Brief Description	:	Dark brown to dark reddish brown, moderately deep to deep fine loamy, slightly calcareous soil developed on gneiss
Physiography	:	Tamilnadu east coast plain - very gently sloping lands of undulating topography
Drainage	:	Moderately well drained
Taxonomy	:	Fine, loamy, mixed, Isomegathemic, calcareous deep Typic Haplustalfs
Typifying Pedon	:	Tevaiyur - sandy clay loam - cultivated

### Profile Description

Horizon	Depth(cm)	Description
Ap	0 - 9	Reddish brown (5 YR 4/4 D) dark reddish brown (5 YR 3/2 M); sandy clay loam; moderate coarse subangular blocky; slightly hard, firm, sticky and slightly plastic; many medium pores; many very fine and medium roots; slight effervescence; rapid permeability; clear smooth boundary; pH 7.9
Bt <sub>1</sub>	9 - 26	Dark reddish brown (5 YR 3/2 M); clay loam; moderate coarse subangular blocky; slightly firm, sticky and plastic; few fine pores; many medium roots; thin patchy clay films; very fine ferro manganous concretions; moderately rapid permeability; clear smooth boundary; pH 7.4
Bt <sub>2</sub>	26 - 43	Dark brown (7.5 YR 3/2 M); gravelly clay loam; massive breaking to coarse subangular blocky; friable, sticky and slightly plastic; many coarse pores; very few very fine roots; thin patchy clay films; common fine distinct strong brown Iron mottlings (10 YR 5/6); common round ferromanganous concretions; slight effervescence; moderately rapid permeability; clear smooth boundary; pH 7.4
B <sub>3</sub>	43 - 64	Dark brown (7.5 YR 3/2 M) gravelly clay loam; weak medium subangular blocky; friable slightly sticky; slight effervescence; many fine pores; very few fine roots; abrupt smooth boundary; pH 8.1.
C	64 - 76 <sup>+</sup>	Weathered granitic gneiss mixed with calcium carbonate

### Potentials and limitations of Thevaiyur soil series:

#### **Potentials**

- Deep soil
- Fine loamy textured soil
- Very gentle sloping
- Moderately rapid permeability
- Moderately well drained
- Medium water holding capacity
- Medium cation exchange capacity
- Neutral reaction
- Free from salinity

#### **Limitations**

- Moderately deep
- Low organic matter
- Mildly alkaline
- Slightly calcareousness
- Moderate sheet erosion

## TEVAIYUR (Tvr) SOIL SERIES

	cm		
Ap	0	scl	5 YR 4/4 (D)
	9		5 YR 3/2 (M)
Bt <sub>1</sub>		cl	5 YR 3/2 (M)
	26		
Bt <sub>2</sub>		gcl	7.5 YR 3/2 (M)
	43		
B <sub>3</sub>		gcl	7.5 YR 3/2 (M)
	64		
C		Weathered granite gneiss mixed with CaCO <sub>3</sub>	
	76+		

## VALLAM (VIm) SOIL SERIES

Brief description	:	Yellowish red to red deep soil developed from Lateritic parent material
Physiography	:	Tamil Nadu east coast plain - upland laterite land form
Drainage	:	Well drained
Taxonomy	:	Fine loamy kaolinitic isomegathemic very deep Typic Rhodustalfs
Typifying pedon	:	Vallam - sandy loam cultivated

### Profile Description

Horizon	Depth(cm)	Description
A <sub>p</sub>	0 - 11	Red (2.5 YR 4/6 M); sandy loam; crumb; loose, friable slightly sticky non plastic; few fine roots; rapid permeability; abrupt smooth boundary; pH 8.1
B <sub>1</sub>	11 - 34	Dark red (2.5 YR 3/6 M); sandy clay loam; fine granular slightly firm, slightly sticky; non plastic; rapid permeability; few very fine roots; diffused smooth boundary; pH 6.6
B <sub>t1</sub>	34 - 65	Dark red (2.5 YR 3/6 M); clay loam; weak medium subangular blocky; firm, sticky and slightly plastic; thin patchy clay films; very few very fine roots; moderately rapid permeability; diffused smooth boundary; pH 6.4
B <sub>t2</sub>	65 - 97	Dark red (2.5 YR 3/6 M); clay loam; weak medium subangular blocky; firm, sticky and plastic; thin patchy clay films; very few very fine roots; moderately rapid permeability; abrupt smooth boundary; pH 5.6
B <sub>3</sub>	97 - 139	Dark red (2.5 YR 3/6 M); gravelly sandy clay; slightly firm sticky and slightly plastic; moderately slow to slow permeability; diffused smooth boundary; pH 4.1
C	139	Sand stone

### Potentials and limitations of vallam soil series

<i><b>Potentials</b></i>	<i><b>Limitations</b></i>
- Deep	- Sandy clay to clay in sub - surface
- Loamy textured	- Rapid permeability
- Well drained	- Low water holding and cation exchange capacities
- Free from salinity	- Low organic matter
- Non - calcareousness	- Acidic reaction
	- Sheet to gully erosion

## VALLAM (VIm) SOIL SERIES

	cm		
A <sub>p</sub>	0	sl	2.5 YR 4/6 (M)
	19		
B <sub>1</sub>	34	scl	2.5 YR 3/6 (M)
B <sub>t1</sub>	65	cl	2.5 YR 3/6 (M)
B <sub>t2</sub>	97	cl	2.5 YR 3/6 (M)
B <sub>t3</sub>	139	gsc	2.5 YR 3/6 (M)
C		Sand Stone	

## LAND CAPABILITY CLASSIFICATION

### PERAMBALUR DISTRICT

The land capability system is a grouping of kinds of soils without regard to location or to the economic characteristics of land. It is defined as a systematic arrangement of different kinds of land according to the 1. Inherent soil characteristics (nature of parent material, colour, texture, structure of soil, type of clay mineral, consistence, permeability, soil reaction and root distribution) 2. external land features (slope, erosion stoniness degree of wetness, hard clay pan, salinity or alkalinity etc., and 3. environmental (climate) factors.

The grouping of soils into capability classes is primarily done on the basis of their capability to produce common cultivated crops and pastures without deterioration over a long period of time.

The system of classification has three categories viz. class, sub-class and units. Land capability classes are broader groups of soils according to potentialities and degree of broad limitations for agricultural uses. Capability sub-classes are grouping of soils according to the kind of limitation or problem that have for long time use capability units include soils having similar response to soil and water management, crop adaptations and yields and risks and limitations for agricultural use.

The land capability classes are designated by Roman numerals I to VIII. The sub-classes (limitations) like soils (s) wetness (w), climate (c) and erosion (e) one shown by suffixing small letters of the land capability classes. The progressive increase of Roman numerals indicate greater limitations and narrow down the practical agricultural uses. This enables to get a picture of hazards of the soil which cause soil damage, deterioration in fertility and its potentiality for production. From this, all limitations are grouped. By suitable measures limitations can controlled and a soil with lighter cropping potential is developed. In Perambalur district a total of 1,61,096 (43.64%) hectares have been severely affected by soil limitations.

Sl. No.	Land capability class, sub class	Soil series )	Area (ha)	Percent to total	Limitation	Needs
1.	II e - Land that have moderate limitations for sustained use under agriculture	Kurumbalur, Padugai, Palathural, and Nayakkanpulayam	10,955	2.97	Erosion	Soil conservation
	II s - Land that have moderate limitations for sustained use under agriculture	Kalathur, Ariyalur, Anganur And Madukkur	98,256	26.62	Soil limitation (slow permeability)	Improvement of texture
	II es - Land that have moderate limitations for sustained use under agriculture	Mudukulam	8,938	2.42	Soil limitations (Erosion and low water holding capacity)	Soil conservation and use of conservation of irrigation methods
2.	III s - Land that have severe limitations for sustained use under agriculture	Padalur	8,029	2.18	Alkalinity and salinity	Soil Reclamation
	III e - Land that have severe limitations for sustained use under agriculture	Pattukkottai, Vallam and Kallagam	56,054	15.19	Erosion	Soil conservation
	III es - Land that have severe limitations for sustained use under agriculture	Thevalyur, Pilamedu, Kallakkudi, and Ayichavadi	97,012	26.30	Erosion and slow permeability	Soil conservation and textural improvement
3.	IV s - Land that have very severe limitations for sustained use under agriculture	Alangudi	569	0.15	Salinity and alkalinity	Soil reclamation
	—	Others soil associations and miscellaneous land type included	63,857	17.30	—	—
	—	Forest	25,347	6.87	—	—
—	—	Total	3,69,107	100.00	—	—

**Class**

- II** Lands that have moderate limitations for sustained use under agriculture.
- III** Lands that have severe limitations for sustained use under agriculture.
- IV** Lands that have very severe limitations for sustained use under agriculture.

**Sub Class**

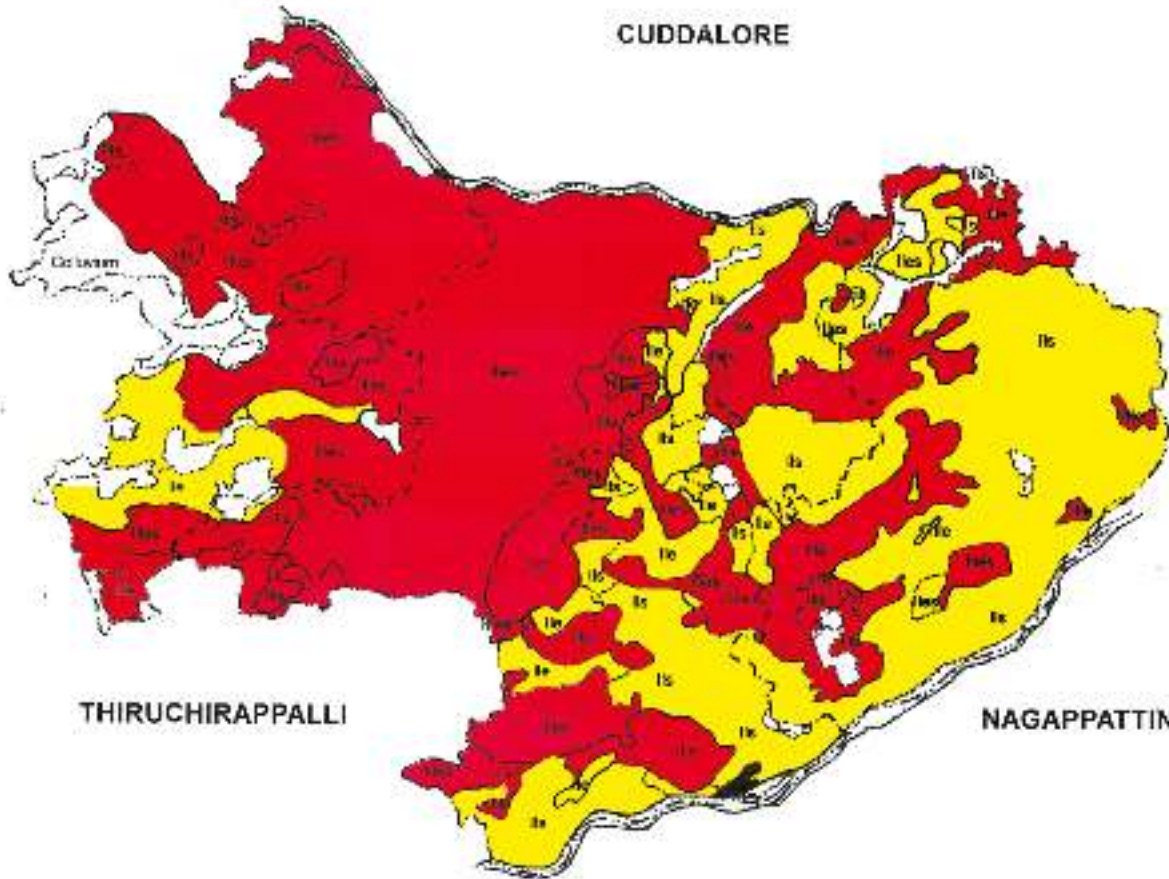
- e** Erosion and run-off
- w** Excess water
- s** Root zone limitation

# LAND CAPABILITY PERAMBALUR DISTRICT



SALEM

CUDDALORE







THIRUCHIRAPPALLI

NAGAPPATTINAM




THANJAVUR

### REFERENCE

- District boundary 
- Taluk boundary 
- Rivers 
- Forest boundary 

### LEGEND

#### CLASS

-  II MODERATE LIMITATION
-  III SEVERE LIMITATION
-  IV VERY SEVERE LIMITATION

#### SUB CLASS

- e - SOIL LIMITATION
- c - EROSION LIMITATION

## LAND IRRIGABILITY CLASSIFICATION

### PERAMBALUR DISTRICT

Water is like a double edged knife. If used judiciously, large benefits can be derived. If not, brings in the turn evils of water logging and salt problem. Efficient use of water for sustained irrigation under agriculture, necessitates thorough knowledge of the soil characteristics, that controls intake, strage in drainage of water and land characteristics that determine topographic feasibility of water transbort and pre development operations. Thus this classification is combined effect and Reciprocal Influence of the soil and the land characteristics.

Land irrigability classification is defined as an interpretative grouping based on soil and land characteristics of indicate relative suitability of land for irrigation and predicted behaviour of soil under irrigation. In land irrigability classification. The soils are first grouped into soil irrigability classes according to their limitations, irrespective of their location and size of the individual areas.

For working out irrigability classes land features (topography, slope, water, table and drainage) and soil characteristics (depth, texture, permeability, water holding capacity, salinity, alkalinity and erosion) are considered. The land irrigability classes are denoted by the numbers from 1 to 8 limitations are increasing with progressive advancement of numbers.

For sub - classes the numbers are suffixed with small letters showing the limitations like topography (t), soil (s), and drainage (d).

In perambalur district, severe irrigability limitations was observed in 161, 185 (43.67%) hectares and 1,18,149 hectares by moderate limitations out of the total extent of 3,69,107 hectares.

Sl. No.	Land irrigability class, sub - class	Soil series	Area (ha)	Percent to total	Limitation
1.	2 t - Land that have moderate limitations for sustained use under irrigation	Mudukulam and Palathurai	12,512	3.39	Topography
	2 s - Land that have moderate limitations for sustained use under irrigation	Madukkur	61,632	16.70	Surface run off
	2 st - Land that have moderate limitations for sustained use under irrigation	Ariyalur, Kurumbalur, Padugal and Nayakkanpalayam	17,253	4.67	Tapography and Texture
	2 sd - Land that have moderate limitations for sustained use under irrigation	Kalathur and Anganur	26,752	7.25	Heavy texture and poor drianage
2.	3 t - Land that have severe limitations for sustained use under irrigation	Pattukkottai, and Kallagam	41,940	11.36	Topography
	3 st - Land that have severe limitations for sustained use under irrigation	Padalur, Vallam and the vaiyur	25,618	6.94	Poor soils depth and topography
	3 sd - Land that have severe limitations for sustained use under irrigation	Pilamedu, Kallakkudi and Ayichavadi	93,627	25.37	Heavy texture and poor drainage
3.	4 sd - Land that have very severe limitations for sustained use under irrigation	Alangudi	569	0.15	Poor drainage
	—	Others	63,857	17.30	—
	—	Forest	25,347	6.87	—
	—	Total	3,69,107	100.00	—

#### Class

- 2** Lands that have moderate limitations for sustained use under irrigation.
- 3** Lands that have severe limitations for sustained use under irrigation.
- 4** Land that have very severe limitations for sustained use under irrigation.

#### Sub Class

- s** Soil problem
- t** Topography
- d** Drainage

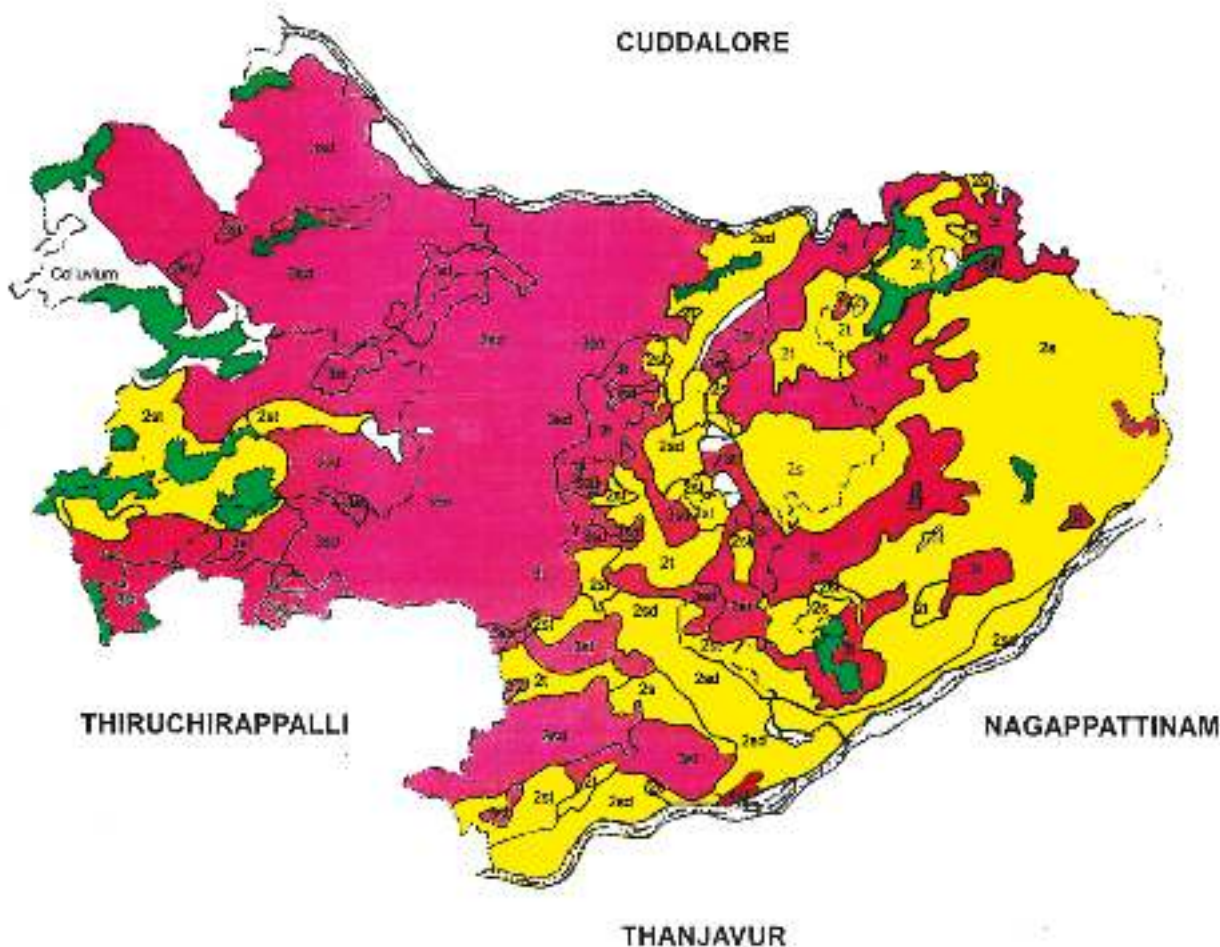


# LAND IRRIGABILITY

## PERAMBALUR DISTRICT

SALEM

CUDDALORE



THIRUCHIRAPPALLI

NAGAPPATTINAM

THANJAVUR

### REFERENCE

District boundary - - - - -




Taluk boundary - - - - -

Rivers

Forest boundary

### LEGEND

#### CLASS

-  2 MODERATE LIMITATION
-  3 SEVERE LIMITATION
-  4 VERY SEVERE LIMITATION

#### SUB CLASS

- s - SOIL LIMITATION
- d - DRAINAGE LIMITATION
- t - TOPOGRAPHY LIMITATION

## SOIL PRODUCTIVITY

### PERAMBALUR DISTRICT

Productivity is the capability of soils to produce a certain amount of crop yield per unit area and is a function of intrinsic properties of soil firstly as described in the soil profile in situ in the field and secondly by the laboratory analysis. For determining the present productivity as proposed by Riquier *et al* (1970), moisture, drainage, effective depth, texture, structure, base saturation, soluble salt concentration, organic matter content, exchange capacity and mineral reserves are considered.

Productivity ratings can be increased by all possible soil improvements like provision of irrigation facilities, building up of the depth of soil, fertilizing and amending, organic matter enriching, erosion control etc.,

Based on productivity ratings, five productivity classes viz., Excellent, Good, Average, poor and Extremely poor are recognised by Riquier *et al* (1970)

In this district, 88250 (23.91%) hectares of land are with good productivity groupings, and 29,566 (8.01%) hectares with poor productivity, out of the total extent of 3,69,107 hectares.

Productivity class		Soil series	Extent (ha)	Percent to total
Ratings	Groupings			
8 - 19	Poor (P)	Vallam, Padalur, Kurumbalur, Alangudi	29,566	8.01
20 - 34	Average (A)	Pilamedu, Kallakkudi, Pattukkottai, Anganur, Mudukulam, Kallagam, Palathurai, Ayichavadi and Thevaiyur	1,62,087	43.91
35 - 64	Good (G)	Madukkur, Kalathur, Ariyalur, Padugai and Nayakkanpalayam	88,250	23.91
		Others	63,857	17.30
		Forest	25,347	6.87
		<b>Total</b>	<b>3,69,107</b>	<b>100.00</b>

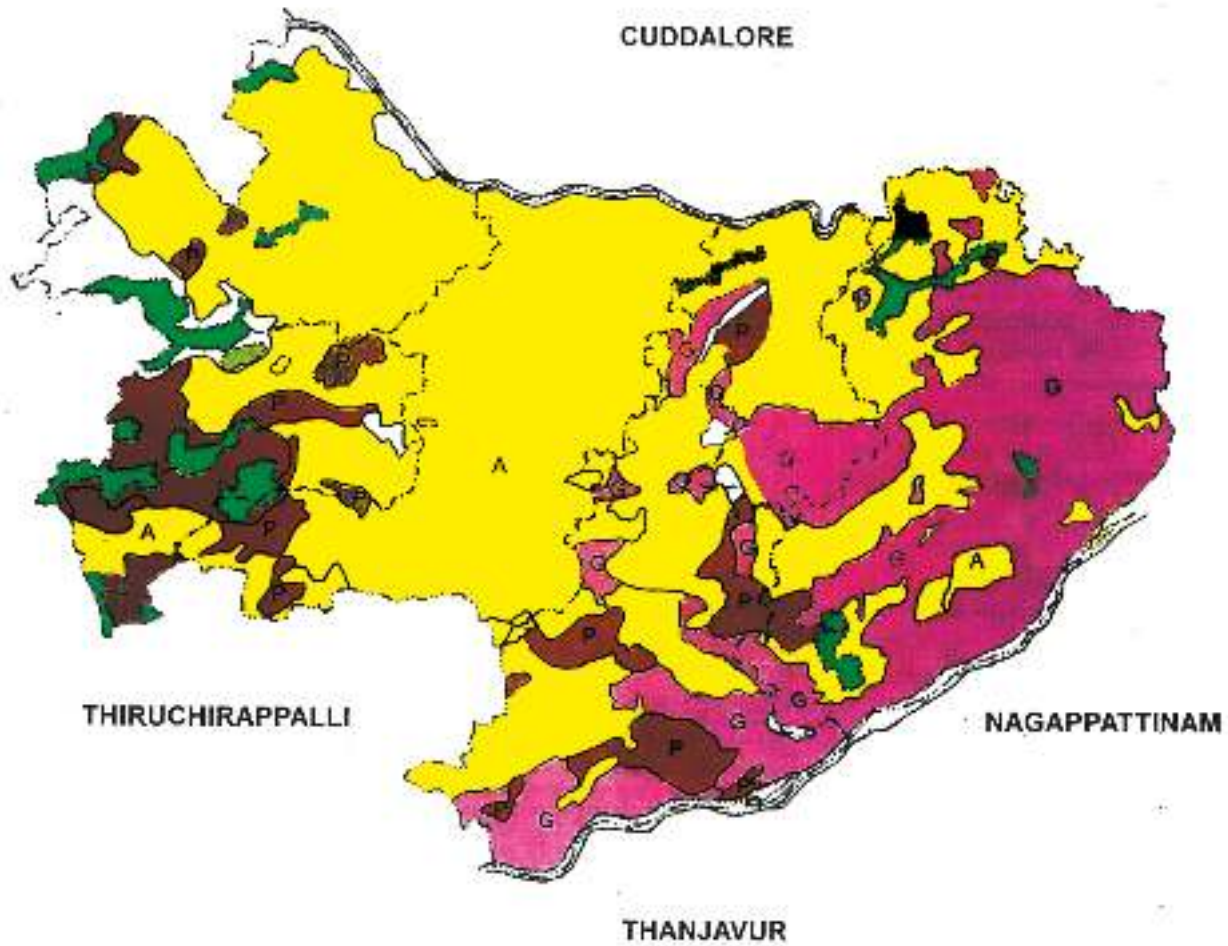
# SOIL PRODUCTIVITY

## PERAMBALUR DISTRICT



SALEM

CUDDALORE



THIRUCHIRAPPALLI

NAGAPPATTINAM

THANJAVUR

### REFERENCE

District boundary ..... ..

Taluk boundary - - - - -

Rivers

Forest boundary

### LEGEND

AVERAGE (P)

POOR (P)

GOOD (G)

## CROPS GROWN

### PERAMBALUR DISTRICT

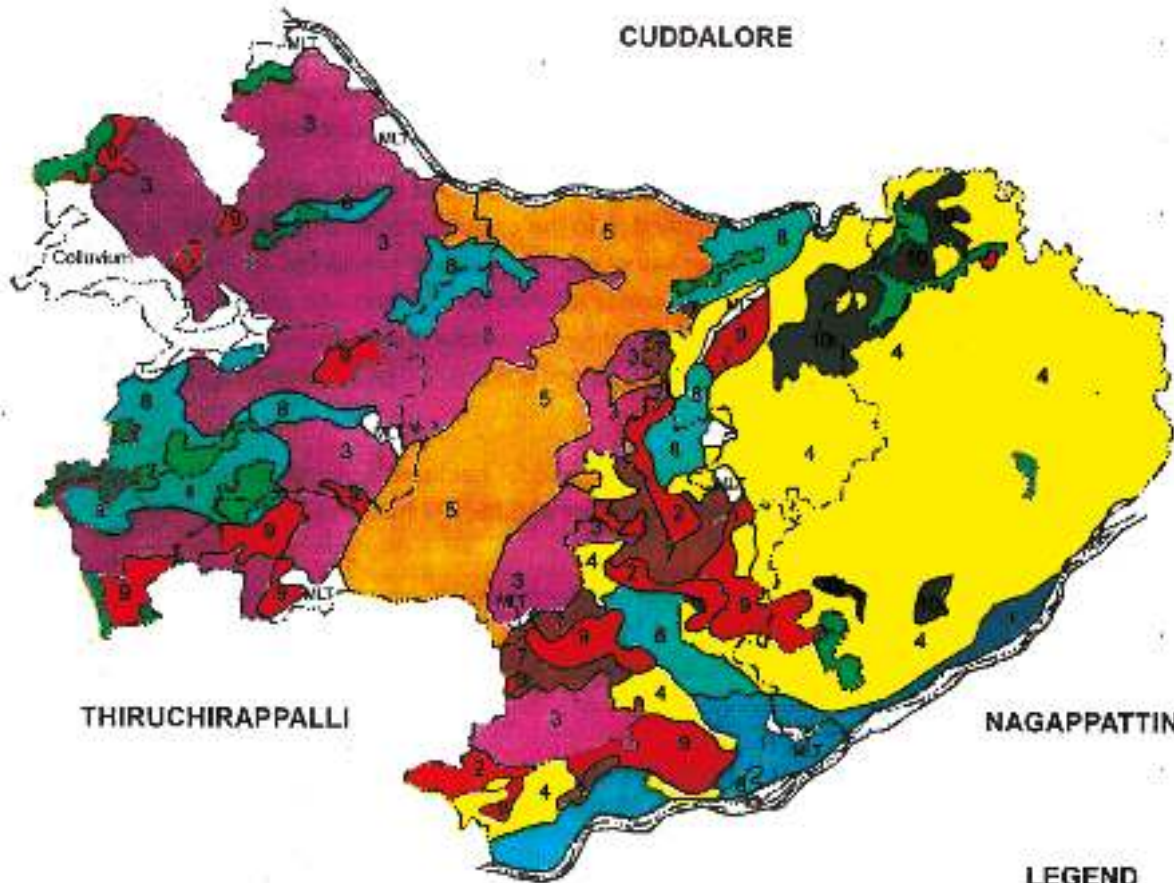
Sl. No.	Crops Grown		Map symbol	Series
	Irrigated	Rainfed		
1.	Sugarcane Banana, Rice	Millets and Pulses	1	Kalathur
2.	Vegetables, Rice and flowers	Millets and Pulses	2	Ayichavadi
3.	Sugarcane, Tapioca, onion Groundnut and Rice	Chillies, Millets Groundnut Gingelly, Coriander, Cotton and Redgram	3	Pilamedu and Kallagam
4.	Rice Millets Groundnut and cotton	Groundnut, Millets Gingelly and Redgram	4	Madukkur Pattukkottai and Ariyalur
5.	Rice and chillies	Rice Chillies, Millets and Groundnut	5	Kallakkudi
6.	Rice, Millets Redgram, and Chillies	Cumbu, Gingelly, and Castor	7	Palathurai
7.	—	Cholam, Gingelly and Groundnut	8	Anganur, Kurumbalur, Alangudi and Thevaiyur
8.	Groundnut, Redgram, Cholam and onion	Groundnut, Redgram, Millets and Cashew	9	Vallam and Padalur
9.	Groundnut, Redgram, Cholam and onion	Groundnut	10	Mudukulam and Nayakkanpalayam
10.	Rice, vegetables, and chillies	—	12	Padugai



# CROPS GROWN PERAMBALUR DISTRICT

SALEM

CUDDALORE



THIRUCHIRAPPALLI

NAGAPPATTINAM

THANJAVUR

## REFERENCE

District boundary .....- - - - -

Taluk boundary - - - - -

Rivers

Forest boundary

## LEGEND

	1
	2
	3
	4
	5
	7
	8
	9
	10
	12

## SOIL COLOUR

### PERAMBALUR DISTRICT

Colour is the most obvious and easily determined of soil characteristics. Although it has little direct influence on the functioning of the soil, one may infer a great deal about a soil from its colour. It is considered with other observable features. Thus the significance of soil colour is almost entirely an indirect measure of other more important characteristics or qualities that are not so easily and accurately observed. Colour is one of the most useful important characteristics for soil identification especially when combined with soil structure.

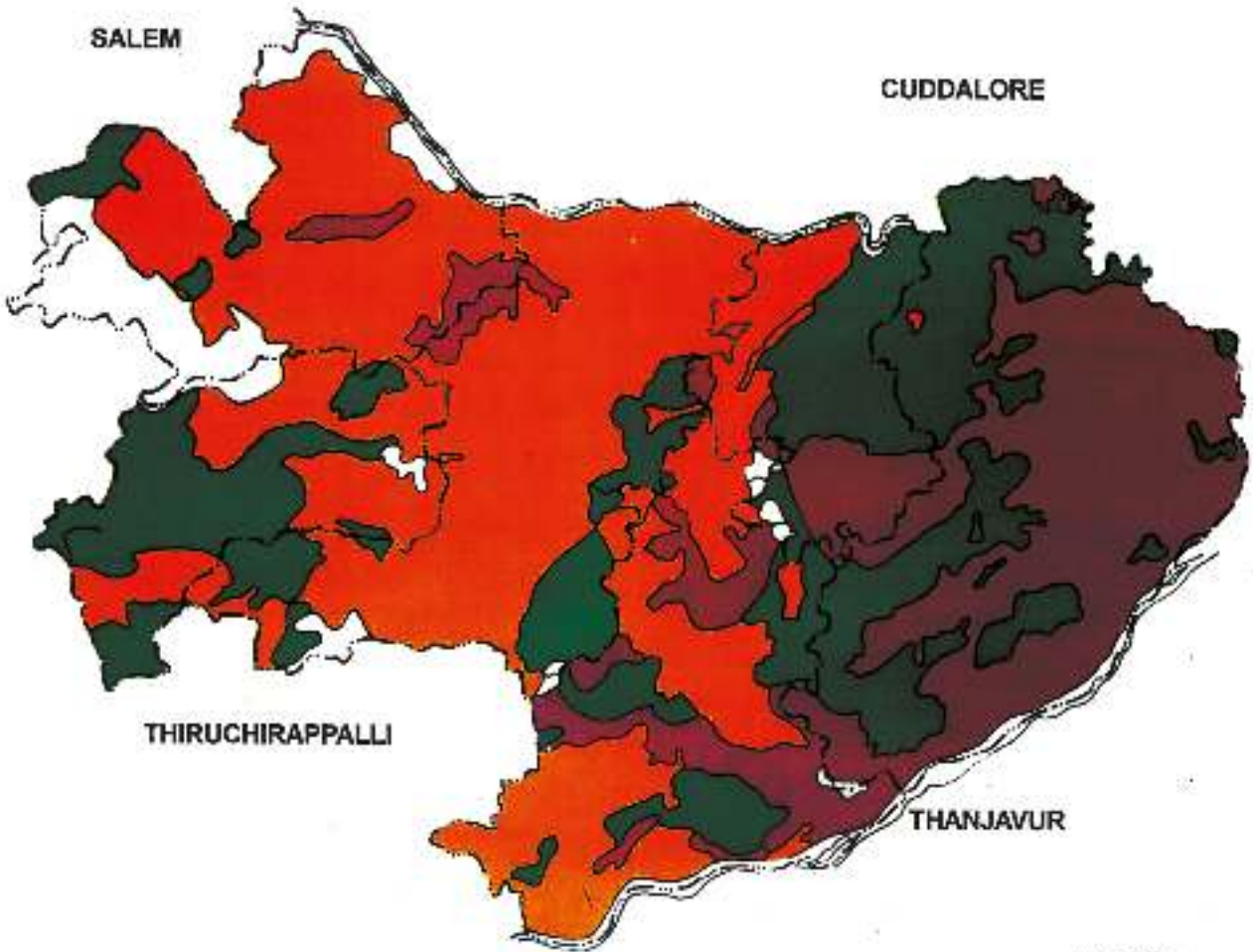
Colour of a soil may be inherited from its parent material (mineral matter) red soils developed from red - sand stone. The Variation in soil colour are mainly due to the organic matter content which generally imparts black to dark grey Tinges, red yellow or brown colour of soils are related with oxidation, hydration and diffusion of iron oxides in mineral matters of soil, The soil colour influences soil temperature. The dark coloured soils absorb more heat than Light coloured soils. The black colour may be due to decomposed organic matter impeded drainage, or sodium saturation of colloidal complex. The soil colours are best determined by comparison with Munsell colour chart.

In Perambalur district, a total lands of 1,14,601 (31.05%) hectares are with grey coloured and 85,427 (23.14%) hectares with brown colour, out of the total extent of 3,69,107 hectares.


Sl. No.	Soil colour	Soil series	Extent (ha)	Percent to total
1.	Red soil	Vallam, Mudukulam, Pattukkottai, Kallagam, Kurumbalur, Padalur	79,875	21.64
2.	Brown soil	Madukkur, Palathurai, Kalathur, Padugai, Thevaiyur, Nayakkanpalayam	85,427	23.14
3.	Grey soil	Kallakkudi, Pilamedu, Anganur, Ariyalur, Alangudi, Ayichavadi	1,14,601	31.05
		Others	63,857	17.30
		Forest	25,347	6.87
		<b>Total</b>	<b>3,69,107</b>	<b>100.00</b>



# SOIL COLOUR PERAMBALUR DISTRICT



### REFERENCE

- District boundary .....-.....
- Taluk boundary -----
- Rivers 

### LEGEND

-  GREY
-  BROWN
-  RED

## EFFECTIVE SOIL DEPTH

### PERAMBALUR DISTRICT

Effective soil depth refers to the depth of solum. The depth of solum is restricted by parent material and hard pans, water table, erosion, salinity, alkalinity etc., Eroded soils have poor depth. Plant growth is generally influenced by the depth of the soil. Root penetration, type of cultivar or plant to be grown are directly linked with solum depth.

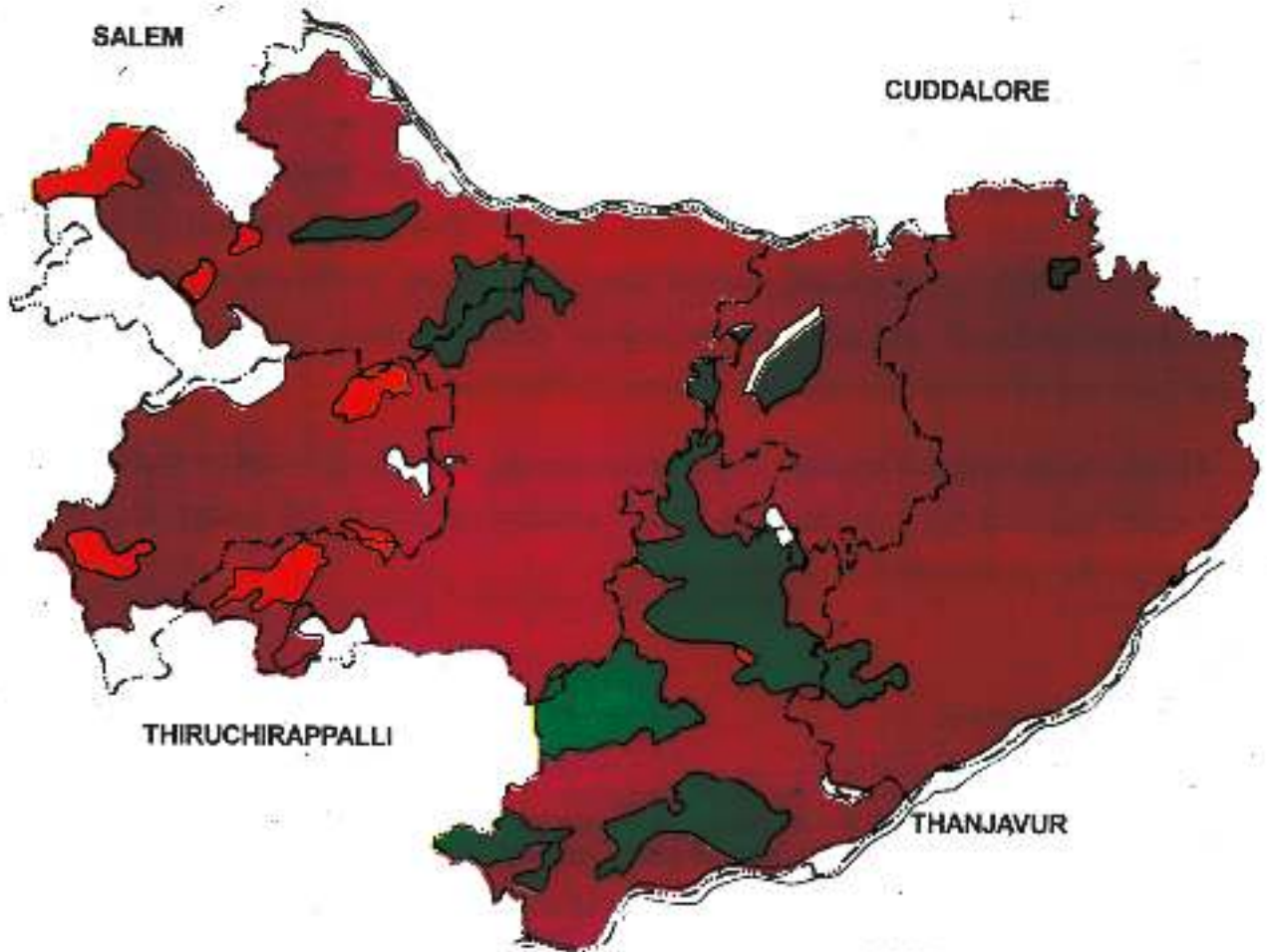
In deep soils, root can penetrate to greater depths to meet their moisture and nutrient requirements. Shallow or moderately deep soils are not suitable for deep rooted crops because they reduce the well development of forages. Unfavourable factors like soil texture, landscape in combination with depth, decreases the capacity of soils.

A total of 2,44,043 (66.11%) hectares are with very deep soil, and these are suitable for deep rooted crops.




Sl. No.	Effective soil depth	Soil series	Extent (ha)	Percent to total
1.	Moderately Deep (d <sub>3</sub> - 25 to 50 cm)	Nayakkanpalayam, Padalur	8,155	2.21
2.	Deep (d <sub>4</sub> - 50 to 100 cm)	Ayichavadi, Vallam, Palathurai and Thevaiyur	27,705	7.51
3.	Very Deep (d <sub>5</sub> Above 100 cm)	Anganur, Ariyalur, Alangudi, Kallakkudi, Kalathur, Kallagam, Kurumbalur, Madukkur, Mudukulam, Pattukkottai, Pilamedu, Padugai	2,44,043	66.11
		Others	63,857	17.3
		Forest	25,347	6.87
Total			3,69,107	100.00






# SOIL DEPTH PERAMBALUR DISTRICT



### LEGEND

-  MODERATELY DEEP d3 (25 to 50 c.m.)
-  DEEP d4 (50 to 100 c.m.)
-  VERY DEEP d5 (More than 100 c.m.)

### REFERENCE

- District boundary 
- Taluk boundary 
- Rivers 

## SOIL TEXTURE

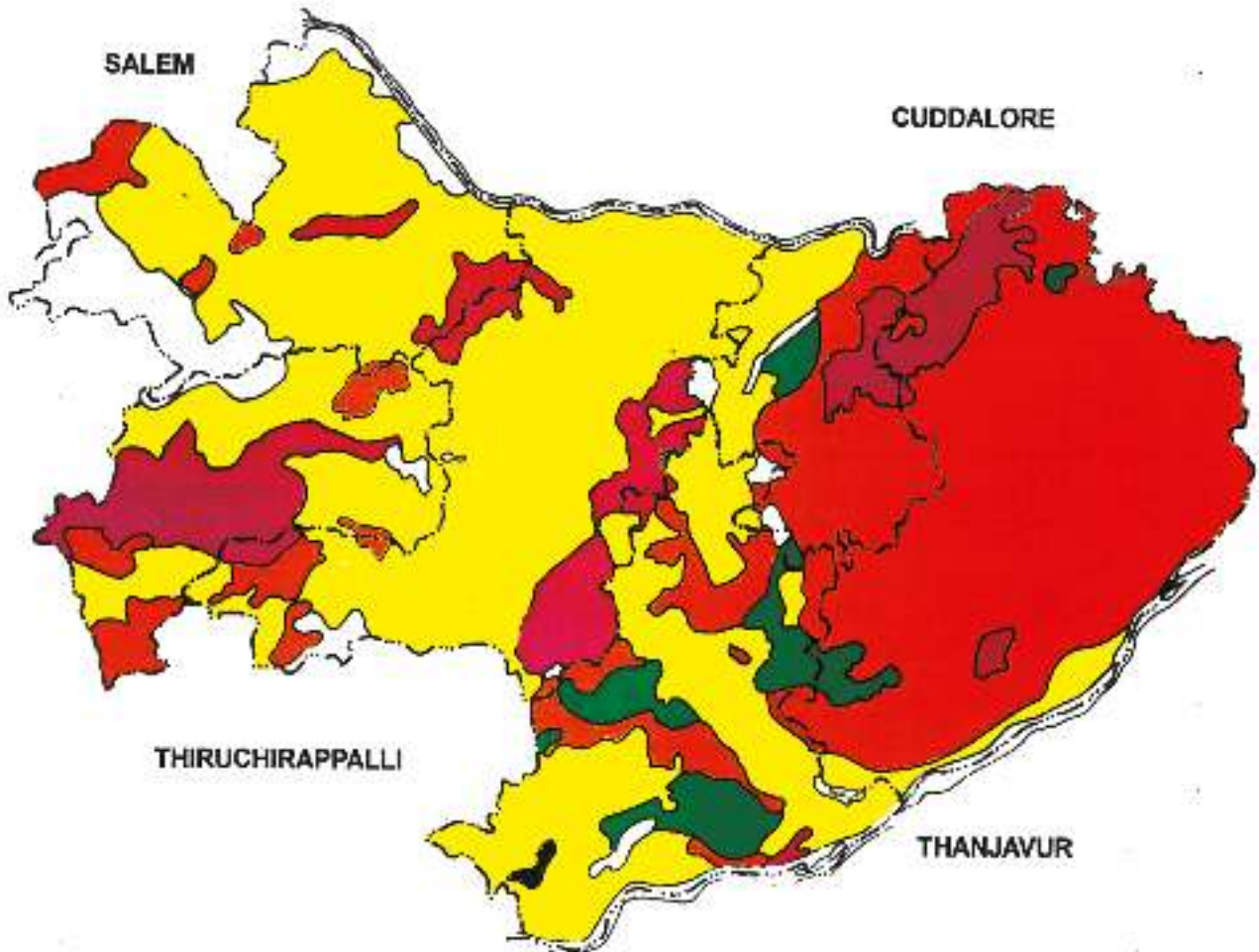
### PERAMBALUR DISTRICT

Soil texture is the basic indicator of soil physical and chemical properties of soils. Soil texture indicates the coarseness or fineness of the soils as determined by the relative proportion of the various sized primary particles in the soil mass. It is one of the fundamental and permanent characteristics that has direct bearing on structure, porosity, adhesion and consistency. Texture of the soil influences drainage, aeration, tillage root penetration, moisture and nutrient retention, choice of crops, physico - chemical and biological activities. Soils with heavy texture or soils with marked textural changes in profile are more susceptible to salinisation and have drainage and reclamation problems. Also, soil compaction below plough layer will be common restricting the root proliferation.

Fine textured soils like Ariyalur, Anganur Ayichavadi, Kallakkudi, Kalathur and Pilamedu soils, which account for 1,30,251 (35.28%) hectares. In these soil series due to soil compaction, root proliferation is restricted

Sl. No.	Soil texture	Soil series	Extent (ha)	Percent to total
1.	Fine (soils with high clay content)	Ariyalur, Anganur, Ayichavadi, Kallakkudi, Kalathur and Pilamedu	1,30,251	35.28
2.	Fine loamy (Soils with moderate clay content)	Alangudy, Mudukulam, Kallagam and Thevaiyur	27,187	7.38
3.	Coarse loamy (Open textured)	Madukkur, Pattukkottai, Padalur, Palathurai, Nayakkanpalayam and Padugai	1,08,351	29.35
	Sandy (Open textured skeletal)	Vallam	14,114	3.82
		Others	63,857	17.30
		Forest	25,347	6.87
Total			3,69,107	100.00

# SOIL TEXTURE PERAMBALUR DISTRICT



### REFERENCE

- District boundary*    - - - - -
- Taluk boundary*    - - - - -
- Rivers*

### LEGEND

-  FINE
-  FINE LOAMY
-  COARSE LOAMY
-  SANDY

## PERMEABILITY

### PERAMBALUR DISTRICT

The characteristics of a soil that enables water or air or plant roots to move through, known as permeability. The permeability is dependent on the pore size distribution in the soil. Permeability usually decreases with depth, as the sub-soil layers are more compact. Compactness reduces macropores. Permeability decreases with increasing fine texture. Permeability increases with coarseness of soil texture. Concentration and composition of salts dissolved in irrigation water affect permeability of the soil.

The permeability can be controlled to a larger extent by suitable management practices. Continuous tillage reduces permeability while the growth of deep rooted crops like legumes increases permeability. Maintenance of good aggregation is important in maintaining the permeability, which in turn increases the productivity of the soil. Very fine particles (less than 2 microns) have slow permeability, which block air movement. In sands and strongly aggregated soils, permeability is rapid. The degrees of permeability vary with soil series. The range of rate of intake for determining the various permeability classes of different soil series are indicated below.

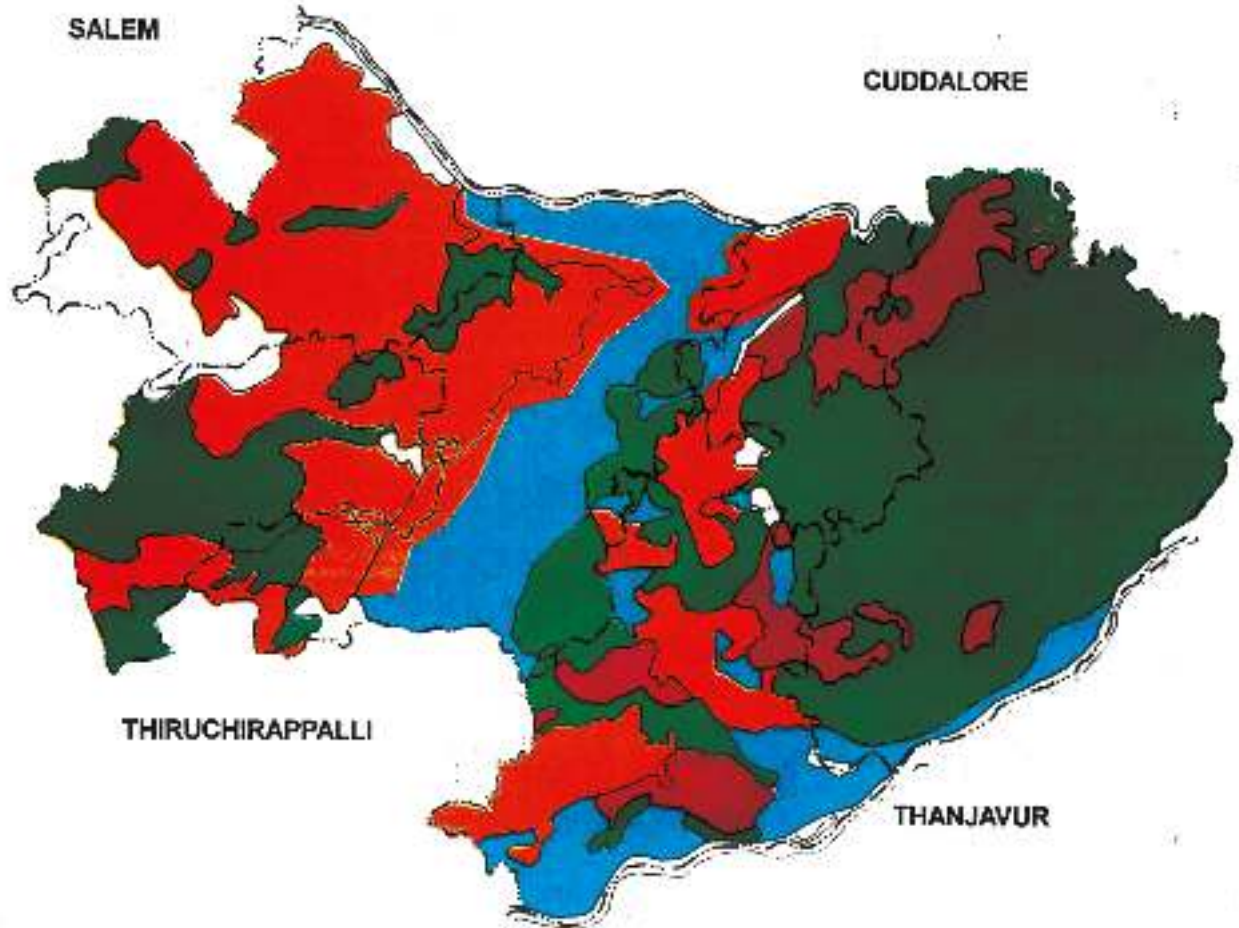
A total of 51,548 (13.97%) hectares of soil have slow permeability. These soils are with fine particles which block air movement.

Sl. No.	Class	Soil series	Extent (ha)	Percent to total
1.	Slow (S)	Kalathur, Kallakkudi, Alangudy and Ariyalur	51,548	13.97
2.	Moderately Slow (MS)	Pilamedu, Anganur, Ayichavadi and Nayakkanpalayam	79,398	21.51
3.	Moderately Rapid (MR)	Madukkur, Pattukkottai, Padalur, Kallagam, Palathurai, Kurnmbalur and Thevaiyur	1,25,504	34.0
4.	Rapid (R)	Vallam, Mudukulam and Padugai	23,453	6.35
		Others	63,857	17.30
		Forest	25,347	6.87
Total			3,69,107	100.00



# PERMEABILITY

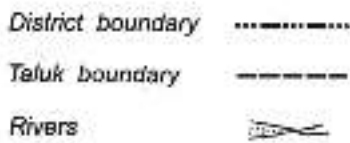
## PERAMBALUR DISTRICT



### LEGEND



### REFERENCE



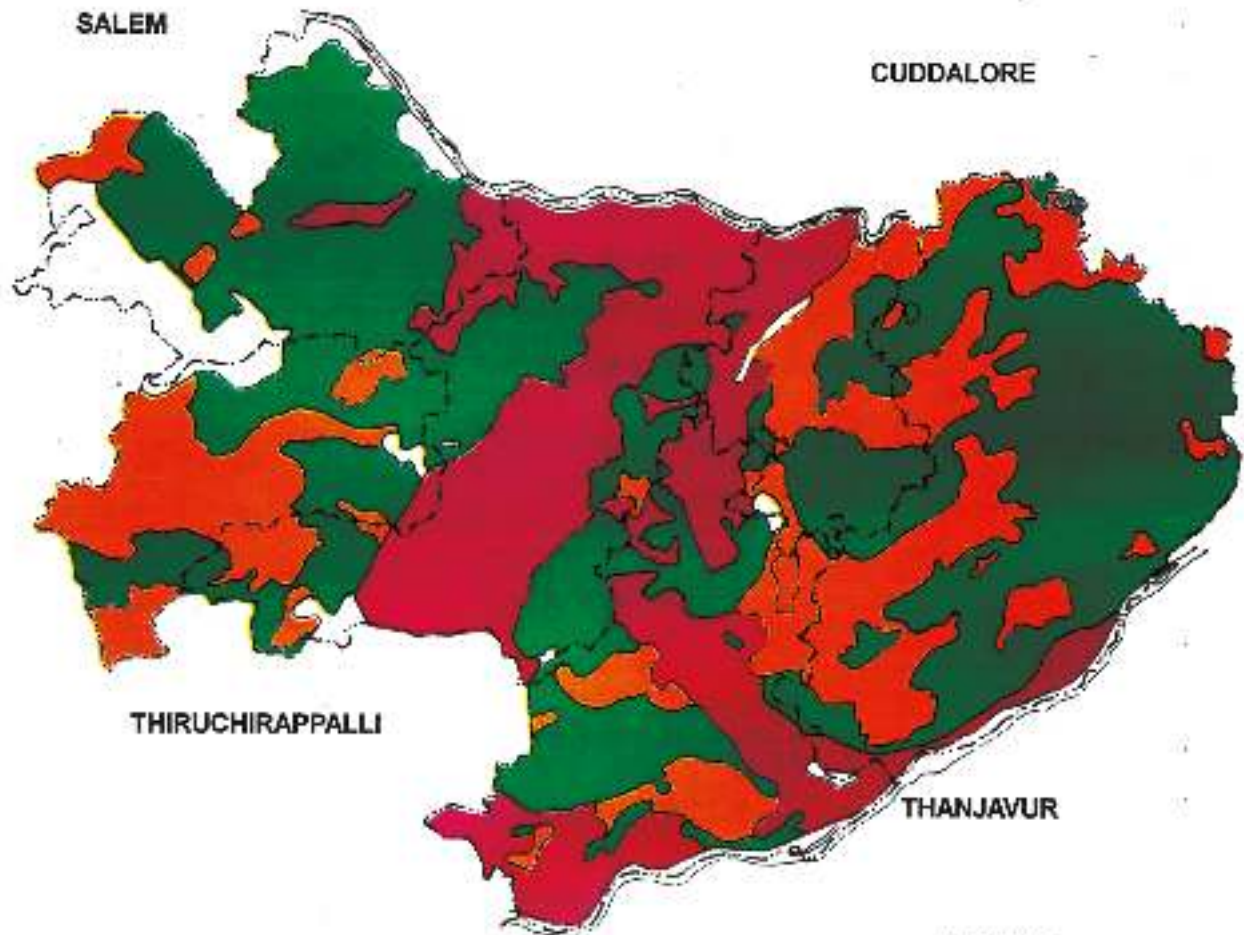
## WATER HOLDING CAPACITY (WHC)

### PERAMBALUR DISTRICT


Water holding capacity is required for the determination of depth and frequency of irrigation required. It indirectly shows the potential rooting depth of soil. It depends upon texture, permeability, drainage, capillary rise, soil temperature etc., Clayey soils have high water holding capacity as against the sandy type of soil with low water holding capacity Low water holding capacity has been observed in 63,987 (17.33%) hectares of land.

Sl. No.	WHC Category	Soil series	Extent (ha)	Percent to total
1.	Low (upto 20%)	Pattukkottai, Vallam, Padalur, Kurumbalur and Padugai	63,987	17.33
2.	Medium (21 - 50%)	Pilamedu, Madaukkur, Mudukulam, Kallagam, Palathurai, Alangudi and Nayakkanpalayam	1,44,387	39.12
3.	High (> 50%)	Kallakkudi, Kalathur, Anganur, Ariyalur, Ayichavadi and Thevaiyur	71,529	19.38
		Others	63,857	17.30
		Forest	25,347	6.87
Total			3,69,107	100.00

# WATER HOLDING CAPACITY PERAMBALUR DISTRICT



### REFERENCE

- District boundary    - - - - -
- Taluk boundary       - - - - -
- Rivers                 

### LEGEND

-  LOW (Upto 20%)
-  MEDIUM (21 to 50%)
-  HIGH (>50%)

## EROSION

### PERAMBALUR DISTRICT

Erosion is the detachment and movement of soil material. The process may be natural or accelerated by human activity. Natural erosion has sculptured land forms on the uplands and built land forms on the low lands. This type of removal of soil is by water or wind. Accelerated erosion is the consequence of human activity. The primary causes are tillage, grazing and cutting of timber. Light texture of the surface soil, unchecked surface water flow, topography, low water holding capacity are the prime reasons for erosion. Erosion causes depletion of fertility through removal of valuable surface soil and lead to reduction in the effective arable soil depth and hence it is one of the limiting factors for crop production. Erosion reduces soil depth and anchorage will be a problem in these soils.

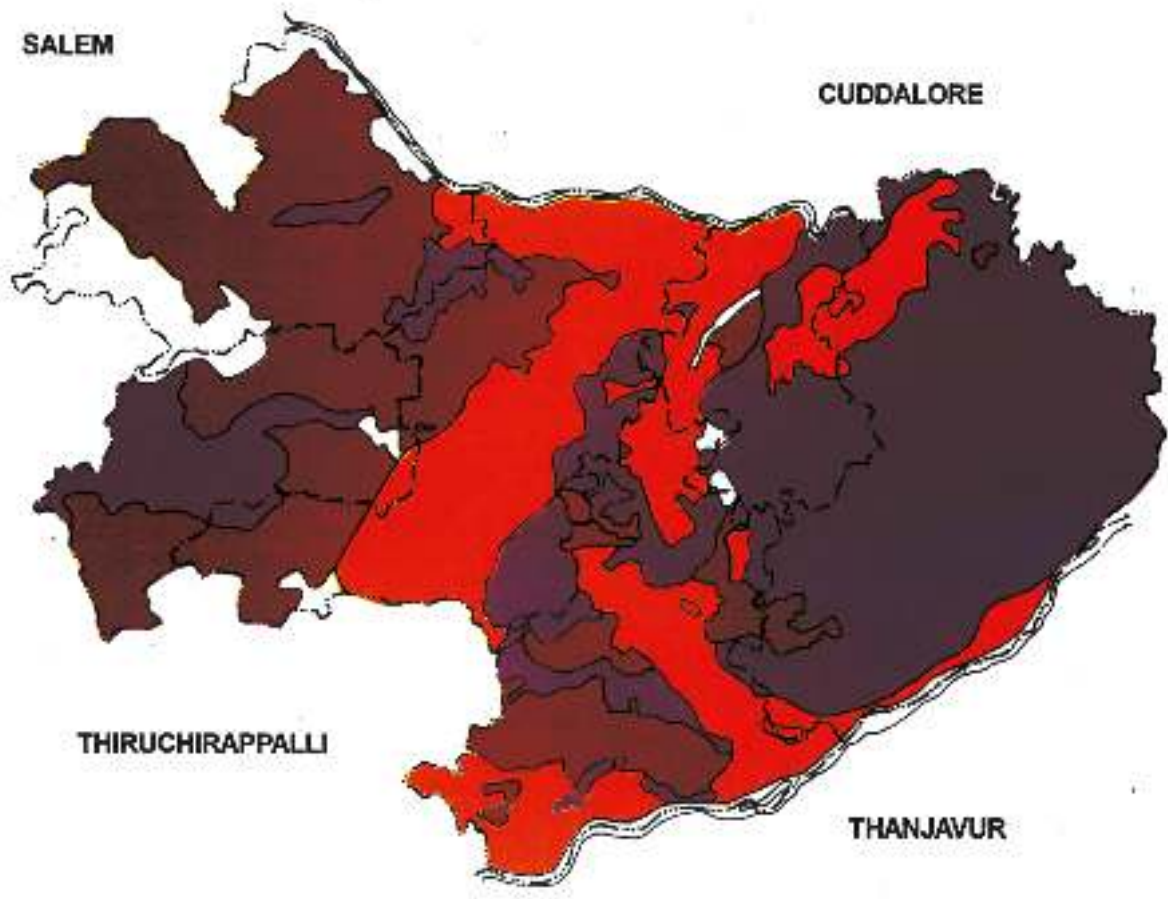
In this district, slight or no erosion was observed in 77,687 (21.05%) hectares which are not having depletion of fertility due to erosion.

Sl. No.	Type of Erosion	Soil series	Extent (ha)	Percent to total
1.	Slight / no Erosion (e <sub>1</sub> )	Kallakkudi, Kalathur, Anganur, Mudukulam, Ariyalur, Ayichavadi, Alangudi and Nayakkanpalayam	77,687	21.05
2.	Moderate (e <sub>2</sub> )	Madukkur, Pattukkottai, Kallagam, Palathurai, Kurumbalur, Thevaiyur and Padugai	1,17,876	31.93
3.	Severe (e <sub>3</sub> )	Pilamedu, Vallam and Padalur	84,340	22.85
		Others	63,857	17.30
		Forest	25,347	6.87
<b>Total</b>			<b>3,69,107</b>	<b>100.00</b>



# EROSION

## PERAMBALUR DISTRICT



**REFERENCE**

District boundary    - - - - -

Taluk boundary      - - - - -

Rivers                

**LEGEND**

 SLIGHT / NO EROSION

 MODERATE (e2)

 SEVERE (e3)

## CALCAREOUSNESS

### PERAMBALUR DISTRICT

A high carbonate level either due to under ground water or soil solution may cause calcium deficiency by calcium precipitation as calcium carbonate. The insoluble calcium carbonate is present in the soil surface or sub surface or both is referred as calcareousness. The insoluble calcium carbonate is present in the form of concretions, powder, beds etc.,

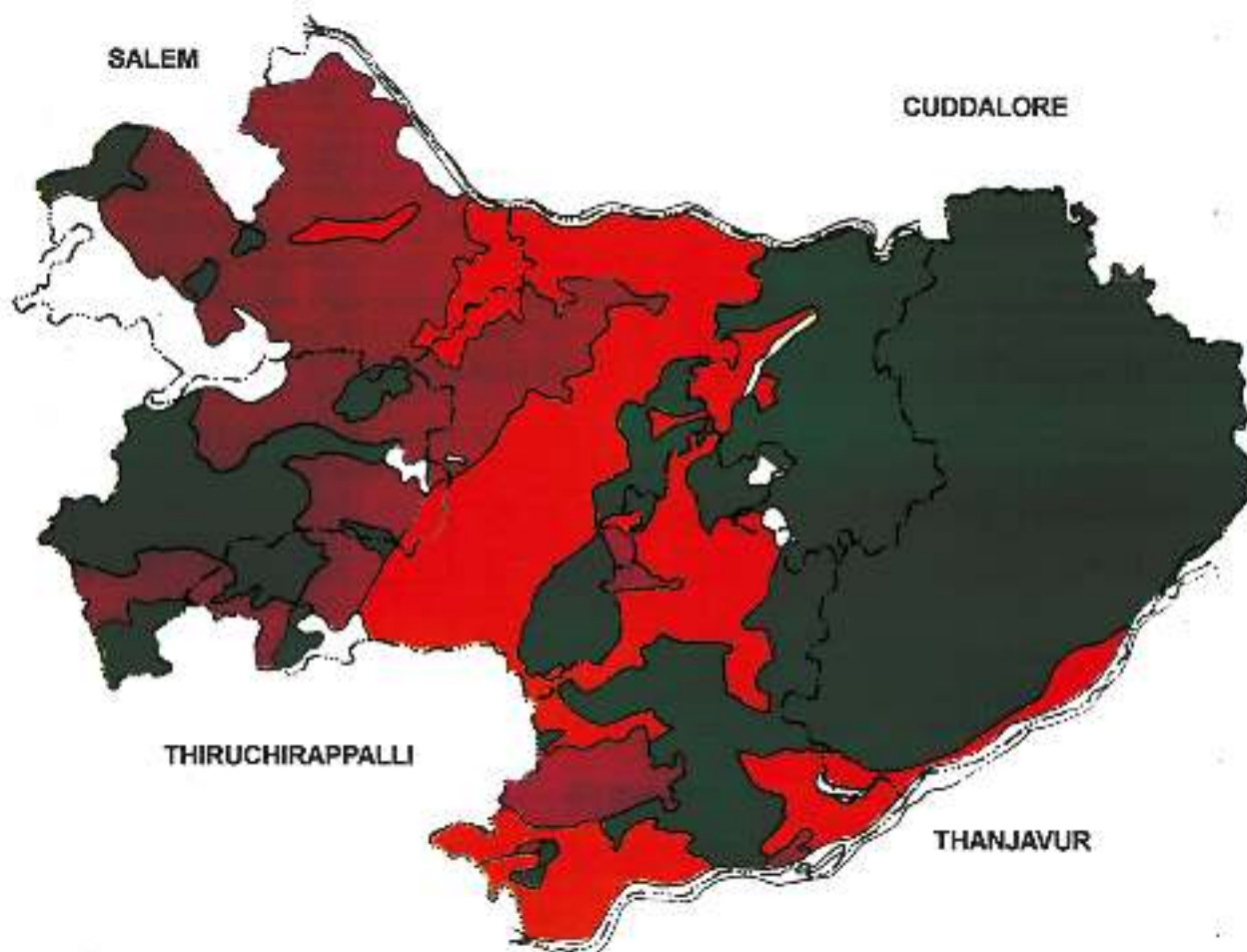
The nutritional problems encountered by calcareousness are.

- Volatilisation loss of nitrogen
- Mineralisation and denitrification of nitrogen.
- Phosphorus fixation
- Potassium and Magnesium antagonism
- Micronutrient deficiency especially zinc, iron, manganese and boron
- Moderate alkalinity in surface or sub - surface or both.
- Quick decomposition of organic matter, releasing more nitrate nitrogen but lost by leaching or denitrification
- 'N' added in the form of Ammonium and amide might be subjected to loss.

In this district, 1,52,441 (41.30%) hectares of land are free from calcareousness. Pilamedu and Alangudi soil series which occupy 62,766 (17.00%) hectares are strongly affected by calcareousness.

Sl. No.	Calcareousness Class	Soil series /	Extent (ha)	Percent to total
1.	Non - Calcareous	Anganur, Madukkur, Pattukkottai, Vallam, Mudukulam, Padalur, Kallagam, Kurumbalur and Padugai	1,52,441	41.30
2.	Mild	Kallakkudi, Kalathur, Ariyalur, Palathurai, Ayichavadi, Thevaiyur and Nayakkanpalayam	64,698	17.53
3.	Strong	Pilamedu and Alangudi	62,766	17.0
		Others	63,857	17.30
		Forest	25,347	6.87
Total			3,69,107	100.00

# CALCAREOUSNESS PERAMBALUR DISTRICT



### REFERENCE

- District boundary*    - - - - -
- Taluk boundary*       - - - - -
- Rivers*

### LEGEND

- NIL
- MILD
- STRONG

## SALINITY

### PERAMBALUR DISTRICT

All soils contain some amount of soluble salts, but when their concentration increases beyond a specific limit, the plant growth is affected adversely and the soils are termed as salinity affected. Salinity is measured in terms of Electrical conductivity ((m.mhos / cm<sup>2</sup>) which indicates the total quantities of soluble salts in soils.

The salts may have originated directly from chemical weathering of rocks and have been dissolved by surface and percolating waters. The favourable conditions for formation of saline soils are 1) a high water table with a fairly high salt concentration 2) a high temperature and a low rainfall.

Under irrigation, saline soils have developed by the following means 1) when excessive application of water have raised the ground water level sufficiently to permit concentration of salts from saline ground water through evaporation 2) when irrigation water has a high salt content 3) poor drainage keeps the salt in the surface soil and prevent leaching of salts. and 4) Flooding of soil followed by intense drought, leave the salts in the root zones when water supply is limited, Saline soils may be of two kinds, 1) soil in which soluble salts contain calcium and Magnesium 2) soils in which soluble salts are chiefly sodium.

Adverse effects : 1) Excess salts hinder crop growth not only by toxicity but also by reducing water availability through reverse osmosis. 2) Nutrient up take will become unbalanced and alter hormonal imbalance in plant system 3) Yield of crop decreases linearly with increase of salinity.

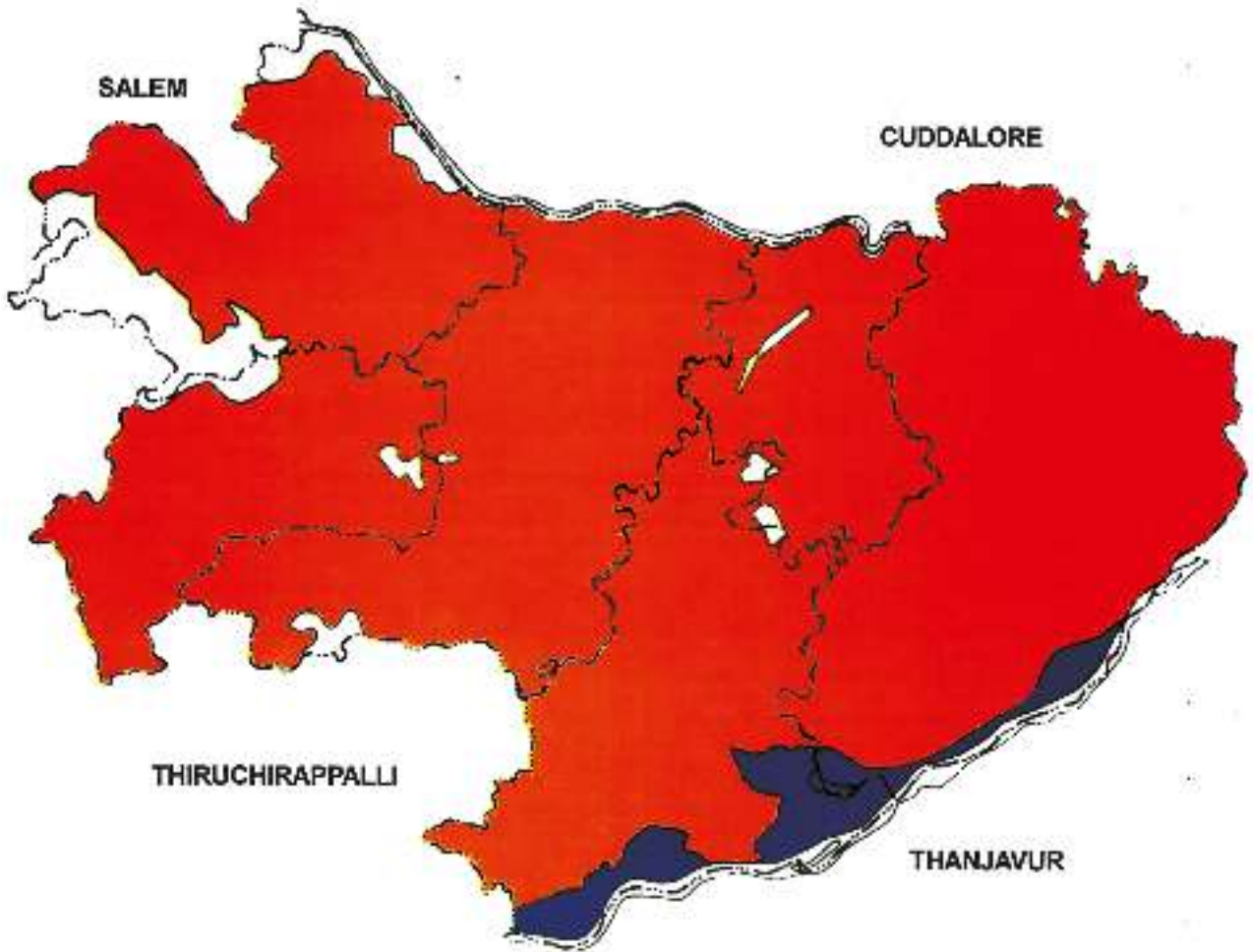
In this district, 2,63,115 (71.28%) of soils are free from salinity and saline soil was observed in Kalathur and Alangudi soil which account for 16,788 (4.55%) hectares

Sl. No.	Salinity category	Soil series	Extent (ha)	Percent to total
1.	Saline	Kalathur and Alangudi	16,788	4.55
2.	Non - Saline	Pilamedu, Madukkur, Kallakkudi, Pattukkottai, Vallam, Anganur, Padalur, Mudukulam, Kallagam, Ariyalur, Palathurai, Kurumbalur, Ayichavadi, Thevaliyur, Padugai and Nayakkanpalayam	2,63,115	71.28
		Others	63,857	17.30
		Forest	25,347	6.87
Total			3,69,107	100.00



# SALINITY

## PERAMBALUR DISTRICT



### REFERENCE

- District boundary    - - - - -
- Taluk boundary      - - - - -
- Rivers

### LEGEND

-  SALINE
-  NON - SALINE

## SOIL REACTION

### PERAMBALUR DISTRICT

Soil reaction is an important chemical characteristics influencing many physical and chemical properties. Microbial activity and plant nutrients availability and uptake and its close relationship to other soil constituents depend upon the soil reaction (Acidic, neutral or alkaline). The intensity of acidity or alkalinity is expressed in  $p^H$ . Neutral soils have a  $p^H$  of 7.0. Lower values indicate acidity. Acid soils are high in exchangeable hydrogen and alkaline soils, high in exchangeable bases. Soils rich in clay or organic matter have greater reserves of acidity or alkalinity than sandy soils which are low in organic matter. Soils having  $p^H$  values higher than 8.5, always have significant amounts of exchangeable sodium. Plants are partly responsible for differences in soil  $p^H$ , some feed very heavily sodium and some on calcium, which on decomposition of their remains tends to keep the soil alkaline or neutral respectively.

- Acid soils requires lime for amelioration

- Alkaline soil requires organic manuring, gypsum or ironpyrites for amending the soil.

Soil reaction helps for the selection of suitable crops or varieties.

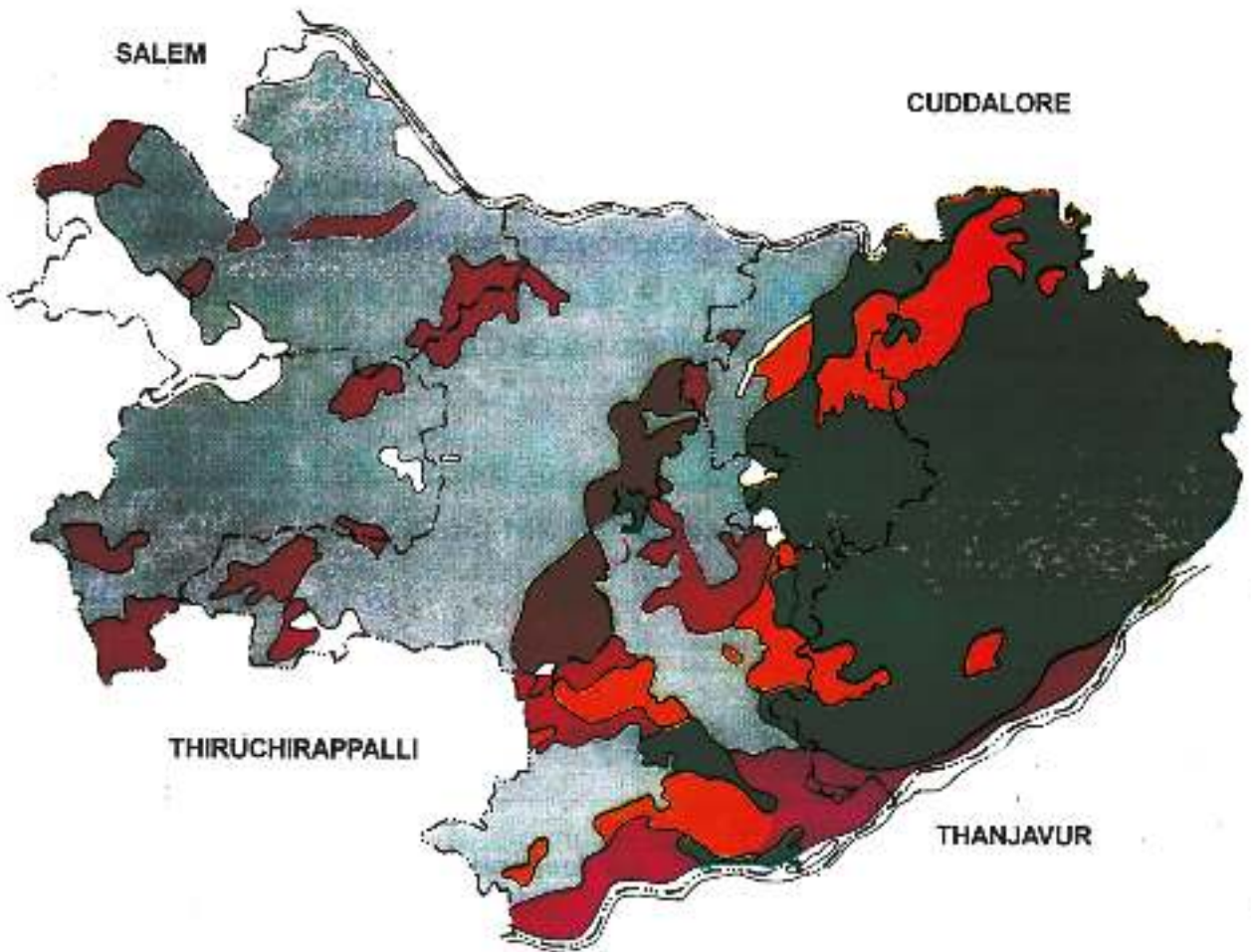
In this district, medium acidity was observed in Mudukulam and Valiam soils which occupy 23,052 (6.24%) hectares. A total of 1,21,455 (32.91%) hectares are with moderate alkalinity which need reclamation.

Sl. No.	Category	Soil series	Extent (ha)	Percent to total
1.	Medium Acidic (pH 5.6 - 6.0)	Mudukulam and Vallam	23,052	6.24
2.	Slightly Acidic (pH 6.1 - 6.5)	Kallagam	7,351	1.99
3.	Neutral (pH 6.6 - 7.5)	Madukkur, Pattukkottai and Padugai	96,622	26.18
4.	Mildly alkaline (pH 7.6 - 8.0)	Kalathur, Padalur, Palathurai, Thevalyur and Nayakkanpalayam	31,423	8.51
5.	Moderately Alakaline (pH 8.1 - 8.5)	Anganur, Pilamedu, Kallakkudi, Ariyalur, Kurumbalur, Ayichavadi and Alangudi	1,21,455	32.91
6.	Strongly Alkaline (pH 8.6 - 9.0)	—	—	—
		Others	63,857	17.30
		Forest	25,347	6.87
<b>Total</b>			<b>3,69,107</b>	<b>100.00</b>




# SOIL REACTION

## PERAMBALUR DISTRICT



### REFERENCE

- District boundary ..... (dotted line)
- Taluk boundary - - - - - (dashed line)
- Rivers 

### LEGEND

-  MEDIUM ACIDIC
-  SLIGHTLY ACIDIC
-  NEUTRAL
-  MILDLY ALKALINE
-  MODERATELY ALKALINE  
STRONGLY ALKALINE

## CATION EXCHANGE CAPACITY (CEC)

### PERAMBALUR DISTRICT

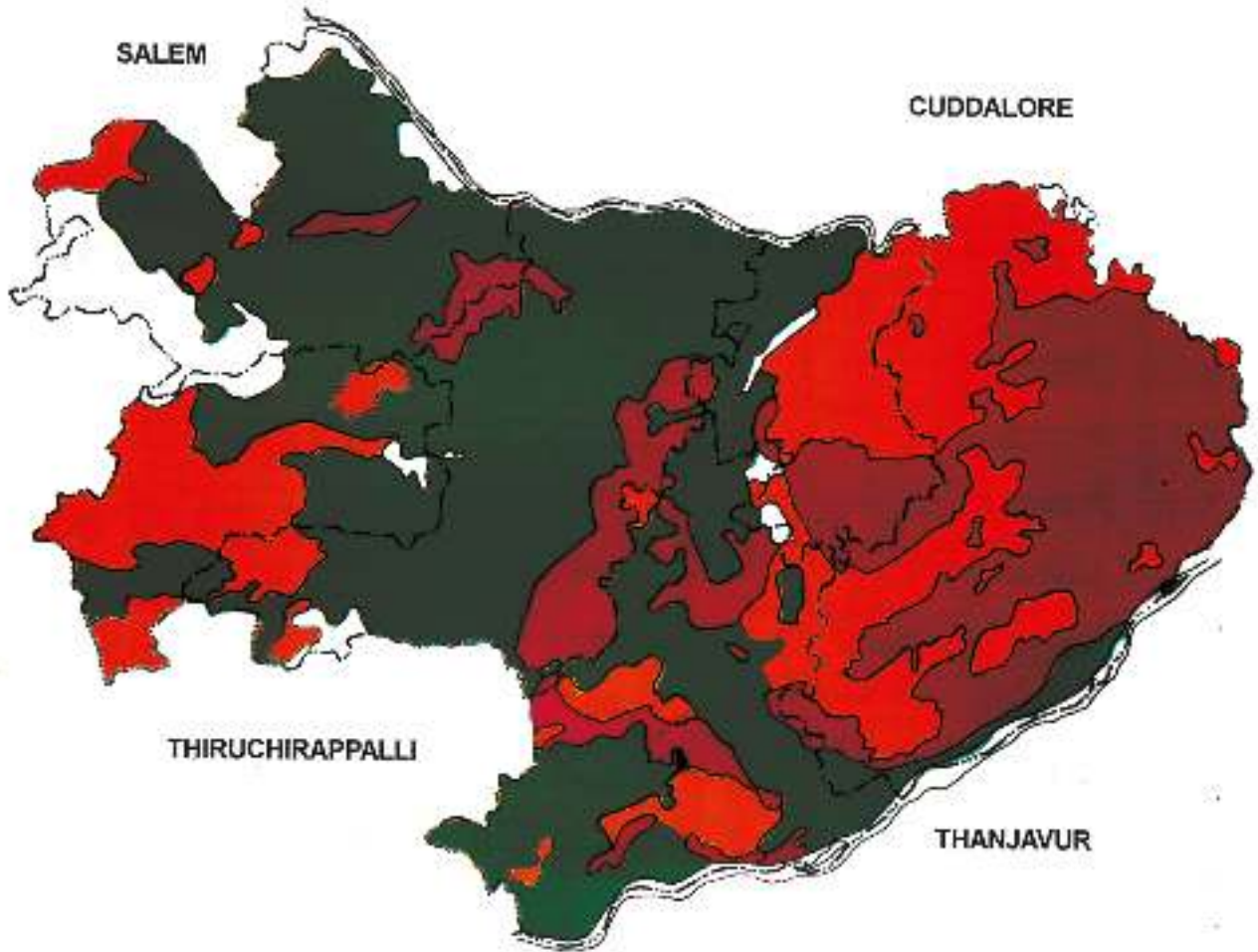
Cation exchange capacity measurements are commonly made as a part of overall assessment of the potential fertility of a soil and possible response to fertilizer application. The clay and organic matter content and mineralogical make up of soils generally responsible for the overall nutrient retention capacity. Low or poor retention capacity reduces the fertilizer use efficiency especially of Nitrogen and Potassium. Chemical and physical processes in soil are connected with ion exchange and include weathering of minerals, nutrient absorption by plants, swelling and shrinking of clay and leaching of electrolytes. Hence ion exchange is considered as the most important which is not retained in the soil or clay complex will get leached out due to high internal drainage. Soil with low CEC and poor in organic matter suffers from this set back.

Soils of Pilamedu, Kallakkudi, Kalathur, Anganur, Ariyalur and Ayichavadi series are high in cation exchange capacity which occupy 1,30,251 (35.29%) hectares out of the total extent of 3,69,107 hectares.




Sl. No.	Category	Soil series	Extent (ha)	Percent to total
1.	Low (Less than 10m.eq/100g)	Pattukkottai, Vallam, Padalur, Mudukulam and Kurumbalur	72,524	19.64
2.	Medium (11-25m.eq/100g)	Madukkur, Kallagam, Palathurai, Thevaiyur, Alangudi, Padugai and Nayakkanpalayam	77,128	20.90
3.	High (Above 25m.eq/100g )	Pilamedu, Kallakkudi, Kalathur, Anganur, Ariyalur, and Ayichavadi	1,30,251	35.29
		Others	63,857	17.30
		Forest	25,347	6.87
Total			3,69,107	100.00

# CATION EXCHANGE CAPACITY




## PERAMBALUR DISTRICT



### REFERENCE

- District boundary 
- Taluk boundary 
- Rivers 

### LEGEND

-  LOW
-  MEDIUM
-  HIGH

## DISTRIBUTION OF SOIL SERIES

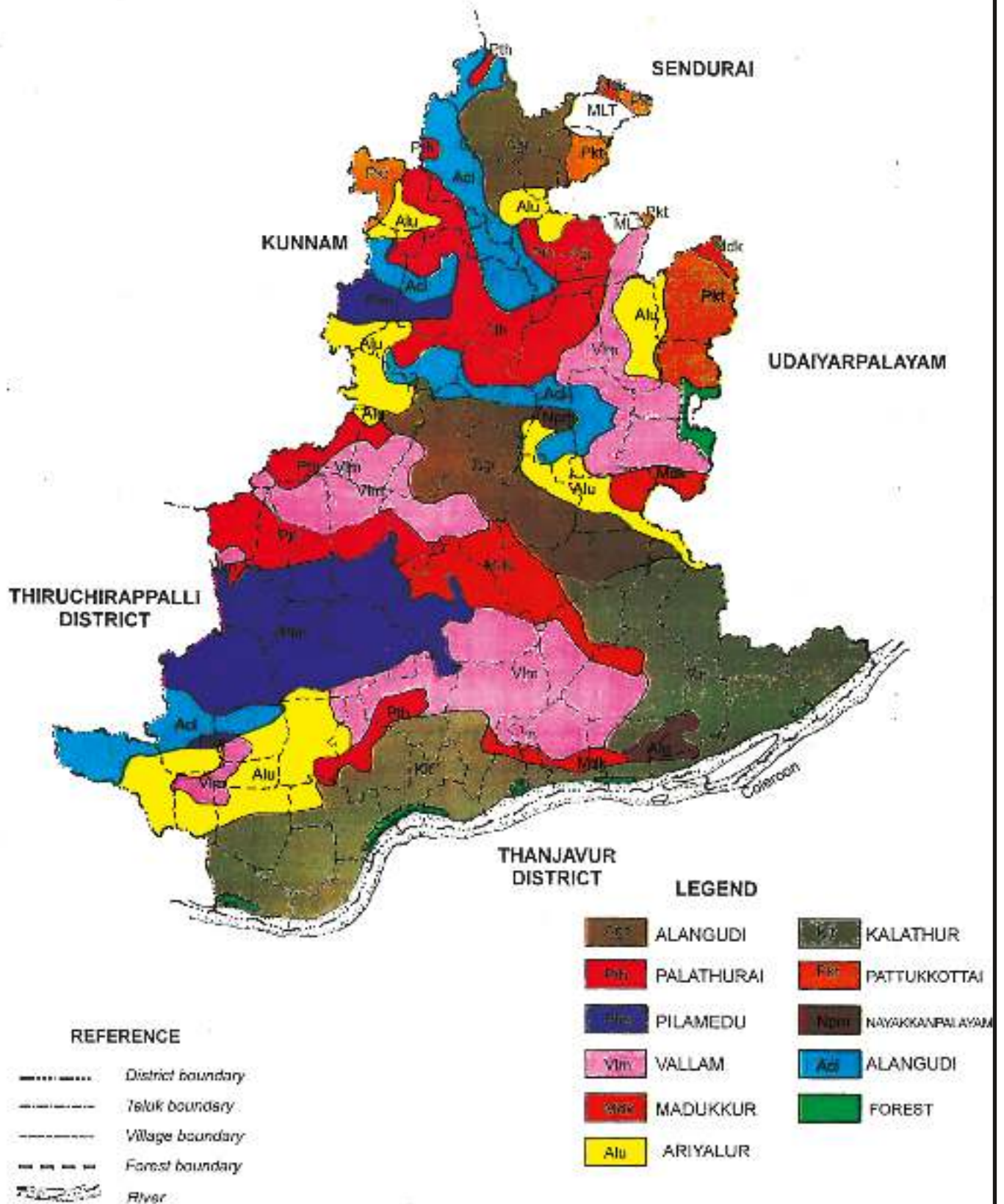
### ARIYALUR TALUK

S.No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Alangudi	Alg	569	0.84
2.	Anganur	Agr	5,811	8.59
3.	Ariyalur	Alu	7,827	11.57
4.	Ayichavadi	Aci	6,064	8.96
5.	Kalathur	Kit	11,749	17.37
6.	Madukkur	Mdk	3,537	5.23
7.	Nayakkanpalayam	Npm	126	0.18
8.	Palathurai	Pth	2,652	3.92
9.	Pattukkottai	Pkt	2,842	4.20
10.	Pilamedu	Plm	6,821	10.08
11.	Vallam	Vlm	11,748	17.36
12.	Palathurai + Ayichavadi	Pth+Aci	1,200	1.77
13.	Palathurai + Vallam	Pth+Vlm	4,358	6.44
14.	Miscellaneous land type	MLT	1,011	1.49
15.	Others	—	1,087	1.60
16.	Forests	—	248	0.40
<b>Total</b>			<b>67,650</b>	<b>100.00</b>



# SOILS

## ARIYALUR TALUK



**VILLAGE WISE DISTRIBUTION OF SOIL SERIES AND FERTILITY INDICES**

**ARIYALUR TALUK**

Sl. No.	Revenue village	Village No.	Distribution of Soil series in Percentage	Fertility Indices (kg/ac)		
				Nitrogen (N)	Phosphorus (P <sub>2</sub> O <sub>5</sub> )	Potassium (K <sub>2</sub> O)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Alanthuraiyarkattalai	59	Agr 80, Klt 20	—	—	—
2.	Ameenabath	37	Pth 85, Alu 15	—	—	—
3.	Aandipattaakkadu	83	Klt 80, Agr 20	—	—	—
4.	Annimangalam	73	Klt 80, Alu 15, Pth 5	95	65	268
5.	Ariyalur North	34-1	Plm 60, Alu 20, Aci 15, Pth 5	48	25	500
6.	Ariyalur south	34-2	Plm 60, Alu 20, Aci 15, Pth 5	48	25	500
7.	Arungal	61	Vlm 40, Mdk 30, Plm 25, Pth 5	—	—	—
8.	Ayyansuthamalli	63	Plm 75, Vlm 15, Alu 10	74	25	363
9.	Ayyanthur	40	Pth+Aci 50, Vlm 30, MLT 20	28	55	136
10.	Azhagiyamanavalam	87	Klt 80, Agr 20	90	95	280
11.	Chennivanam	31	Pkt 55, Agr 30, MLT 15	—	—	—
12.	Chinnapattakkadu	82	Vlm 40, Klt 35, Mdk 25	91	19	247
13.	Elakkurichi	86	Klt 40, Vlm 25, Mdk 20, Alg 15	94	95	260

(1)	(2)	(3)	(4)	(5)	(6)	(7)
14.	Elandakkudam	69	Klt 55, Alu 35, Plm 10	87	47	224
15.	Govindapuram	33	Pkt 40, Pth 25, Alu 20, Aci 15	—	—	—
16.	Idayathankudi	57	Agr 65, Alu 20, Aci 10; Mdk 5	—	—	—
17.	Iluppaiyur	29	Agr 70, Aci 20, Pth 10	97	28	441
18.	Kadugur	39	Pth+Aci 50, Aci 25, Alu 15, Pth 10	—	—	—
19.	Kayarlapath	36	Pth 60, Plm 20, Aci 20	80	7	176
20.	Kalaikkudi	81	Klt 40, Vlm 20, Alg 20, Mdk 20	—	—	—
21.	Kallankurichi	38	Aci 60, Pth 40	—	—	—
22.	Kamarasavalli	88	Klt 70, Alg 30	54	18	431
23.	Kandiratheertham	72	Klt 100	85	46	280
24.	Karupillakkattalai	60	Mdk 55, Agr 30 Klt 10, Vlm 5	46	20	127
25.	Karalyavetti	68	Klt 100	—	—	—
26.	Kavanur	43	Pkt 80, Alu 10 Mdk 10	—	—	—
27.	Kheezakolathur	78	Vlm 50, Klt 35 Mdk 10, Plm 5	96	17	210
28.	Kheezakavattankurichi	74	Klt 50, Pth 20, Vlm 15, Alu 15	94	92	259
29.	Kheezapazhur	55	Plm 40, Vlm 35, Pth 15, Mdk 10	85	26	160
30.	Kheezaiyur	54	Vlm 50, Plm 25, Pth 20, Pth+Plm 5	94	20	217

(1)	(2)	(3)	(4)	(5)	(6)	(7)
31.	Kovil Esanai - East	66-1	Alu 60, Vlm 30, Klt 10	85	83	464
32.	Kovil Esanai West	66-2	Alu 60, Vlm 30, Klt 10	85	83	464
33.	Koviloor	85	Klt 100	110	132	206
34.	Kulamanickam East	70-2	Klt 100	93	92	201
35.	Kulamanickam West	70-1	Klt 100	93	92	201
36.	Kuruvadi	90	Klt 100	70	60	248
37.	Mallur	49	Agr 60, Alu 40	—	—	—
38.	Manjamēdu	76	Klt 100	—	—	—
39.	Melapazhur	53	Pth 75, Plm 20, Vlm 5	82	54	150
40.	Melakaruppur	56	Vlm 40, Agr 30, Pth 15, Mdk 15	68	54	312
41.	Nagamangalam	45	Vlm 80, Mdk 20	50	33	210
42.	Oriyur	89	Klt 100	—	—	—
43.	Ottakkovil	32	Aci 55, Agr 20, Alu 15, Pth 10	65	43	200
44.	Palinganatham	65	Aci 55, Alu 45	95	23	253
45.	Parppanacheri	51	Pth+Vlm 60, Vlm 30, Alu 10	105	30	309
46.	Periayanaagalur	41	Pth 60, Vlm 25, Aci 15	—	—	—
47.	Periyathirukkonam	58	Mdk 35, Alu 35, Agr 25, Vlm 5	—	—	—
48.	Poondi	52	Plm 45, Pth 35, Vlm 20	—	—	—
49.	Pottaveli	28	Agr 40, Alu 30, Pth 15, Mdk 15	—	—	—
50.	Puduppalaiyam	47	Aci 40, Npm 30, Alu 30	118	43	196

(1)	(2)	(3)	(4)	(5)	(6)	(7)
51.	Pungankuzhi	84	Klt 100	—	—	—
52.	Rayampuram	30	Agr 40, MLT 30, Mdk 10, Alu 10 Pkt 10	—	—	—
53.	Reddipalaiyam	46	Aci 50, Vlm 40, Alu 10	—	—	—
54.	Sannavoor-North	64-1	Plm 60, Aci 25, Alu 15	85	9	225
55.	Sannavoor-South	64-2	Plm 60, Aci 25, Alu 15	85	9	225
56.	Saththamangalam	62	Plm 60, Aci 25, Alu 15	48	58	320
57.	Siruvanoor	48	Agr 85, Aci 15	47	67	183
58.	Thehur	42	Alu 50, Vlm 40, Pth 10	—	—	—
59.	Thirumaanoor	77	Klt 100	87	18	260
60.	Thirumazhappaadi	71	Klt 100	95	18	172
61.	Thuthoor	91	Klt 100	70	52	352
62.	Vaaranavaasi	50	Vlm 70, Agr 30	95	23	302
63.	Vadugapalaiyam	79	Klt 70, Agr 20, Mdk 10	70	14	326
64.	Venganoor	67	Alu 40, Aci 40, Vlm 15, Plm 5	95	19	278
65.	Veththiyur	75	Klt 80, Alu 20	95	23	216
66.	Vilaangudi	44	Pkt 65, Mdk 20, Vlm 15	64	62	140
67.	Vizhuppanankurichi	80	Klt 65, Mdk 20, Vlm 15	90	12	429
68.	Walajah nagaram	35	Pth 30, Aci 30, Agr 25, Alu 15	99	33	146

## LAND CAPABILITY CLASSIFICATION

### ARIYALUR TALUK

S.No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations	Needs
1.	II e - Lands that have moderate limitations for sustained use under agriculture	Nayakkanpalayam Palathurai Palathurai + Ayichavadi and Palathurai-Vallam	8,336	12.32	Erosion	Soil conservation
	II s - Lands that have moderate limitations for sustained use under agriculture	Anganur Ariyalur Kalathur and Madukkur	28924	42.75	Slow permeability	Textural improvement
2.	III e - Lands that have severe limitations for sustained use under agriculture	Pattukkottai and Vallam	14,590	21.57	Erosion	Soil conservation and cultivation of suitable crops
	III es - Lands that have severe limitations for sustained use under agriculture	Ayichavadi and Pilamedu	12,885	19.01	Erosion and slow permeability	Soil conservation and improvement of drainage
3.	IV s - Lands that have very severe limitations for sustained use under agriculture	Alangudi	569	0.84	Salinity and alkalinity	Soil reclamation and addition of heavy doses of organic matter
		Miscellaneous Land Type	1011	1.50		
		Others	1087	1.60	—	—
		Forest	248	0.40	—	—
<b>Total</b>			<b>87,650</b>	<b>100.00</b>	—	—

**Class**

- II** Lands that have moderate limitations for sustained use under agriculture
- III** Lands that have severe limitations for sustained use under agriculture
- IV** Lands that have very severe limitations for sustained use under agriculture

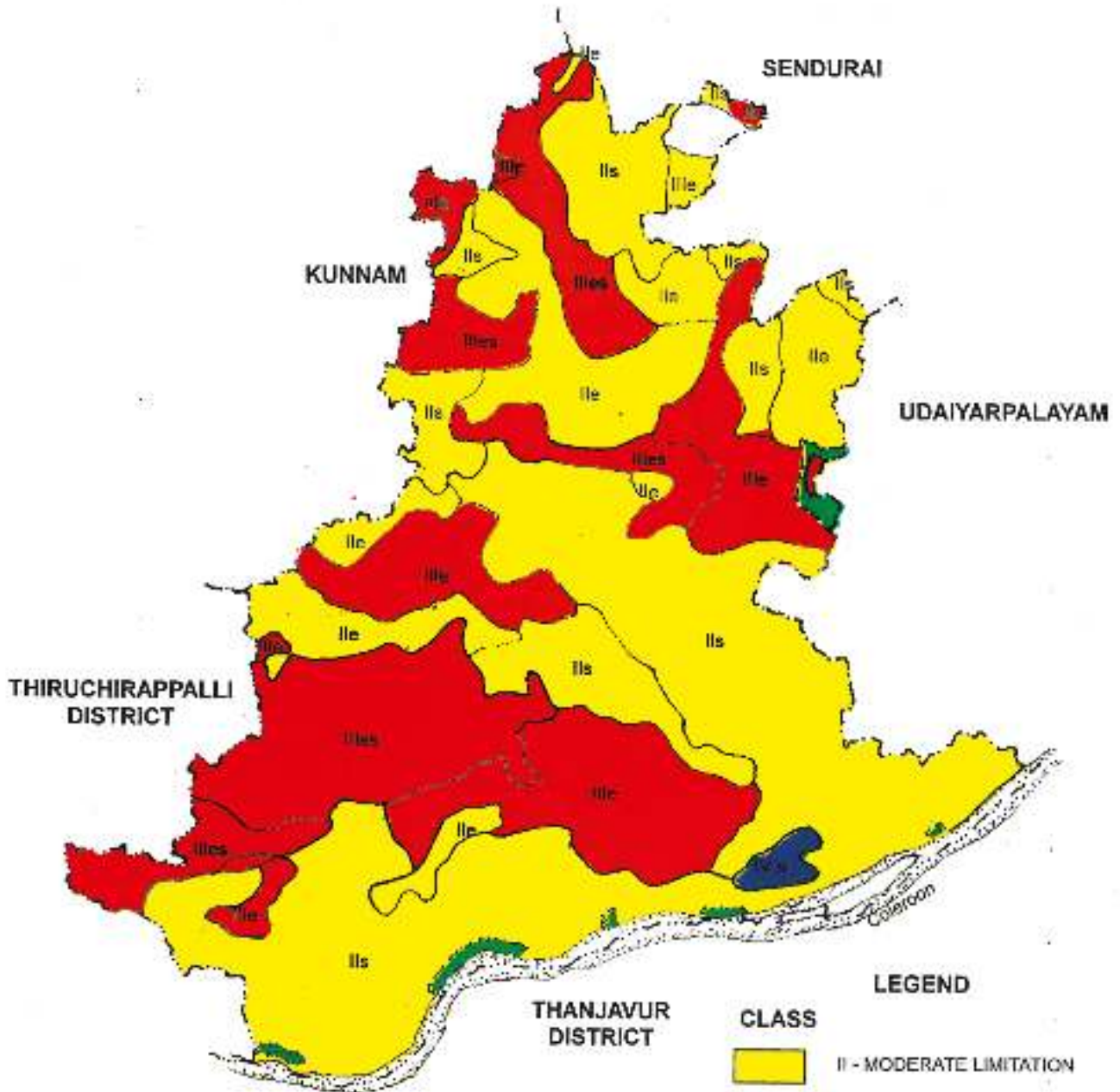
**Sub class**

- e** erosion and run off
- s** root zone limitation
- w** wetness



# LAND CAPABILITY

## ARIYALUR TALUK






### REFERENCE

-  District boundary
-  Taluk boundary
-  River
-  Forest

### LEGEND

#### CLASS

-  II - MODERATE LIMITATION
-  III - SEVERE LIMITATION
-  IV - VERY SEVERE LIMITATION

#### SUB CLASS

- s - SOIL LIMITATION
- e - EROSION LIMITATION

## LAND IRRIGABILITY CLASSIFICATION

### ARIYALUR TALUK

S. No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations
1.	2 s - Lands that have moderate limitations for sustained use under irrigation	Madukkur	3,537	5.23	Surface run-off
	2 sd - Lands that have moderate limitations for sustained use under irrigation	Kalathur, Palathurai Palathurai+Ayichavadi Palathurai + Vallam and Anganur	25,770	38.08	Heavy texture and poor drainage
	2 st - Lands that have moderate limitations for sustained use under irrigation	Ariyalur and Nayakkanpalayam	7,953	11.75	Topography and texture
2.	3 st - Lands that have severe limitations for sustained use under irrigation	Pattukkottai	2,842	4.20	Topograph
	3 sd - Lands that have severe limitations for sustained use under irrigation	Ayichavadi and Pilamedu	12,885	19.04	Heavy texture and poor drainage
	3 st - Lands that have very severe limitations for sustained use under irrigation	Vallam	11,748	17.36	Topography, Poor depth and light texture
3.	4 sd - Lands that have severe limitations for sustained use under irrigation	Alangudi	569	0.84	Poor drainage and heavy texture
		Miscellaneous Land Type	1011	1.50	—
		Others	1087	1.60	—
		Forest	248	0.40	—
<b>Total</b>			<b>67,650</b>	<b>100.00</b>	<b>—</b>

**Class**

- 2** Lands that have moderate soil limitations for sustained use under irrigation
- 3** Lands that have severe soil limitations for sustained use under irrigation
- 4** Lands that have very severe soil limitations for sustained use under irrigation

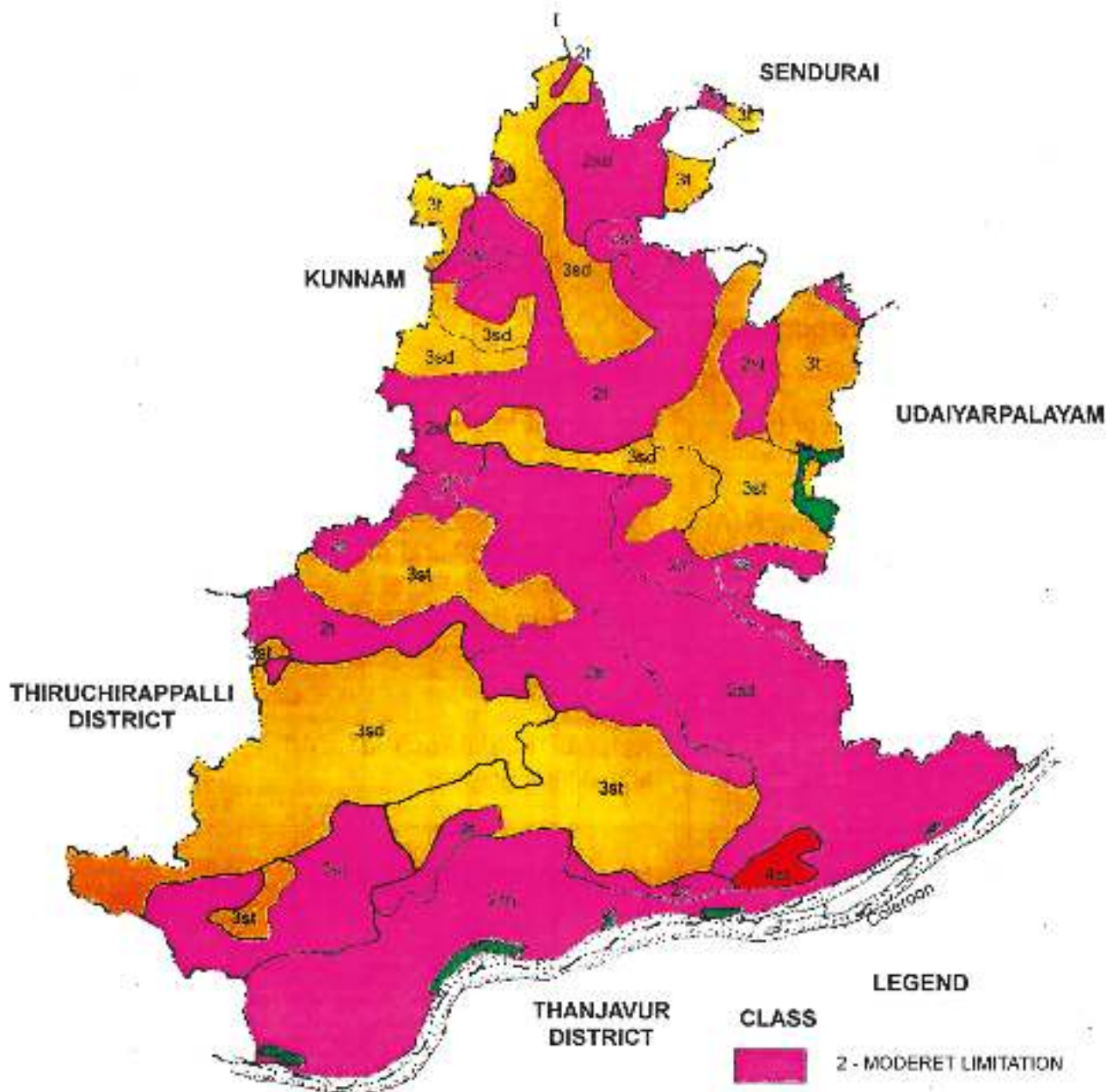
**Sub class**

- s** soil problem
- t** topography
- d** drainage



# LAND IRRIGABILITY

## ARIYALUR TALUK






### REFERENCE

-  District boundary
-  Taluk boundary
-  River
-  Forest

### LEGEND

#### CLASS

-  2 - MODERET LIMITATION
-  3 - SEVERE LIMITATION
-  4 - VERY SEVERE LIMITATION

#### SUB CLASS

- s - SOIL LIMITATION
- d - DRAINAGE LIMITATION
- t - TOPOGRAPHY LIMITATION

## SOIL PRODUCTIVITY

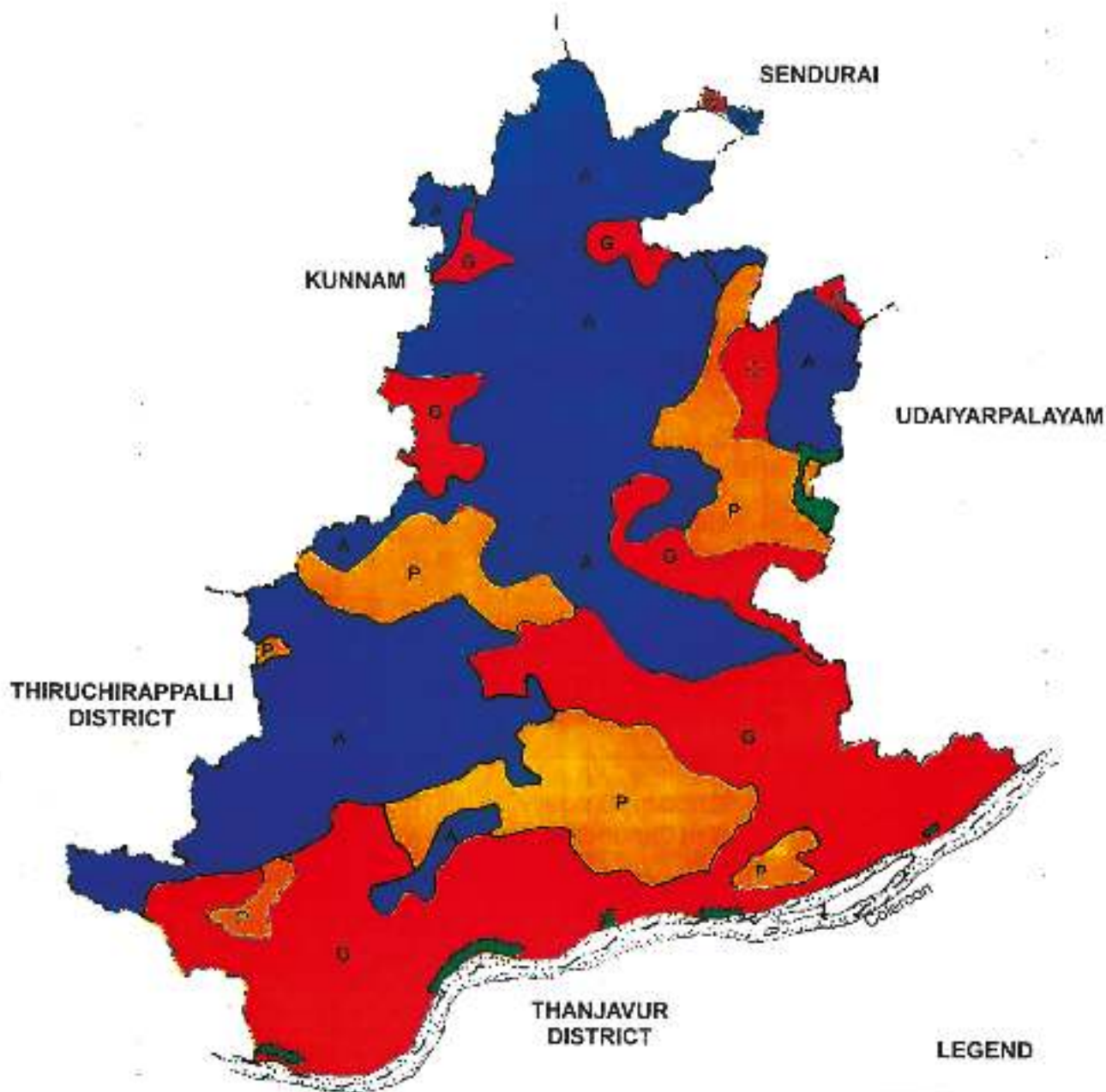
### ARIYALUR TALUK

S.No.	Productivity		Soil series	Extent (ha)	Per cent to total
	Ratings	Groupings			
1.	8 - 19	Poor (P)	Alangudi and Vallam	12,317	18.20
2.	20 - 34	Average (A)	Anganur, Ayichavadi, Pilamedu, Palathurai + Ayichavadi, Palathurai + Vallam and Pattukkottai	29,748	43.96
3.	35 - 64	Good (G)	Ariyalur, Kalathur, Madukkur and Nayakkanpalayam	23,239	34.34
			Miscellaneous Land Type	1011	1.50
			Others	1,087	1.60
			Forest	248	0.40
<b>Total</b>				<b>67,650</b>	<b>100.00</b>



# SOIL PRODUCTIVITY

## ARIYALUR TALUK



### REFERENCE

- District boundary
- Taluk boundary
- River
- Forest

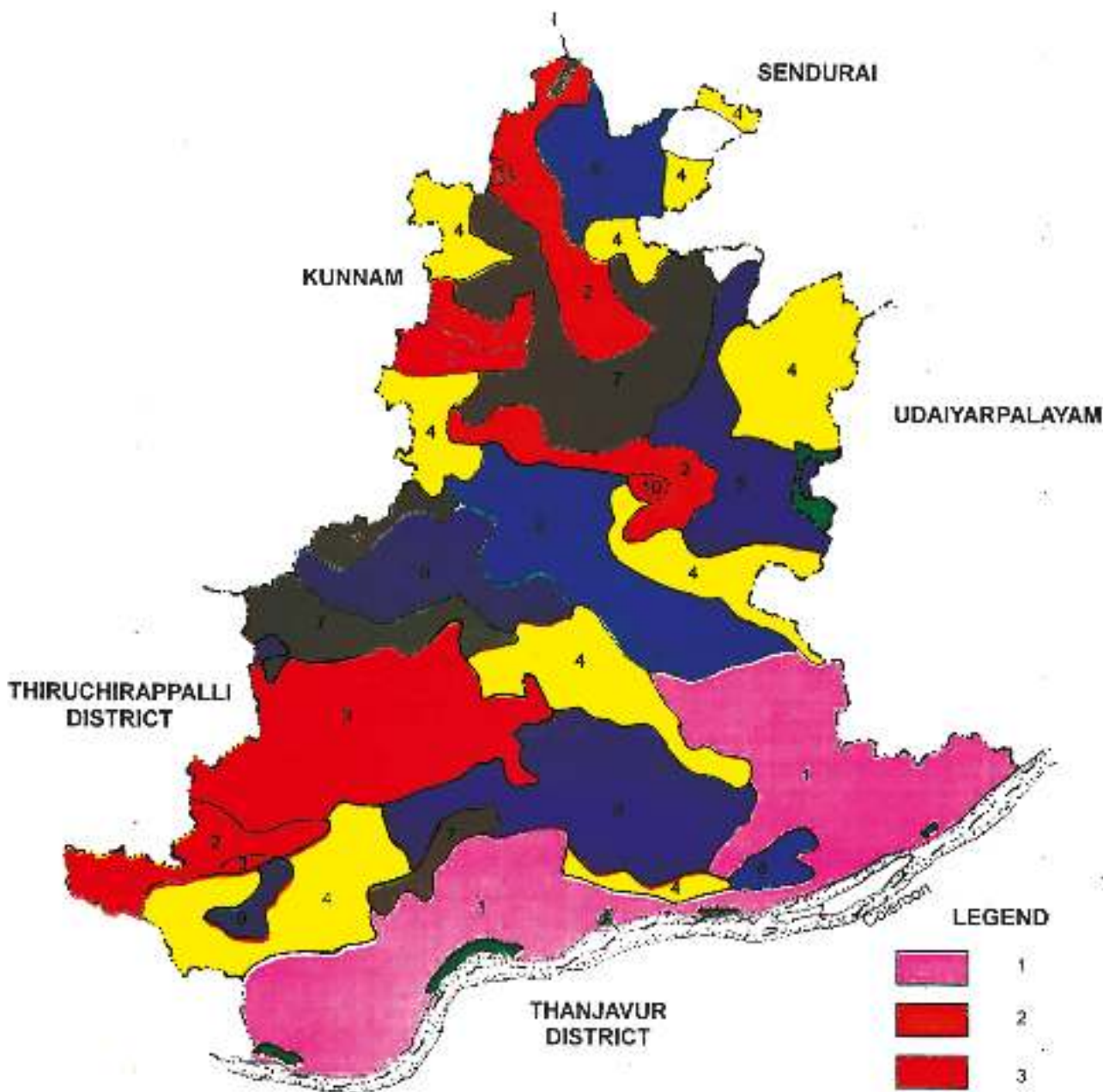
## CROPS GROWN

### ARIYALUR TALUK

S.No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Banana, Rice and sugarcane	Millets and Pulses	1	Kalathur
2.	Cotton, Groundnut, Millets and Rice	Groundnut, Gingelly, Millets and Redgram	4	Ariyalur, Madukkur and Pattukkottai
3.	Chillies, Millets, Redgram and Rice	Cumbu, Castor and Gingelly	7	Palathurai, Palathurai+Ayichavadi and Palathurai+Vallam
4.	—	Cholam, Gingelly and Groundnut	8	Anganur and Alangudi
5.	Sorghum, Groundnut, Onion and Redgram	Cashew, Groundnut, Millets and Redgram	9	Padalur and Vallam
6.	Groundnut, Onion and Redgram and Sorghum	Groundnut	10	Mudukulam and Nayakkanpalayam



# CROPS GROWN ARIYALUR TALUK



**REFERENCE**

	District boundary
	Taluk boundary
	River
	Forest

**LEGEND**

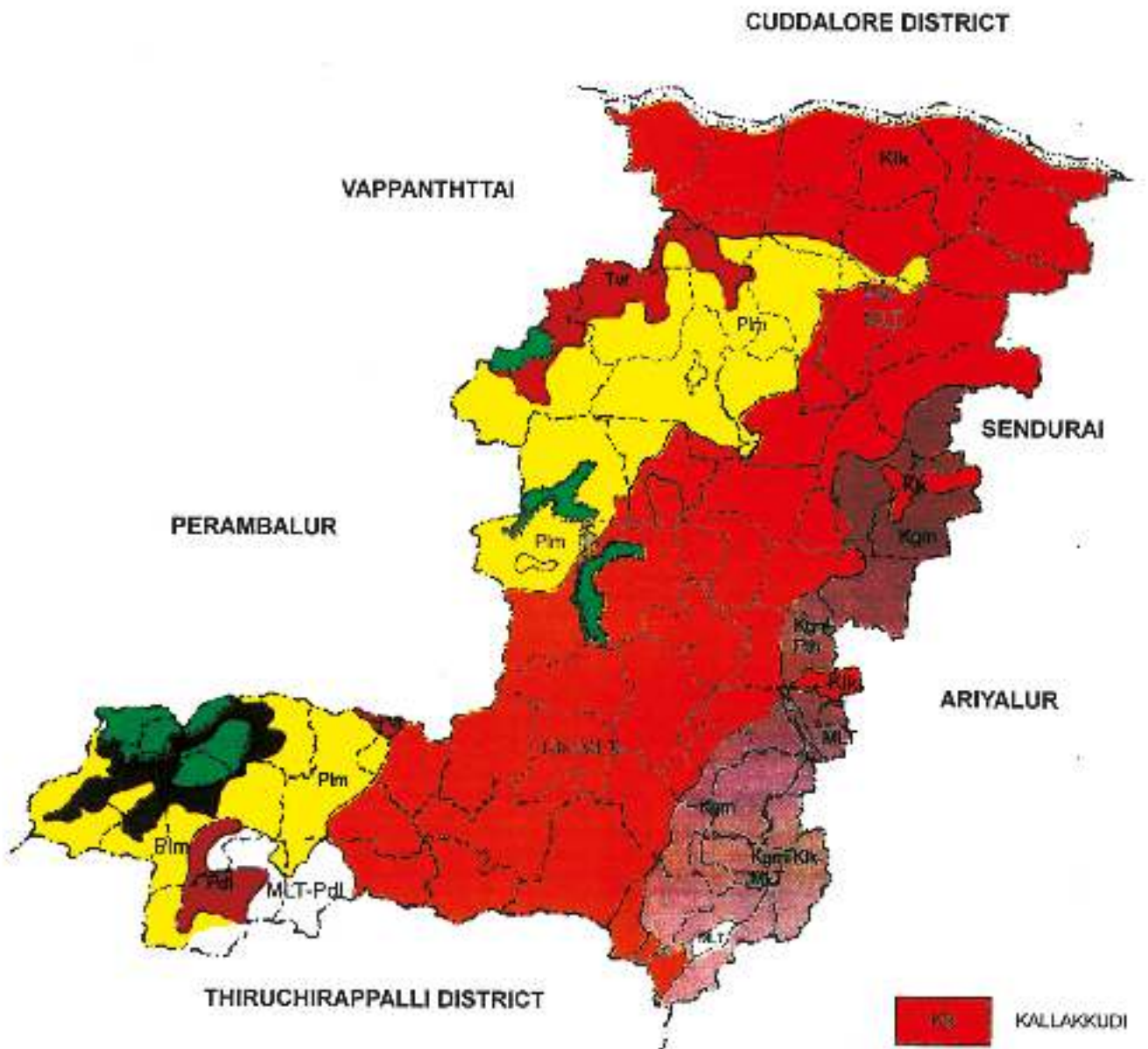
	1
	2
	3
	4
	7
	8
	9
	10
	OTHERS

**DISTRIBUTION OF SOIL SERIES**

**KUNNAM TALUK**

S.No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Kallagam	Kgm	7,351	8.68
2.	Kallakkud	Klk	23,122	27.31
3.	Kallakkudi (surface salinity)	Klk (ss)	375	0.44
4.	Padalur	Pdl	1,652	1.95
5.	Pilamedu	Plm	16,741	19.77
6.	Thevaiyur	Tvr	2023	2.39
7.	Kallagam+Kallakkudi + Miscellaneous Land Type	Kgm + Klk + MLT	2,552	3.01
8.	Kallagam+Palathurai + Miscellaneous Land Type	Kgm + Pth + MLT	1,266	1.50
9.	Kallakkudi + Miscellaneous Land Type	Klk + MLT	20,340	24.02
10.	Padalur + Palathurai	Pdl + Pth	1,871	2.21
11.	Miscellaneous Land Type	MLT	2,396	2.83
12.	Others		713	0.84
13.	Forest		4,278	5.05
<b>Total</b>			<b>84,680</b>	<b>100.00</b>

# SOILS KUNNAM TALUK



## REFERENCE

- District boundary ..... - - - - -
- Taluk boundary ..... - - - - -
- Village boundary ..... - - - - -
- Rivers ..... - - - - -
- Forest boundary [ - - - - - ]

-  Kk KALLAKKUDI
-  Pim PILAMEDU
-  Kgm KALLAGAM
-  Pd PADALUR
-  Tw TEVAYUR
-  Padalur - Palathurai
-  Reserve Forest

## VILLAGE WISE DISTRIBUTION OF SOIL SERIES AND FERTILITY INDICES

### KUNNAM TALUK

Sl. No.	Revenue village	Village No.	Distribution of Soil series in Percentage	Fertility Indices (kg/ac)		
				Nitrogen (N)	Phosphorus (P <sub>2</sub> O <sub>5</sub> )	Potassium (K <sub>2</sub> O)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Aadhanur-North	70-1	Klk-MLT 100	—	—	—
2.	Aadhanur-South	70-2	Klk-MLT 100	—	—	—
3.	Agaram sihoor	33	Klk 100	—	—	—
4.	Asoor	48	Klt 45, Plm 35, Klk-MLT 20	—	—	—
5.	Aththiyur-North	32-1	Klk 100	—	—	—
6.	Aththiyur-South	32-2	Klk 100	—	—	—
7.	Aaththur	110	Kgm-Klk-MLT 100	—	—	—
8.	Azhagiripalaiyam	106	Kgm-Pth-MLT 40, Klk 40, Klk (ss) 20	—	—	—
9.	Chettikkulam	93	Plm 60, Pdl-Pth 30, Kbr 10	—	—	—
10.	Chithali-East	52-2	Plm 90, Klk 10	—	—	—
11.	Chithali-West	52-1	Plm 90, Klk 10	—	—	—
12.	Elandhalappatti	86	Pdl 80, Plm 20	—	—	—
13.	Ezhumoor-East	47-1	Plm 90, Klk 10	—	—	—
14.	Ezhumoor-West	47-2	Plm 90, Klk 10	—	—	—
15.	Gudaloor	72	Klk-MLT 75, Kgm 25	—	—	—
16.	Irur	96	Plm 70, Pdl-Pth 20, Pdl 10	—	—	—
17.	Iyinapuram	101	Klk-MLT 100	—	—	—
18.	Kadoor-North	39-1	Kgm 75, Klk 25	—	—	—

(1)	(2)	(3)	(4)	(5)	(6)	(7)
19.	Kadoor-South	39-2	Kgm 75, Kik 25	—	—	—
20.	Kannappadi	90	Pdl 95, Plm 5	—	—	—
21.	Kaarai-West	99-2	Plm 60, Kik-MLT 35, Pdl 5	—	—	—
22.	Karai-West	99-1	Plm 60, Kik-MLT 35, Pdl 5	—	—	—
23.	Keezhapperambalur	35	Kik 100	—	—	—
24.	Keezhappuliyur-North	53-1	Plm 75, Tvr 25	94	54	135
25.	Keezhappuliyur-South	53-2	Plm 75, Tvr 25	94	54	135
26.	Keezhumathur-North	31-1	Kik 90, Plm 10	—	—	—
27.	Keezhumathur-South	31-2	Kik 90, Plm 10	—	—	—
28.	Kolaththur-East	102-2	Kik-MLT 100	65	18	135
29.	Kolaththur-West	102-1	Kik-MLT 100	65	18	135
30.	Kolakkanatham	100	Kik-MLT 100	65	33	303
31.	Kooththur	71	Kgm 50, Kik-MLT 30, Kik 20	—	—	—
32.	Kottarai	69	Kik-MLT 100	65	14	200
33.	Kunnam	49	Kik 65, Kgm 35	49	33	400
34.	Melamathur	105	Kgm-Pth-MLT 40, Kik 40, Kik (ss) 20	59	36	320
35.	Nakka selam	87	Pdl 60, Plm 40	78	70	366
36.	Nannai-East	44-2	Plm 80, Kik-MLT 20	—	—	—
37.	Nannai-West	44-1	Plm 80, Kik-MLT 20	—	—	—
38.	Naranamangalam	95	Pdl-Pth 45, Plm 40, Kbr 15	35	14	150
39.	Nattarmangalam	94	Plm 40, Pdl-Pth 40, Kbr 20	81	22	247
40.	Nochikkulam	109	Kgm-Kik-MLT 80, Kgm 20	87	12	334

(1)	(2)	(3)	(4)	(5)	(6)	(7)
41.	Olaippaadi-West	37-1	Klk-MLT 70, Plm 20, Pdl 10	81	6	338
42.	Olaippaadi-East	37-2	Klk-MLT 70, Plm 20, Pdl 10	81	6	338
43.	Ohalur-East	30-2	Klk 100	72	22	470
44.	Ohalur-West	30-1	Klk 100	72	22	470
45.	Othiyam	51	Klk-MLT 90, Klk 5, Plm 5	—	—	—
46.	Paadalr-East	97 - 2	Pdl 35, Pdl-MLT 35, Plm30	—	—	—
47.	Paadalur-West	97 - 1	Pdl 35, Pdl-MLT 35, Plm 30	—	—	—
48.	Paravai-East	43 - 2	Klk 40, Plm 35, Klk-MLT 25	—	—	—
49.	Paravai-West	43 - 1	Klk 40, Plm 35, Klk-MLT 25	—	—	—
50.	Pennakonam-North	28 - 1	Klk 90, Tvr 10	47	37	310
51.	Pennakonam-South	28 - 2	Klk 90, Tvr 10	74	37	310
52.	Perali-North	68 - 1	Plm 50, Klk-MLT 40, MLT 10	48	42	278
53.	Perali-South	68 - 2	Plm 50, Klk-MLT 40, MLT 10	48	42	278
54.	Periyammapaiyam	50	Klk-MLT 90, Klk 10	54	9	118
55.	Periavenmani-East	40 - 2	Kgm 40, Klk 40, Klk-Kgm-Pth-MLT 20	55	9	117
56.	Periavenmani-West	40 - 1	Kgm 40, Klk 4, Klk-Kgm-Pth-MLT 20	55	14	155
57.	Perumathur-North	45 - 1	Plm 40, Tvr 30, Klk 30	—	—	—
58.	Perumathur-South	45 - 2	Plm 40, Tvr 30, Klk 30	—	—	—

(1)	(2)	(3)	(4)	(5)	(6)	(7)
59.	Pudhuvettakkudi	42	Kgm 55, Kik 45	—	—	—
60.	Pujangarayanallur	108	Kgm 90, Kgm-Kik-MLT 10	—	—	—
61.	Saththanoor	73	Kik-MLT 100	—	—	—
62.	Sillakkudi-North	67 - 1	Plm 100	—	—	—
63.	Sillakkudi-South	67 - 2	Plm 100	—	—	—
64.	Sirugambur-East	74 - 1	Kik-MLT 100	55	14	155
65.	Sirugambur-West	74 - 2	Kik-MLT 100	55	14	155
66.	Sirumathur	46	Plm 65, Tvr 35	—	—	—
67.	Siruvayalooors	91	Plm 60, Kbr 30, Pdl 10	—	—	—
68.	Therali	98	MLT-Pdl 100	—	—	—
69.	T.Kalathur	88	Plm 60, Pdl 40	49	28	156
70.	Thenoor	89	Pdl 100	91	51	252
71.	Thimmoor	62	Kgm 60, Kik-MLT 30, Plm 10	57	33	460
72.	Tirumaththurai	27	Kik 100	—	—	—
73.	Thondappaadi	107	Kik 55, Kgm 35, Kik-MLT 10	—	—	—
74.	Thungapuram-North	38 - 1	Kik 60, Kgm 40	61	11	194
75.	Thungapuram-South	38 - 2	Kik 60, Kgm 40	61	11	194
76.	Vadakkaloor	29	Kik 80, Plm 20	65	31	317
77.	Varagur	41	Kik 95, Plm 5	54	9	111
78.	Varagupadi	75	Kik-MLT 70, Plm 20, Pdl 10	—	—	—
79.	Vashistapuram	34	Kik 100	—	—	—
80.	Vayalappadi	36	Kik 100	—	—	—

## LAND CAPABILITY CLASSIFICATION

### KUNNAM TALUK

S.No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations	Needs
1.	III e - Lands that have severe limitations for sustained use under agriculture	Kallagam, Kallagam + Kallakkudi + Miscellaneous Land Type and Kallagam + Palathurai + Miscellaneous Land Type	11,169	13.20	Erosion	Soil conservation
	III s - Lands that have severe limitations for sustained use under agriculture	Padalur and Padalur + Palathurai	3,523	4.16	Alkalinity and salinity	Textural improvement and cultivation of suitable crops
	III es - Lands that have severe limitations for sustained use under agriculture	Kallakkudi, Pilamedu, Thevalyur and Kallakkudi + Miscellaneous Land Type	62,226	73.48	Erosion alkalinity and slow permeability	Soil reclamation and conservation, drainage improvement and cultivation of suitable crops
2.	IV s - Lands that have very severe limitations for sustained use under agriculture	Kallakkudi (surface salinity)	375	0.44	Salinity and slow permeability	Drainage improvement and cultivation of suitable crops
		Miscellaneous Land Type	2,396	2.83	—	—
		Others	713	0.84	—	—
		Forest	4,278	5.05	—	—
<b>Total</b>			<b>84,680</b>	<b>100.00</b>	—	—

**Class**

**III** Lands that have severe limitations for sustained use under agriculture

**IV** Lands that have very severe limitations for sustained use under agriculture

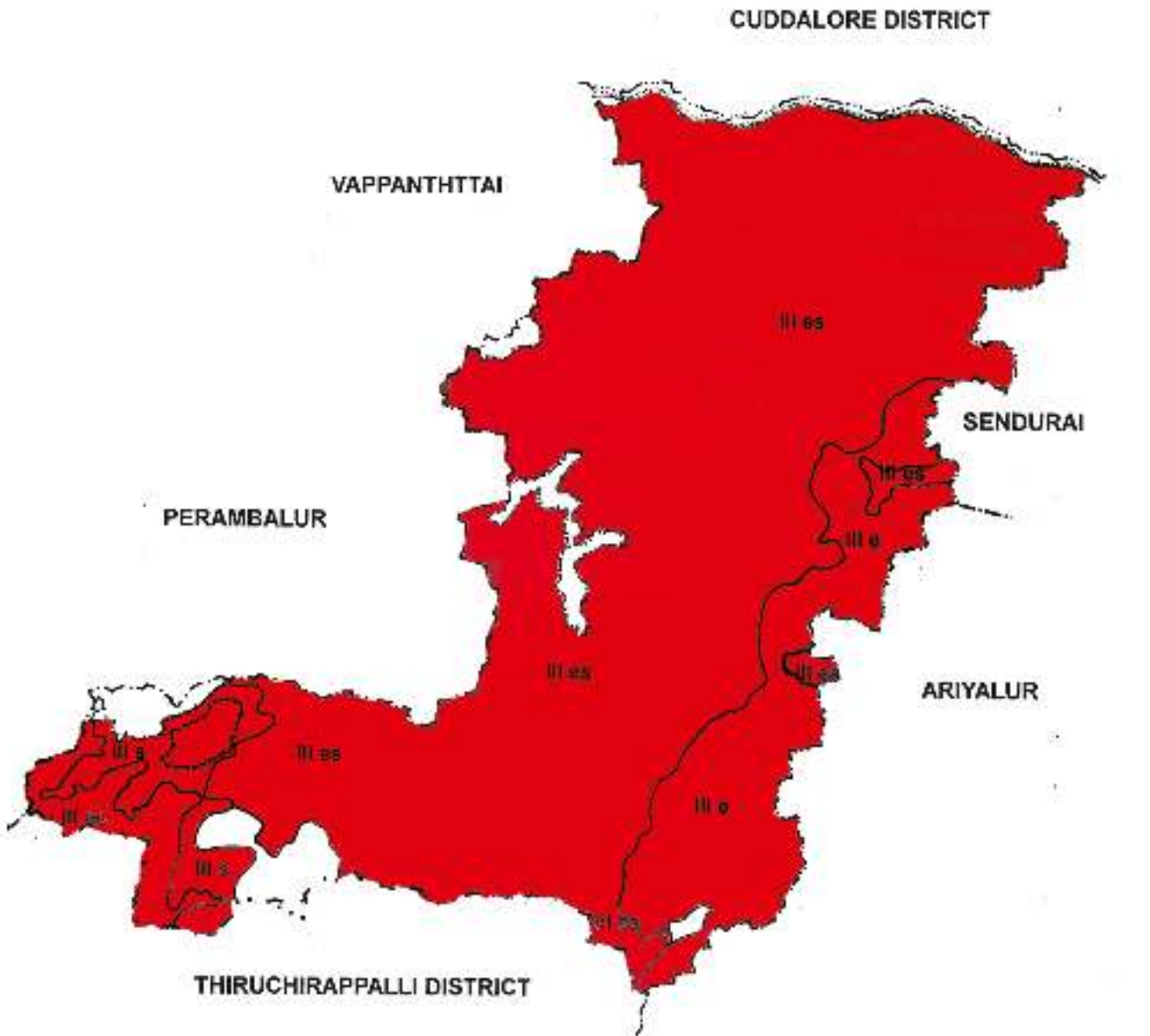
**Sub class**

**e** erosion and run off

**s** root zone limitation

**w** wetness

# LAND CAPABILITY KUNNAM TALUK



### REFERENCE

- District boundary
- Taluk boundary
- Rivers
- Forest boundary

### LEGEND

#### CLASS

III - SEVERE LIMITATION

#### SUB CLASS

- s - SOIL LIMITATION
- t - EROSION LIMITATION

## LAND IRRIGABILITY CLASSIFICATION

### KUNNAM TALUK

S. No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations
1.	3 1 - Lands that have severe limitations for sustained use under irrigation	Kallagam, Kallagam + Kallakkudi + Miscellaneous Land Type, Kallagam + Palathurai + Miscellaneous Land Type	11,169	13.19	Topography
	3 sd - Lands that have severe limitations for sustained use under irrigation	Kallakkudi, Pilamedu and Kallakkudi + Miscellaneous Land Type	60,203	71.10	Alkalinity, heavy texture and poor drainage
	3 st - Lands that have severe limitations for sustained use under irrigation	Padalur, Thevaiyur and Padalur + Palathurai	5,546	6.55	Topography and light texture
2.	4 s - Lands that have very severe limitations for sustained use under irrigation	Kallakkudi (surface salinity)	375	0.44	Salinity and heavy texture
		Miscellaneous Land Type	2,396	2.83	—
		Others	713	0.84	—
		Forest	4,278	5.05	—
<b>Total</b>			<b>84,680</b>	<b>100.00</b>	—

**Class**

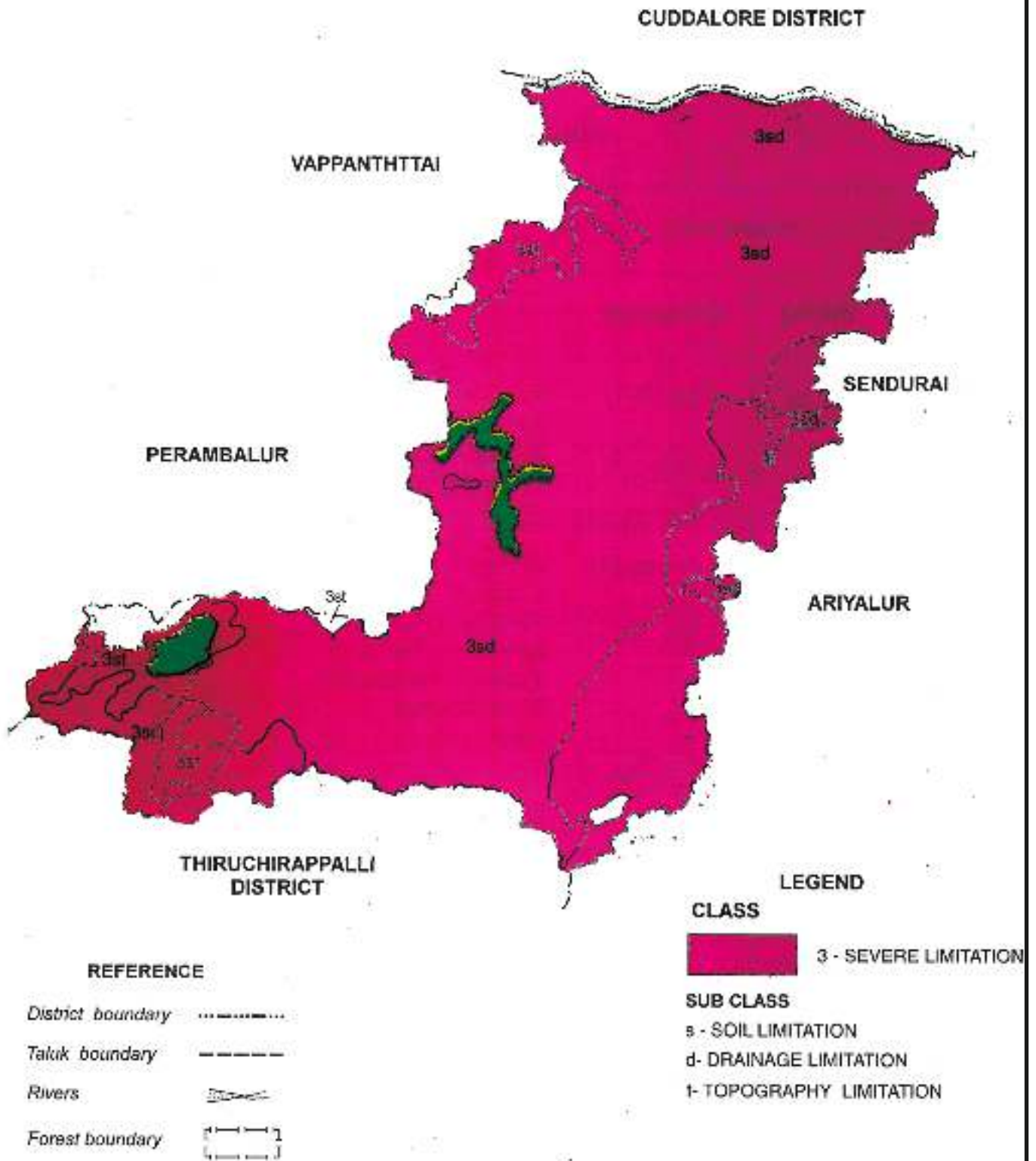
- 3** Lands that have severe soil limitations for sustained use under irrigation
- 4** Lands that have very severe soil limitations for sustained use under irrigation

**Sub class**

- s** soil problem
- t** topography
- d** drainage

# LAND IRRIGABILITY

## KUNNAM TALUK

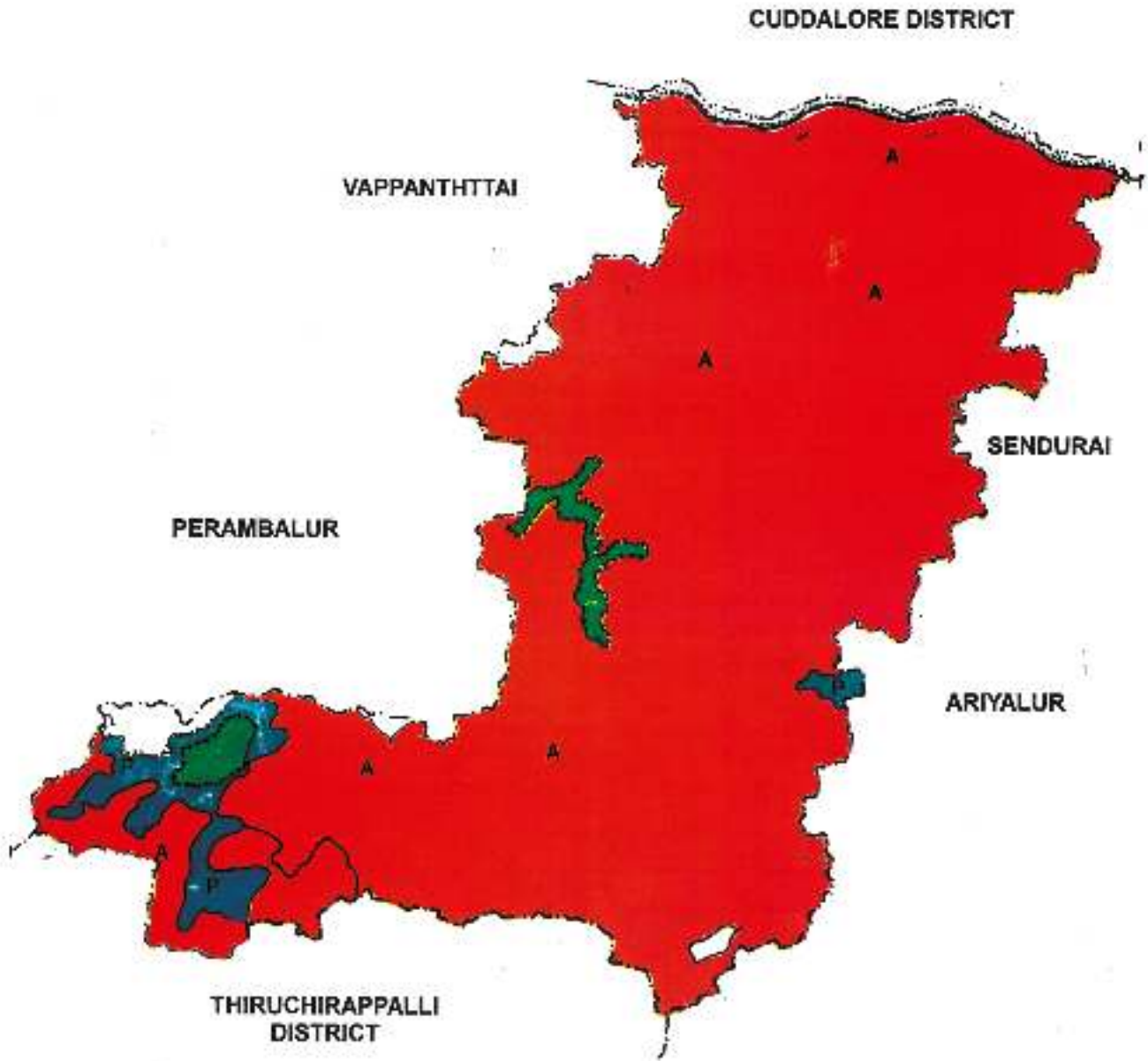


## SOIL PRODUCTIVITY

### KUNNAM TALUK

S.No.	Productivity		Soil series	Extent (ha)	Per cent to total
	Rating	Groupings			
1.	8 - 19	Poor (P)	Kallakkudi (surface salinity), Padalur and Padalur+palathurai	3,898	4.60
2.	20 - 34	Average (A)	Kallagam, Kallakkudi, Pilamedu, Thevaiyur, Kallagam+Kallakkudi+ Miscellaneous Land Type and Kallakkudi+ Miscellaneous Land Type	73,395	86.68
			Miscellaneous Land Type	2,396	2.83
			Others	713	0.84
			Forest	4,278	5.05
<b>Total</b>				<b>84,680</b>	<b>100.00</b>

# SOIL PRODUCTIVITY KUNNAM TALUK



### REFERENCE

- District boundary ..... [dotted line]
- Taluk boundary - - - - - [dashed line]
- Rivers [wavy line]
- Forest boundary [bracketed line]

### LEGEND

#### CLASS

- [Red box] AVERAGE
- [Blue box] POOR

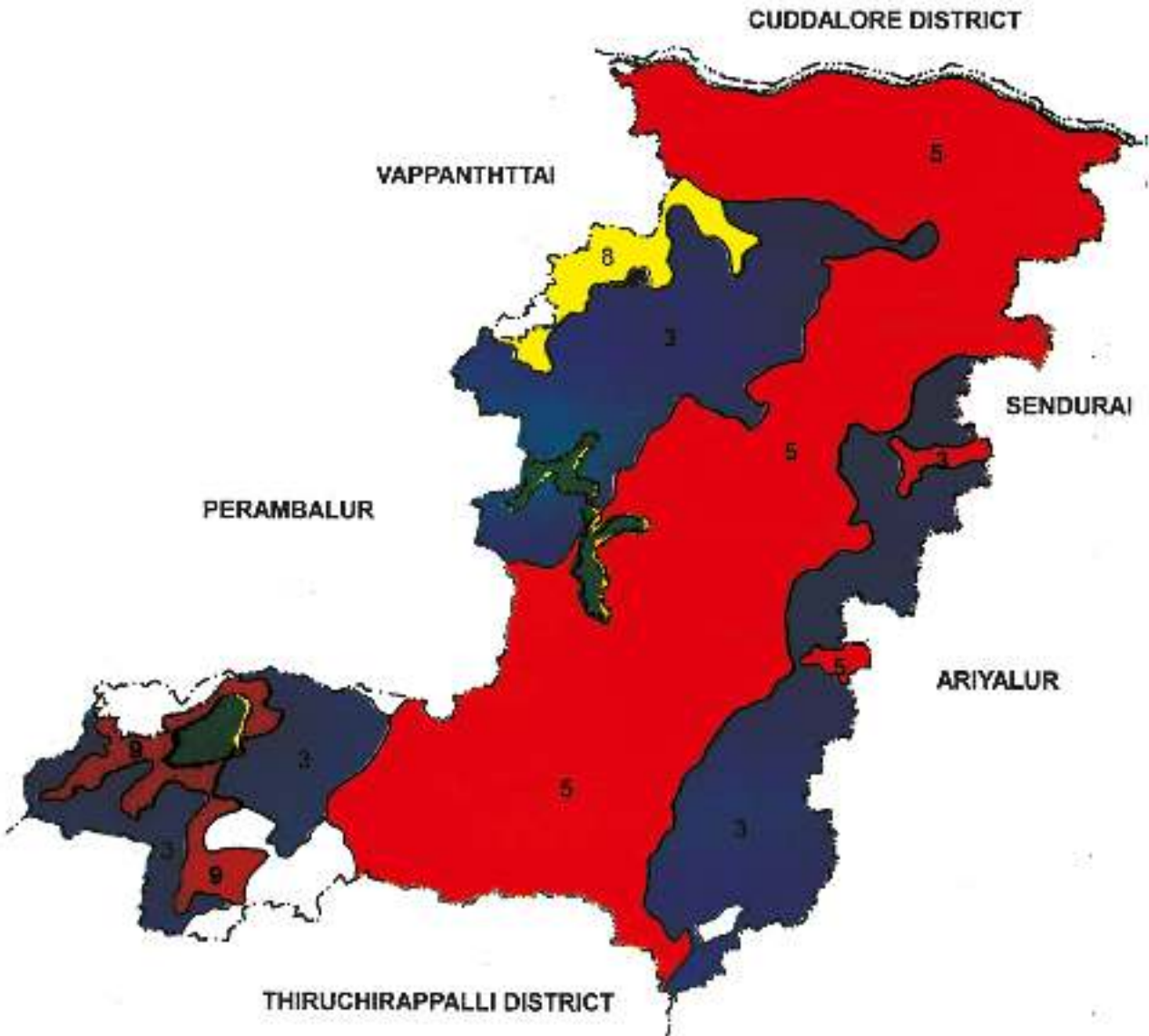
## CROPS GROWN

### KUNNAM TALUK

S.No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Sugarcane, Tapioca, Onion, Groundnut and Rice	Chillies, Millets, Groundnut, Gingelly, Coriander, Cotton and Redgram	3	Pilamedu, Kallagam, Kallagam+Kallakkudi+ Miscellaneous Land Type and Kallagam+Palathurai+ Miscellaneous Land Type
2.	Rice and Chillies	Rice, Chillies, Millets and Groundnut	5	Kallakkudi and Kallakkudi+Miscellaneous Land Type
3.	—	Cholam, Gingelly and Groundnut	8	Thevaiyur
4.	Groundnut, Redgram, Cholam and Onion	Groundnut, Redgram, Millets and Cashew	9	Padalur and Padalur+Palathurai






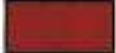
# CROPS GROWN KUNNAM TALUK



### REFERENCE

- District boundary ..... - - - - -
- Taluk boundary - - - - -
- Rivers
- Forest boundary [ - - - ]

### LEGEND

-  3
-  5
-  8
-  8

## DISTRIBUTION OF SOIL SERIES

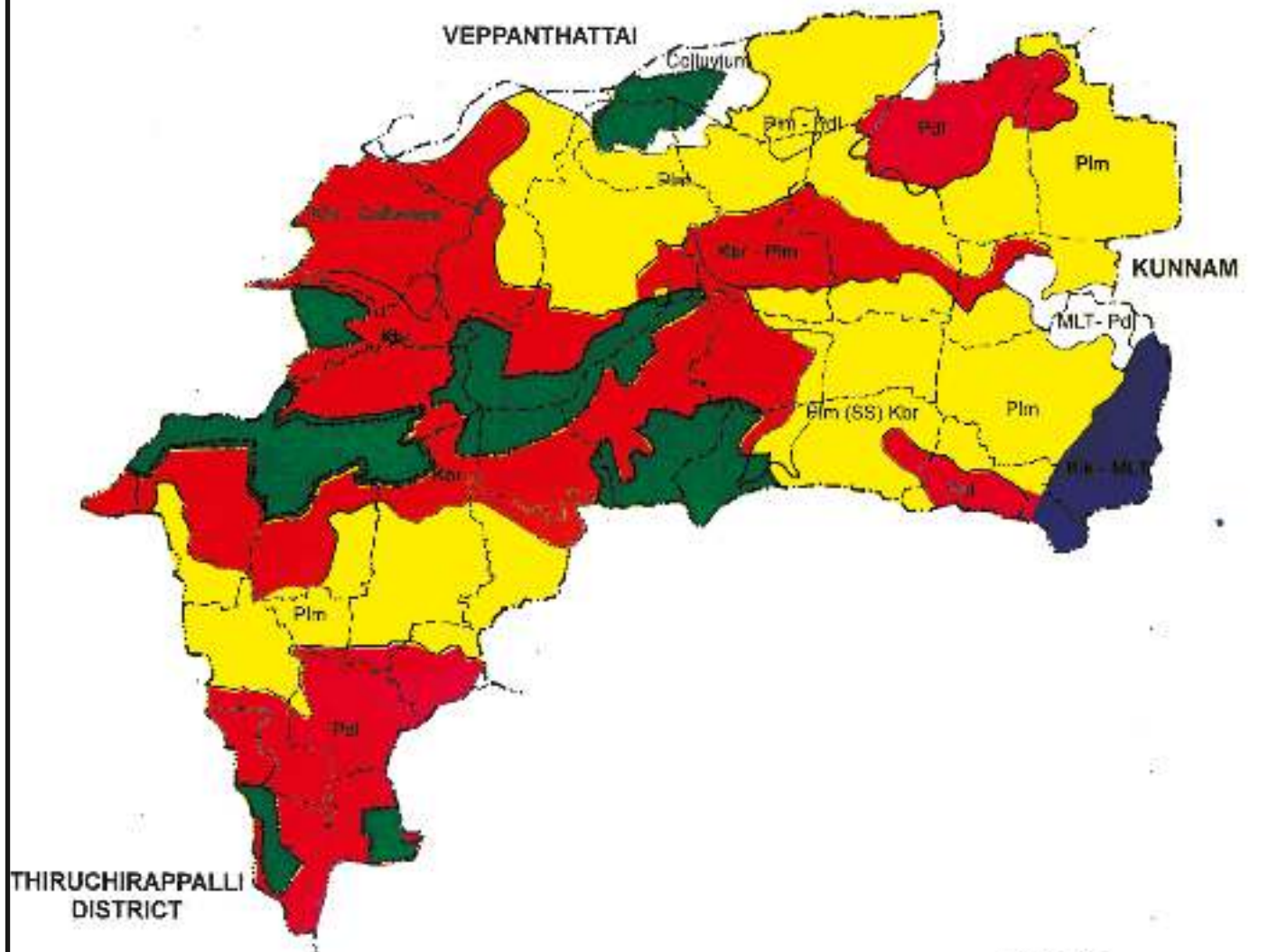
### PERAMBALUR TALUK

S.No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Kurumbalur	Kbr	6,854	20.35
2.	Padalur	Pdl	4,478	13.29
3.	Pilamedu	Plm	11,215	33.29
4.	Kallakkudi+ Miscellaneous Land Type	Klk + MLT	1,168	3.47
5.	Kurumbalur+Colluvium	Kbr + Colluvium	1,635	4.85
6.	Kurumbalur+Pilamedu	Kbr + Plm	1,480	4.40
7.	Pilamedu+Padalur	Plm + Pdl	117	0.35
8.	Pilamedu (surface salinity) +Kurumbalur	Plm (ss) + Kbr	312	0.93
9.	Miscellaneous Land Type	MLT	661	1.96
10.	Others	—	860	2.55
11.	Forests	—	4,904	14.56
<b>Total</b>			<b>33,684</b>	<b>100.00</b>



# SOILS

## PERAMBALUR TALUK



THIRUCHIRAPPALLI  
DISTRICT

### REFERENCE

- District boundary
- Taluk boundary
- Village boundary
- Forest boundary

### LEGEND

-  Pd PADALUR
-  Plm PILAMEDU
-  Kurumbalur + Pilamedu KURUMBALUR + PILAMEDU
-  Plm - ML KALLAKKUDI
-  Forest FOREST

**VILLAGE WISE DISTRIBUTION OF SOIL SERIES AND FERTILITY INDICES**

**PERAMBALUR TALUK**

Sl. No.	Revenue village	Village No.	Distribution of Soil series in Percentage	Fertility Indices (kg/ac)		
				Nitrogen (N)	Phosphorus (P <sub>2</sub> O <sub>5</sub> )	Potassium (K <sub>2</sub> O)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Ammapalalyam	84	Kbr 75, Kbr-Colluvium 25	76	14	105
2.	Aranaarai-North	63-1	Plm 50, Kbr Plm 40, Colluvium 10	86	16	240
3.	Aranaarai-South	63-2	Plm 50, Kbr-Plm 40, Colluvium 10	80	24	170
4.	Ayilur	76	Plm 40, Pdl 40, Kik-MLT 20	72	18	92
5.	Chathiramanai	83	Kbr 70, RF 30	90	28	282
6.	Elambaloor	65	Pdl 55 Plm 45	76	9	375
7.	Esaanai	57	Plm 50, Colluvium 40, Plm-MLT 10	79	38	105
8.	Kalpaadi-North	77-1	Plm 50, Kik-MLT 35, Pdl-MLT 15	85	33	156
9.	Kalpaadi-South	77-2	Plm 50, Kik-MLT 35, Pdl-MLT 15	81	48	153
10.	Kalarampatti	85	Kbr 100	91	21	310
11.	Kheezhakkarai	58	Plm 65, Colluvium 30, Plm-Pdl 5	79	36	275
12.	Kurumbalur-North	61-1	Plm 80, Kbr 20	88	19	475

(1)	(2)	(3)	(4)	(5)	(6)	(7)
13.	Kurumbalur-South	61-2	Plm 80, Kbr 20	88	19	475
14.	Laadapuram-East	60-1	Kbr Colluvium 50, Kbr 35, Plm 15	88	28	167
15.	Laadapuram-West	60-2	Kbr-Colluvium 50, Kbr 35, Plm 15	88	28	167
16.	Melappuliyur-West	59-1	Plm 50, Kbr-Colluvium 40, Colluvium 10	62	38	132
17.	Melappuliyur-East	59-2	Plm 50, Kbr-Colluvium 40, Colluvium 10	46	18	185
18.	Nochiyam	79	Kik-MLT 70, Plm 20, Pdl 10	82	72	377
19.	Perambalur-North	64-1	Kik-MLT 70, Plm 20, Pdl 10	126	62	280
20.	Perambalur-South	64-2	Plm 60, Kbr Plm 40	126	62	280
21.	Pommanpadi	92	Plm 80, Kbr 20	—	—	—
22.	Pudhunaduvaloor	80	Kbr 90, Plm 10	93	35	170
23.	Sengunam	66	Plm 75, Pdl 25	—	—	—
24.	Siruvachur	81	Plm 60, Plm(ss)-Kbr 25, Pdl 10, Kbr 5	117	18	236
25.	Thoramangalam	78	Plm 55, Kbr-Plm 25, Pdl-MLT 20	62	14	238
26.	Veloor	82	Kbr 100	—	—	—

## LAND CAPABILITY CLASSIFICATION

### PERAMBALUR TALUK

S.No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations	Needs
1.	II e Lands that have moderate limitations for sustained use under agriculture	Kurumbalur, Kurumbalur+ Colluvium and Kurumbalur+ Pilamedu	9,969	29.60	Erosion	Soil conservation
2.	III s Lands that have severe limitations for sustained use under agriculture	Padalur	4,478	13.29	Alkalinity and salinity	Textural improvement and cultivation of suitable crops
	III es -Lands that have severe limitations for sustained use under agriculture	Pilamedu, Pilamedu (surface salinity) + Kurumbalur Pilamedu + Padalur and Kallakkudi + Miscellaneous Land Type	12,812	38.04	Erosion alkalinity and slow permeability	Soil reclamation and conservation, drainage improvement and cultivation of suitable crops
		Miscellaneous Land Type	661	1.96	—	—
		Others	860	2.55	—	—
		Forest	4,904	14.56	—	—
<b>Total</b>			<b>33,694</b>	<b>100.00</b>	—	—

**Class**

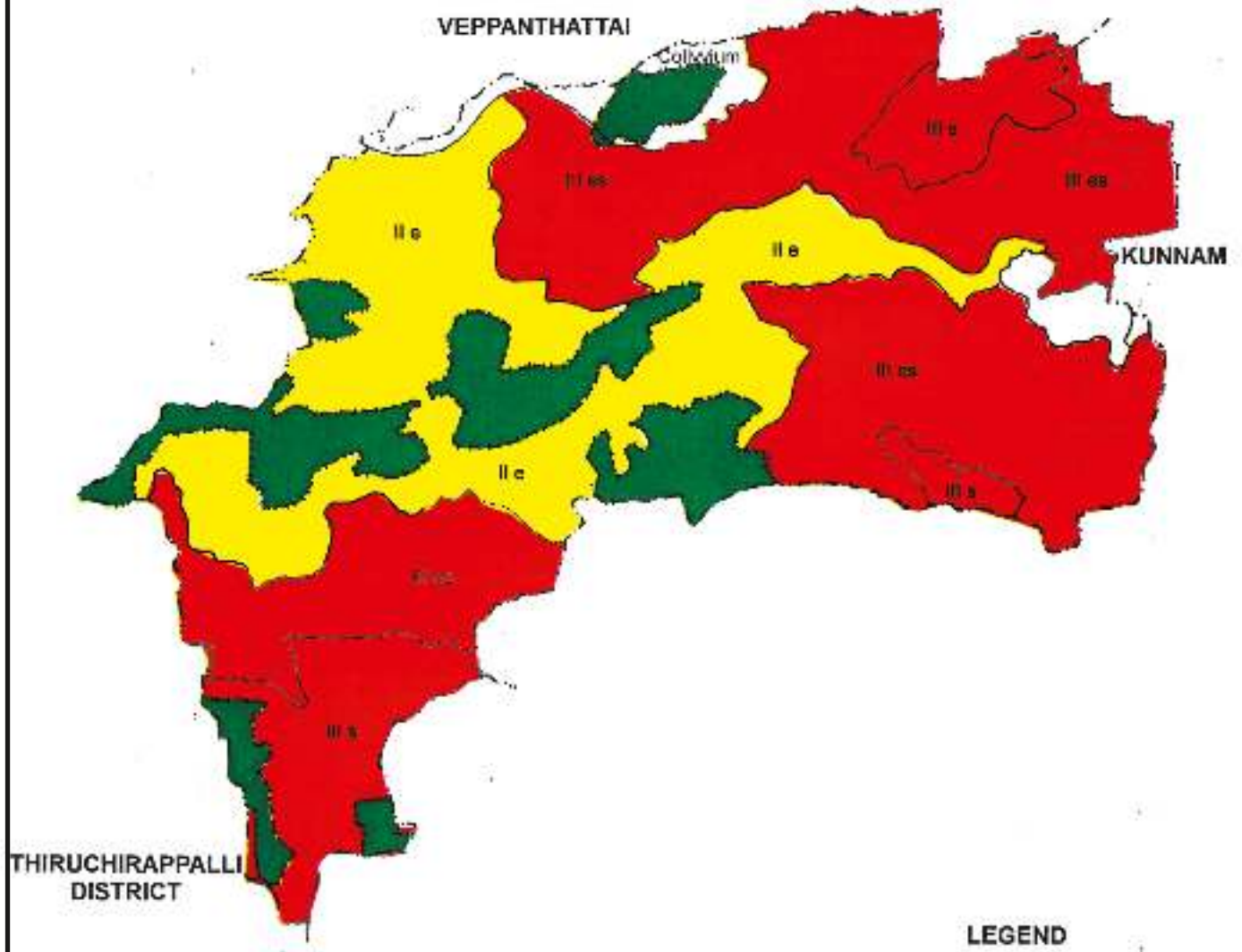
- II** Lands that have moderate limitations for sustained use under agriculture
- III** Lands that have severe limitations for sustained use under agriculture

**Sub class**

- e** erosion and run off
- s** root zone limitation
- w** wetness



# LAND CAPABILITY PERAMBALUR TALUK



### REFERENCE

- District boundary
- Taluk boundary
- Forest

### LEGEND

#### CLASS

- II - MODERATE LIMITATION
- III - SEVERE LIMITATION

#### SUB CLASS

- s - SOIL LIMITATION
- e - EROSION LIMITATION

## LAND IRRIGABILITY CLASSIFICATION

### PERAMBALUR TALUK

S. No.	Soil series	Class Sub - Class	Extent (ha)	Per cent to total	Limitations
1.	Kurumbalur, Kurumbalur + Colluvium and Kurumbalur + Pilamedu	2 st - Lands that have severe limitations for sustained use under irrigation	9,969	29.59	Topography and light texture
2.	Pilamedu, Pilamedu (ss) + Kurumbalur, Pilamedu + Padalur, Kallakkudi + Miscellaneous Land Type	3 sd - Lands that have severe limitations for sustained use under irrigation	12,812	38.03	Heavy texture and poor drainage
	Padalur	3 st - Lands that have severe limitations for sustained use under irrigation	4,478	13.29	Topography and light texture
		Miscellaneous Land Type	661	1.96	—
		Others	860	2.55	—
		Forest	4,904	14.56	—
<b>Total</b>			<b>33,684</b>	<b>100.00</b>	—

**Class**

- 2** Lands that have moderate soil limitations  
for sustained use under irrigation
- 3** Lands that have severe soil limitations  
for sustained use under irrigation

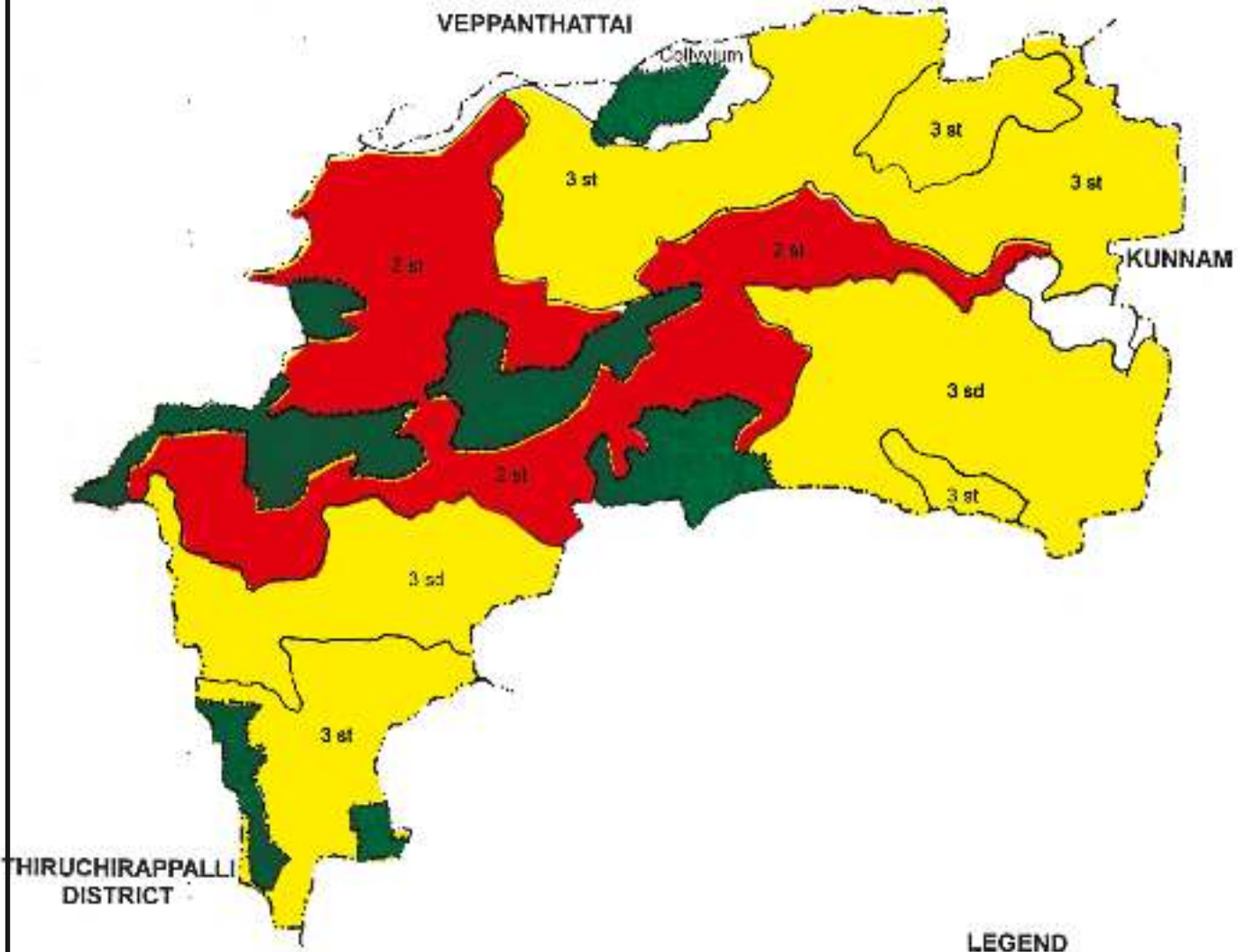
**Sub class**

- s** soil problem
- t** topography
- d** drainage



# LAND IRRIGABILITY

## PERAMBALUR TALUK



### REFERENCE

- District boundary
- Taluk boundary
- Forest

### LEGEND

#### CLASS

- 2 - MODERATE LIMITATION
- 3 - SEVERE LIMITATION

#### SUB CLASS

- s - SOIL LIMITATION
- d - DRAINAGE LIMITATION
- t - TOPOGRAPHY LIMITATION

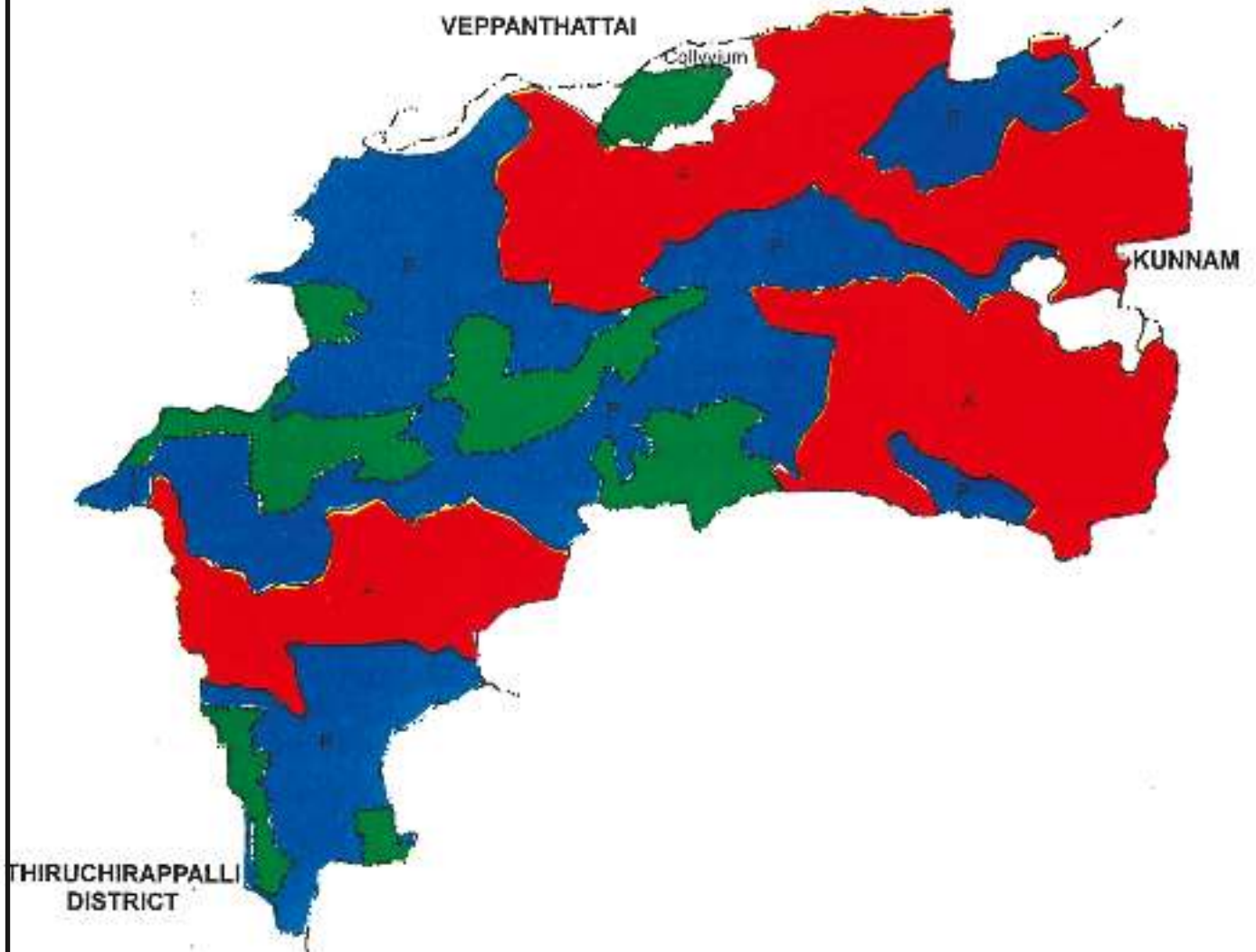
## SOIL PRODUCTIVITY

### PERAMBALUR TALUK

S.No.	Productivity		Soil series	Extent (ha)	Per cent to total
	Rating	Groupings			
1.	8 - 19	Poor (P)	Kurumbalur, Padalur, Kurumbalur+Colluvium, Kurumbalur+Pilamedu and Pilamedu (surface salinity)+Kurumbalur	14,759	43.82
2.	20 - 34	Average (A)	Pilamedu, Pilamedu+Padalur, Kallakkudi+ Miscellaneous Land Type	12,500	37.11
			Miscellaneous Land Type	661	1.96
			Others	860	2.55
			Forest	4,904	14.56
<b>Total</b>				<b>33,684</b>	<b>100.00</b>



# SOIL PRODUCTIVITY PERAMBALUR TALUK



### LEGEND

- AVERAGE
- POOR

### REFERENCE

- District boundary
- Taluk boundary
- Forest

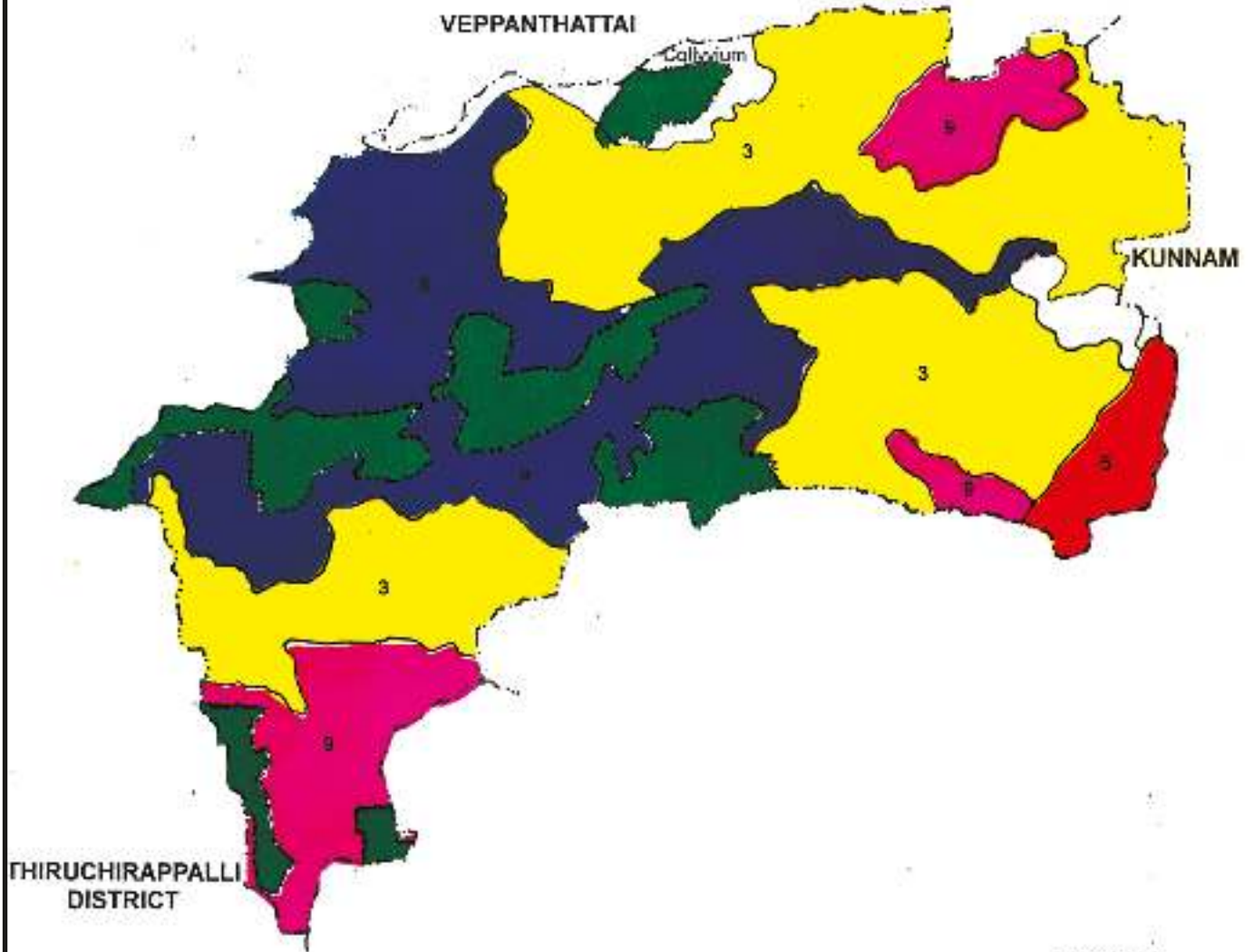
## CROPS GROWN

### PERAMBALUR TALUK

S.No.	Crops grown		Map symbol.	Soil series
	Irrigated	Rainfed		
1.	Groundnut, Onion, Rice, Sugarcane and Tapioca	Chillies, Millets, Groundnut, Gingelly, Corander, Cotton and Redgram	3	Pilamedu, Pilamedu (surface salinity)+Kurumbalur and Pilamedu+Padalur
2.	—	Gingelly, Groundnut and Sorghum	8	Kurumbalur, Kurumbalur+Colluvium and Kurumbalur+Pilamedu
3.	Groundnut, Onion, Redgram and Sorghum	Cashew, Groundnut, Millets and Redgram	9	Padalur



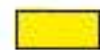

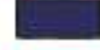

# CROPS GROWN PERAMBALUR TALUK



### REFERENCE

-  District boundary
-  Taluk boundary
-  Forest

### LEGEND

-  3
-  5
-  8
-  9

## DISTRIBUTION OF SOIL SERIES

### SENDURAI TALUK

S.No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Anganur	Agr	4,722	15.02
2.	Ariyalur	Alu	2,045	6.50
3.	Ayichavadi	Aci	478	1.52
4.	Madukkur	Mdk	7,655	24.34
5.	Mudukulam	Mud	2,926	9.30
6.	Palathurai	Pth	922	2.93
7.	Pattukkottai	Pkt	8,096	25.74
8.	Vallam	Vlm	1,564	4.97
9.	Palathurai+Ayichavadi	Pth+Aci	320	1.02
10.	Miscellaneous Land Type	MLT	922	2.93
11.	Others	—	22	0.07
12.	Forests	—	1,780	5.66
<b>Total</b>			<b>31,452</b>	<b>100.00</b>



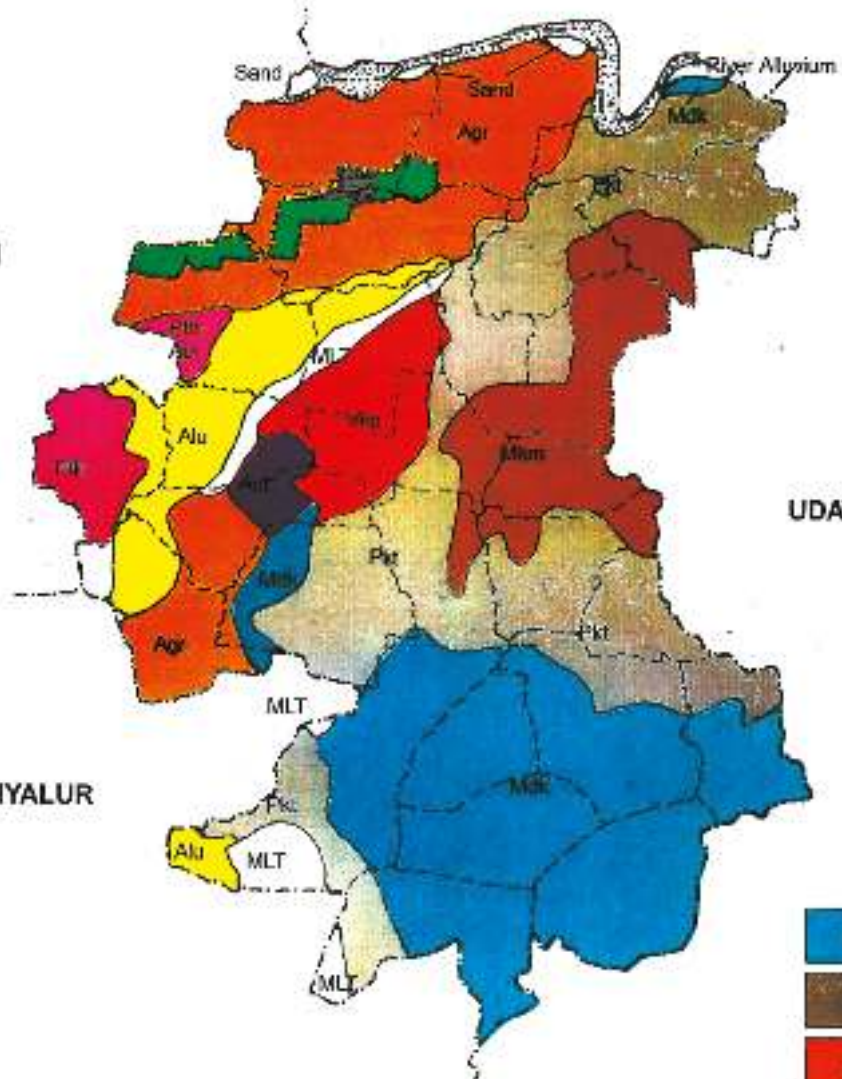
# SOILS SENDURAI TALUK

CUDDALORE DISTRICT

KUNNAM

UDAYARPALAYAM

ARIYALUR



### LEGEND

Mdk	MADUKKUR
Pkt	PATTUKKOTTAI
Agt	ANGANUR
Mkm	MUDUKULAM
Aju	ARIYALUR
Vlm	VALLAM
Agt	AYICHAVADI
Forest	FOREST

### REFERENCE

District boundary	-----
Taluk boundary	-----
Rivers	~~~~~
Forest boundary	[ - - - ]

## VILLAGE WISE DISTRIBUTION OF SOIL SERIES AND FERTILITY INDICES

### SENDURAI TALUK

Sl. No.	Revenue village	Village No.	Distribution of Soil series in Percentage	Fertility Indices (kg/ac)		
				Nitrogen (N)	Phosphorus (P <sub>2</sub> O <sub>5</sub> )	Potassium (K <sub>2</sub> O)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Aanandhavaadi	20	Mdk 40, Pkt 30, MLT 30	48	38	200
2.	Aadhanakkurichi	4	Pkt 60, Mud 40	74	43	185
3.	Alathiyur	3	Pkt 70, Agr 10, Mdk 10, RF 10	88	70	265
4.	Asaaveerankudikkadu	9	Pkt 65, Mud 20, Vlm 5, Plm 5, Alu 5	90	38	185
5.	Irumbilikkurichi	17	Mdk 100	55	11	138
6.	Keezhamaaligai	13	Pkt 100	76	5	131
7.	Kilimangalam	16	Mdk 100	72	18	293
8.	Kuzhumoor	7	Agr 40, Alu 30, Pth+Aci 15 MLT 10, Vlm 5	90	27	261
9.	Mankkudaiyam	5	Pkt 60, Mud 30, Agr 10	71	14	202
10.	Manappathur	8	Agr 35, Alu 35, Pth+Aci 20, Vlm 5, Plm 5	90	17	102
11.	Maruvaththur	22	Pkt 80, Mud 20	65	8	443
12.	Naagalkuzhi	14	Mdk 100	48	42	255

(1)	(2)	(3)	(4)	(5)	(6)	(7)
13.	Nakkampaadi	26	Agr 30, Aci 25, Vlm 15, Alu 15, Pkt 5, Plm 5, Mdk 5	46	14	138
14.	Namangunam	25	Pth 70, Alu 30	80	17	102
15.	Periyaakkurichi	23	Vlm 55, Mud 25, Pkt 20	65	8	122
16.	Pllakkurichi	18	Mdk 60, Pkt 25, Vlm 15	55	17	132
17.	Ponparappi	12	Pkt 80, Mud 20	59	19	231
18.	Puranam	15	Mdk 100	121	19	254
19.	Sannaasinallur	1	Agr 100	115	38	185
20.	Sendurai	27	Pkt 70, Mdk 20, Aci 5, Agr 5	65	20	202
21.	Sirukadamboor	19	Mdk 50, Pkt 25, MLT 25	73	43	85
22.	Sirukalathur	11	Mud 95, Pkt 5	78	43	191
23.	Thalavaai-North	2-1	Vlm 60, Alu 20, Plm 15, MLT 5	78	14	132
24.	Thalavaai-South	2-2	Vlm 60, Alu 20, Plm 15, MLT 5	78	14	132
25.	Thahthanur	6	Igr 100	72	18	138
26.	Thular	10	Mud 80, Pkt 20	92	38	122
27.	Unjili	21	Mdk 95, Pkt 5	67	18	409
28.	Vanchinaapuram	24	Alu 50, Aci 30, Vlm 10, Plm 10	46	9	186

## LAND CAPABILITY CLASSIFICATION

### SENDURAI TALUK

S.No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations	Needs
1.	<b>II e</b> - Lands that have moderate limitations for sustained use under agriculture	Palathurai and Palathurai + Ayichavadi	1,242	3.95	Erosion	Soil conservation
	<b>II s</b> - Lands that have moderate limitations for sustained use under agriculture	Anganur, Ariyalur and Madukkur	14,422	45.85	Slow permeability	Cultivation of suitable crops
	<b>II es</b> - Lands that have moderate limitations for sustained use under agriculture	Mudukulam	2,926	9.30	Erosion and Texture	Textural improvement and soil conservation
2.	<b>III e</b> - Lands that have severe limitations for sustained use under agriculture	Pattukkottai and Vallam	9,660	30.72	Erosion	Soil conservation and cultivation of suitable crops
	<b>III es</b> - Lands that have severe limitations for sustained use under agriculture	Ayichavadi	478	1.52	Erosion and slow permeability	Soil conservation and drainage improvement
		Miscellaneous Land Type	922	2.93	—	—
		Others	22	0.07	—	—
		Forest	1,780	5.66	—	—
<b>Total</b>			<b>31,452</b>	<b>100.00</b>	—	—

**Class**

- II** Lands that have moderate limitations for sustained use under agriculture
- III** Lands that have severe limitations for sustained use under agriculture

**Sub class**

- e** erosion and run off
- s** root zone limitation
- w** wetness

# LAND CAPABILITY SENDURAI TALUK



CUDDALORE DISTRICT

KUNNAM

UDAYARPALAYAM



ARIYALUR

### REFERENCE

- District boundary* - - - - -
- Taluk boundary* - - - - -
- Rivers*
- Forest boundary*

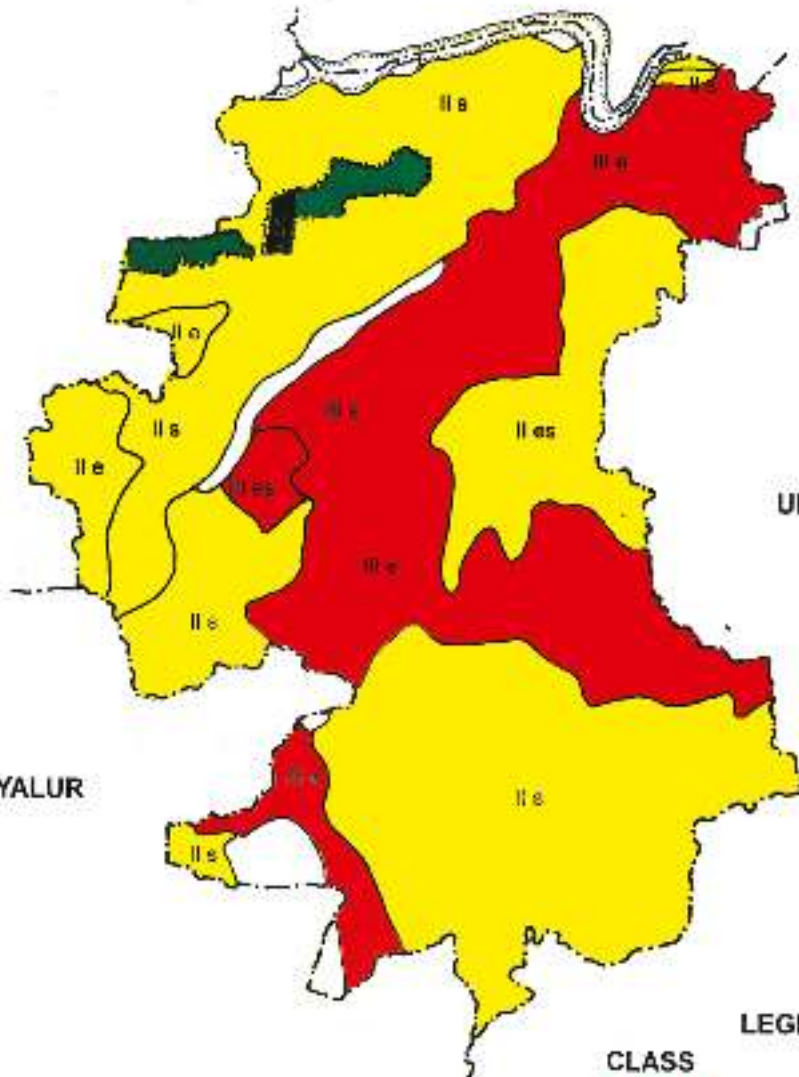
### LEGEND

#### CLASS

-  II - MODERATE LIMITATION
-  III - SEVERE LIMITATION

#### SUBCLASS

- s - SOIL LIMITATION
- e - EROSION LIMITATION



## LAND IRRIGABILITY CLASSIFICATION

### SENDURAI TALUK

S. No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations
1.	2 s - Lands that have moderate limitations for sustained use under irrigation	Madukkur	7,655	24.34	Light texture
	2 t - Lands that have moderate limitations for sustained use under irrigation	Mudukulam, Palathurai and Palathurai + Ayichavadi	4,168	13.25	Topography
	2 sd - Lands that have moderate limitations for sustained use under irrigation	Anganur	4,722	15.01	Light texture and poor drainage
	2 st - Lands that have severe limitations for sustained use under irrigation	Ariyalur	2,045	6.50	Light texture and topography
2.	3 t - Lands that have severe limitations for sustained use under irrigation	Pattukkottai	8,096	25.75	Topography
	3 sd - Lands that have severe limitations for sustained use under irrigation	Ayichavadi	478	1.52	Heavy texture and poor drainage
	3 st - Lands that have severe limitations for sustained use under irrigation	Vallam	1,564	4.97	Light texture and poor depth and topography
	—	Miscellaneous Land Type	922	2.93	—
	—	Others	22	0.07	—
	—	Forest	1,780	5.66	—
<b>Total</b>			<b>31,452</b>	<b>100.00</b>	<b>—</b>

**Class**

- 2** Lands that have moderate soil limitations for sustained use under irrigation
- 3** Lands that have severe soil limitations for sustained use under irrigation

**Sub class**

- s** soil problem
- t** topography
- d** drainage

# LAND IRRIGABILITY

## SENDURAI TALUK

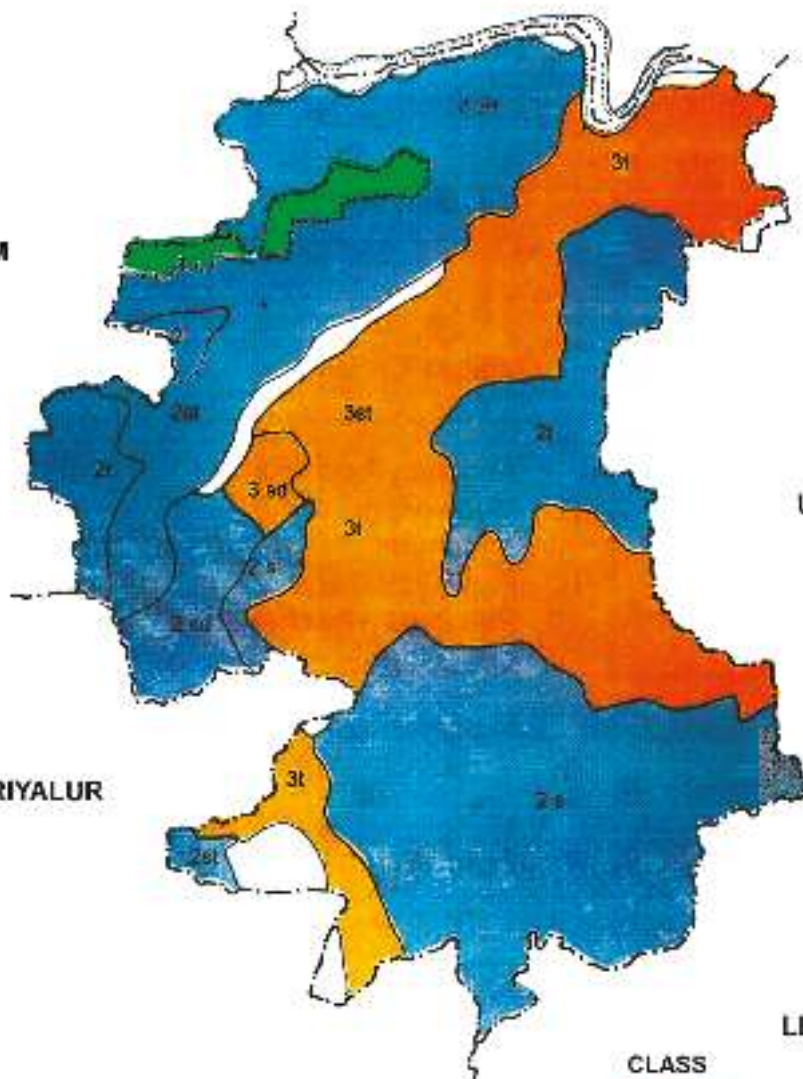


CUDDALORE DISTRICT

KUNNAM

UDAYARPALAYAM

ARIYALUR



### REFERENCE

- District boundary*    - - - - -
- Taluk boundary*     - - - - -
- Rivers*
- Forest boundary*

### LEGEND

#### CLASS

-  2 - MODERATE LIMITATION
-  3 - SEVERE LIMITATION

#### SUB CLASS

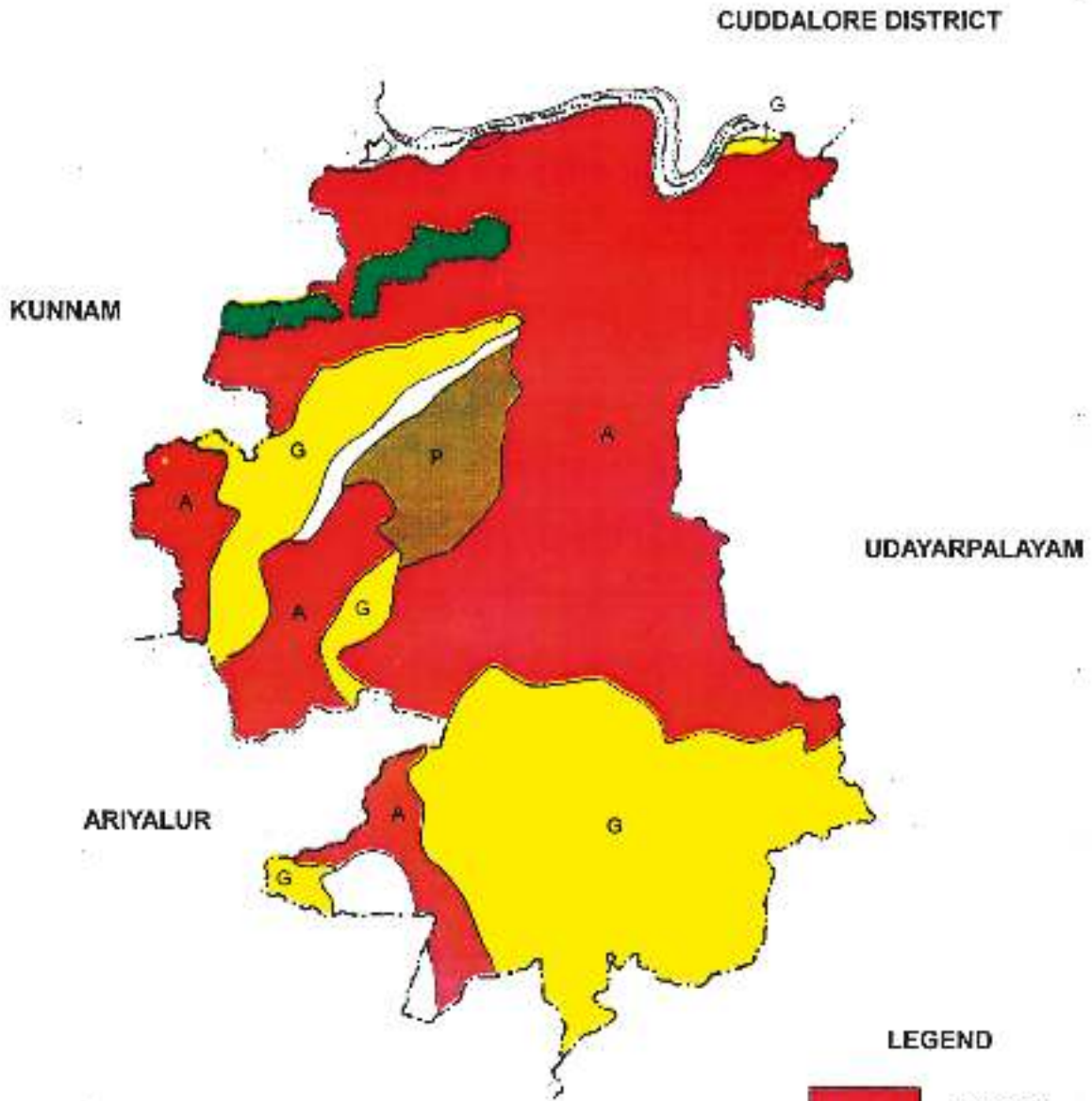
- s - SOIL LIMITATION
- t - TOPOGRAPHY LIMITATION

## SOIL PRODUCTIVITY

### SENDURAI TALUK

S.No.	Productivity		Soil series	Extent (ha)	Per cent to total
	Rating	Groupings			
1.	8 - 19	Poor (P)	Vallam	1,564	4.97
2.	20 - 34	Average (A)	Anganur, Ayichavadi, Mudukulam, Palathurai, Pattukkottai and Palathurai+Ayichavadi	17,464	55.53
3.	35 - 64	Good (G)	Madukkur and Ariyalur	9,700	30.84
			Miscellaneous Land Type	922	2.93
			Others	22	0.07
			Forest	1,780	5.66
<b>Total</b>				<b>31,452</b>	<b>100.00</b>

# SOIL PRODUCTIVITY SENDURAI TALUK



**REFERENCE**

District boundary	-----
Taluk boundary	-----
Rivers	
Forest boundary	

**LEGEND**

	AVERAGE
	POOR
	GOOD

## CROPS GROWN

### SENDURAI TALUK

S.No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Vegetable, Rice and Flowers	Millets and Pulses	2	Ayichavadi
2.	Cotton, Groundnut, Millets and Rice	Gingelly, Groundnut, Millets and Redgram	4	Ariyalur, Madukkur and Pattukkottai
3.	Chillies, Redgram, Millets and Rice	Castor, Cumbu and Gingelly	7	Palathurai and Palathurai+Ayichavadi
4.	—	Sorghum, Gingelly and Groundnut	8	Anganur
5.	Sorghum, Groundnut, Onion and Redgram	Cashew, Groundnut, Millets and Redgram	9	Vallam
6.	Sorghum, Groundnut, Onion and Redgram	Groundnut	10	Mudukulam



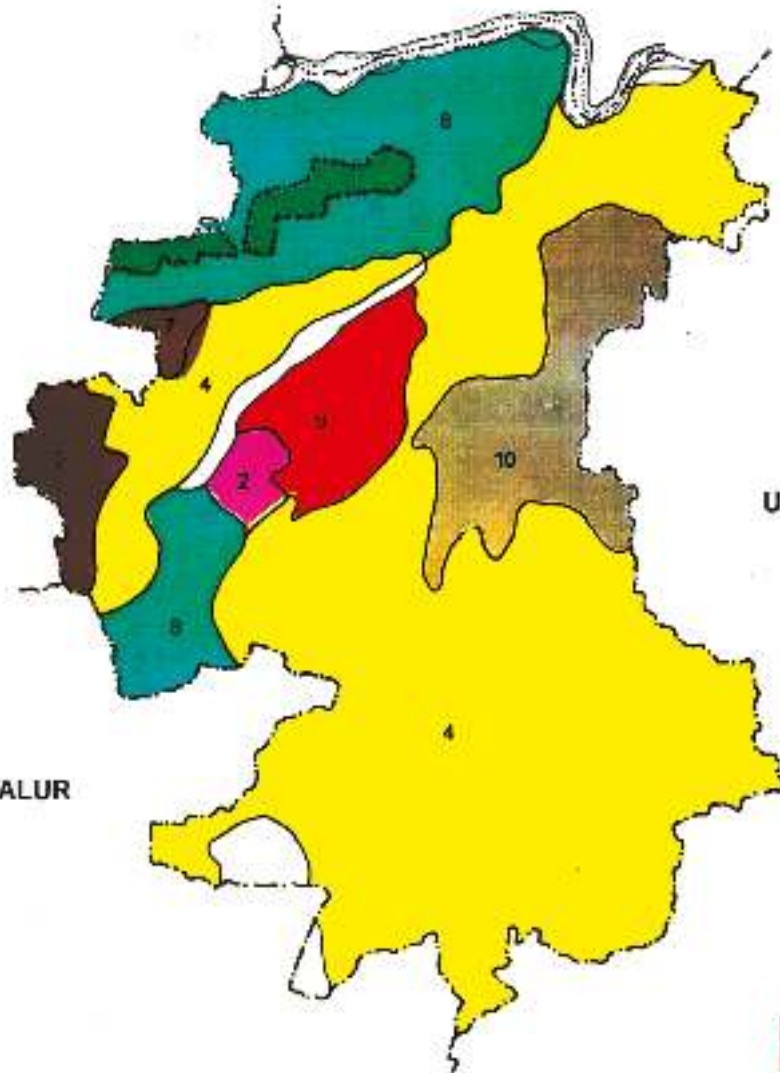
# CROPS GROWN SENDURAI TALUK

CUDDALORE DISTRICT

KUNNAM

UDAYARPALAYAM







ARIYALUR



### REFERENCE

- District boundary ..... - - - - -
- Taluk boundary - - - - -
- Rivers
- Forest boundary

### LEGEND

-  2
-  4
-  7
-  8
-  9
-  10

## DISTRIBUTION OF SOIL SERIES

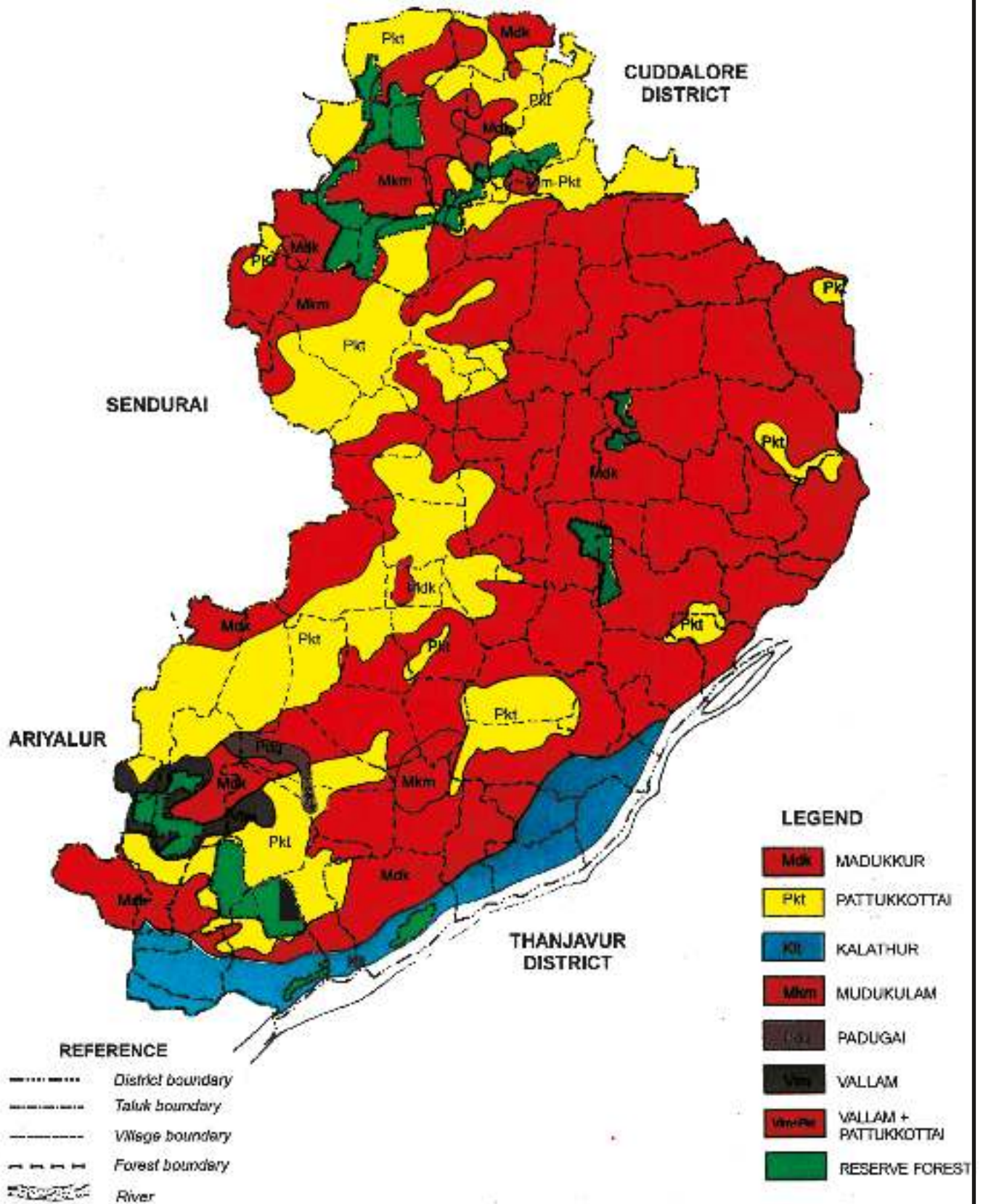
### UDAIYARPALAIYAM TALUK

S.No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Kalathur	Klt	4,470	4.74
2.	Madukkur	Mdk	50,440	53.50
3.	Mudukulam	Mud	6,012	6.38
4.	Padugai	Pdg	401	0.43
5.	Pattukkottai	Pkt	23,651	25.09
6.	Vallam	Vlm	802	0.85
7.	Vallam+Pattukkottai	Vlm+Pkt	267	0.28
8.	Others	—	1,203	1.28
9.	Forests	—	7,023	7.45
<b>Total</b>			<b>94,269</b>	<b>100.00</b>



# SOILS

## UDAIYARPALAYAM TALUK



### VILLAGE WISE DISTRIBUTION OF SOIL SERIES AND FERTILITY INDICES

#### UDAIYARPALAIYAM TALUK

Sl. No.	Revenue village	Village No.	Distribution of Soil series in Percentage	Fertility Indices (kg/ac)		
				Nitrogen (N)	Phosphorus (P <sub>2</sub> O <sub>5</sub> )	Potassium (K <sub>2</sub> O)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Aiyur	9	Pkt 40, Mdk 35, Mud 25	7	18	37
2.	Ambaapur	60	Pkt 35, Mdk 25, Klt 15, Vlm 25	77	26	298
3.	Aamanakkanthondi	41	Mdk 100	66	18	295
4.	Anaikkudam	74	Pkt 60, Mdk 40	58	13	84
5.	Aandimadam	10	Mdk 60, Pkt 30, Vlm-Pkt 10	65	18	41
6.	Angarayanallur East	45/2	Mdk 60, Pkt 40	—	—	—
7.	Angarayanallur West	45/1	Mdk 60, Pkt 40	—	—	—
8.	Anikkudhichchan North	19/1	Mdk 100	84	62	390
9.	Anikkudhichchan South	19/2	Mdk 100	84	62	390
10.	Aththukkurichi	2	Pkt 40, Mdk 30, Mud 30	67	23	35
11.	Azhagaapuram	6	Mud 50, Pkt 30, Mdk 20	48	32	290
12.	Chozhamaadevi	75	Mdk 90, Pkt 10	—	—	—
13.	Dhevanoor	26	Pkt 65, Mdk 35	81	33	174
14.	Eravangudi	18	Mdk 100	91	48	269
15.	Govindaputhur	64	Pkt 40, Mdk 35, Klt 25	93	4	327
16.	Guruvalapparkoil	40	Mdk 100	47	58	103
17.	Idaiyaar	48	Pkt 80, Mdk 20	—	—	—
18.	Idaiyakurichi	8	Mud 70, Mdk 15, Pkt 15	89	43	236
19.	Idanganni	76	Klt 85, Mdk 15	84	21	142
20.	Ilaiyur-East	27-2	Mdk 60, Pkt 40	81	18	340

(1)	(2)	(3)	(4)	(5)	(6)	(7)
21.	Ilaiyur-West	27-1	Mdk 60, Pkt 40	81	18	340
22.	Ilaiyaperumalnallur	34	Mdk 100	95	78	275
23.	Irugaiyur	67	Mdk 45, Mud 45, Pkt 10	—	—	—
24.	Jeyankonda- chozhapuram	46	Mdk 70, Pkt 30	107	18	62
25.	Kadmboor	62	Klt 80, MLT 15, Mdk 5	—	—	—
26.	Kaaraikkurichi	68	Mdk 80, Klt 20	86	62	107
27.	Kaattagaram-North	37-1	Mdk 90, Pkt 10	48	—	410
28.	Kaattagaram-South	37-2	Mdk 90, Pkt 10	48	—	410
29.	Kaattaththur-North	21-1	Mdk 95, Pkt 5	80	22	89
30.	Kaattaththur-South	21-2	Mdk 95, Pkt 5	80	22	89
31.	Keezhakkudiyiruppu	30	Mdk 100	—	—	—
32.	Keezhanaththam	59	Pkt 60, Mdk 20, Klt 15, Vlm 5	72	38	67
33.	Kodalikaruppoor	77	Mdk 80, Klt 20	47	14	48
34.	Kodangudi-North	72-1	Pkt 50, Mdk 45, Mud 5	54	9	117
35.	Kodangudi-South	72-2	Pkt 50, Mdk 45, Mud 5	54	9	117
36.	Kodukkur	23	Mud 60, Pkt 30, Mdk 10	—	—	—
37.	Koovaththur-North	20-1	Mdk 55, Pkt 45	83	72	400
38.	Koovaththur-South	20-2	Mdk 55, Pkt 45	83	72	400
39.	Kundaveli-East	35-2	Mdk 75, Pkt 25	—	—	—
40.	Kundaveli-West	35-1	Mdk 75, Pkt 25	—	—	—
41.	Kuvaagam	22	Pkt 50, Mud 50	87	33	238
42.	Manakethi	54	Pkt 75, Mdk 20, Vlm 5	72	28	175
43.	Marudhur	24	Pkt 70, Mud 30	50	17	95
44.	Melur	28	Mdk 60, Pkt 40	86	18	40
45.	Muthuservaamadam	36	Mdk 90, Pkt 10	97	67	370
46.	Naduvaloor-East	65-2	Mdk 60, Pkt 35, Pdg 5	90	18	343

(1)	(2)	(3)	(4)	(5)	(6)	(7)
47.	Naduvaur-West	65-1	Mdk 60, Pkt 35, Pdg 5	90	—	343
48.	Naayaganaippiiriyaal	73	Mdk 70, Pkt 15, Mud 15	140	36	326
49.	Olaiyur	1	Pkt 55, Mud 45	—	—	—
50.	Paappakkudi-North	16-1	Mdk 90, Pkt 10	81	21	225
51.	Paappaakkudi-South	16-2	Mdk 90, Pkt 10	81	21	225
52.	Parukkal-East	57-1	Mdk 75, Pkt 20, Mud 5	—	—	—
53.	Parukkal-West	57-2	Mdk 75, Pkt 20, Mud 5	—	—	—
54.	Periyakrishnaapuram	13	Mdk 100	84	48	234
55.	Periyavalaiyam	43	Mdk 95, Pkt 5	77	9	211
56.	Pichanoor	32	Mdk 100	—	—	—
57.	Pilichikkuzhi	50	Pkt 65, Mkd 35	58	18	143
58.	Piraancherry	31	Mdk 100	98	102	310
59.	Raangiyam	4	Pkt 90, Vlm-Pkt 10	67	33	281
60.	Saaththambadi	63	Pkt 45, Klt 40, Mdk 10	65	64	240
61.	Silamboor-North	7-1	Mud 100	80	68	260
62.	Silamboor-Souh	7-2	Mud 100	80	68	260
63.	Siluvaichcheri	5	Pkt 65, Mdk 20, Mud 15	77	80	251
64.	Sooriyamanal	47	Pkt 90, Mdk 10	75	33	103
65.	Sripurathaan-North	66-1	Mdk 70, Klt 20, Pkt 10	84	38	292
66.	Sripurathaan-South	66-2	Mdk 70, Klt 20, Pkt 10	84	38	292
67.	Sriraman	3	Pkt 55, Mdk 45	70	23	300
68.	Suththamalli	58	Pkt 60, Pdg 20, Mdk 15, Vlm 5	75	28	175
69.	T.Chozhankurichi	52-1	Pkt 55, Mdk 45	—	—	—
70.	T.Chozhankurichi	52-2	Pkt 55, Mdk 45	—	—	—
71.	T.Pazhoor	71	Klt 65, Mdk 35	76	8	173
72.	Thandalai	29	Mud 80, Pkt 15, Mdk 5	69	13	84

(1)	(2)	(3)	(4)	(5)	(6)	(7)
73.	Thaththanur-East	53-2	Pkt 85, Mdk 15	91	33	96
74.	Thattthanur-West	53-1	Pkt 85, Mdk 15	91	33	96
75.	Thazhuthazhaimedu	39	Mkd 95, Pkt 5	120	75	310
76.	Thenkachchi-perumalnatham	70	Klt 100	—	—	—
77.	Thevamangalam	44	Mdk 95, Pkt 5	73	14	259
78.	Thirukkalappoor	14	Mdk 100	—	—	—
79.	Udaiyavar-theeyanoor	61	Mdk 95, Pkt 5	—	—	—
80.	Udayanatham-East	78-2	Mdk 95, Pkt 5	85	38	105
81.	Udayanathan-West	78-1	Mdk 100	85	38	105
82.	Udaiyaarpalaiyam East	51-2	Pkt 100	54	9	156
83.	Udaiyaarpalaiyam West	51-1	Mdk 75, Pkt 25	54	9	156
84.	Ulkottai-North	42-1	Mdk 95, Pkt 5	99	13	92
85.	Ulkottai-South	42-2	Mdk 95, Pkt 5	99	13	92
86.	ulliakkudi	55	Mdk 45, Vlm 45 Pkt 10			
87.	Vanathiraiyan-pattinam	49	Mdk 65, Pkt 35	91	43	282
88.	Vankudi	17	Mdk 100	100	28	135
89.	Varadharajanpettai	12	Pkt 100	81	9	71
90.	Vaariankaaval	25	Pkt 95, Mdk 5	81	18	364
91.	Vazhaikkurichi	69	Klt 95, Mdk 5	65	59	—
92.	Vembukkudi	79	Mdk 55, Pkt 45	76	25	7
93.	Venmaankondaan East	56-2	Pkt 90, Mdk 5, Pdg 5	—	—	—
94.	Venmaankondaan West	56-1	Pkt 90, Mdk 5, Pdg 5	—	—	—
95.	Veththiyaarvettu	33	Mck 100	70	11	136
96.	Vilandhai-North	11-1	Mck 50, Pkt 40, Vlr i- Pkt 10	79	68	375
97.	Vilandhai-South	11-2	Mck 50, Pkt 40, Vlr i- Pkt 10	79	68	375

## LAND CAPABILITY CLASSIFICATION

### UDAIYARPALAIYAM TALUK

S.No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations	Needs
1.	II e - Lands that have moderate limitations for sustained use under agriculture	Padugai	401	0.42	Erosion	Soil conservation
	II s - Lands that have moderate limitations for sustained use under agriculture	Kalathur and Madukkur	54,910	58.25	Slow permeability	Cultivation of suitable crops
	II es - Lands that have moderate limitations for sustained use under agriculture	Mudukulam	6,012	6.38	Erosion and texture	Textural improvement and soil conservation
2.	III e - Lands that have severe limitations for sustained use under agriculture	Pattukkottai, Vallam and Vallam + Pattukkottai	24,720	26.22	Erosion	Soil conservation and cultivation of suitable crops
		Others	1,203	1.28	—	—
		Forest	7,023	7.45	—	—
<b>Total</b>			<b>94,269</b>	<b>100.00</b>	—	—

**Class**

**II** *Lands that have moderate limitations for sustained use under agriculture*

**III** *Lands that have severe limitations for sustained use under agriculture*

**Sub class**

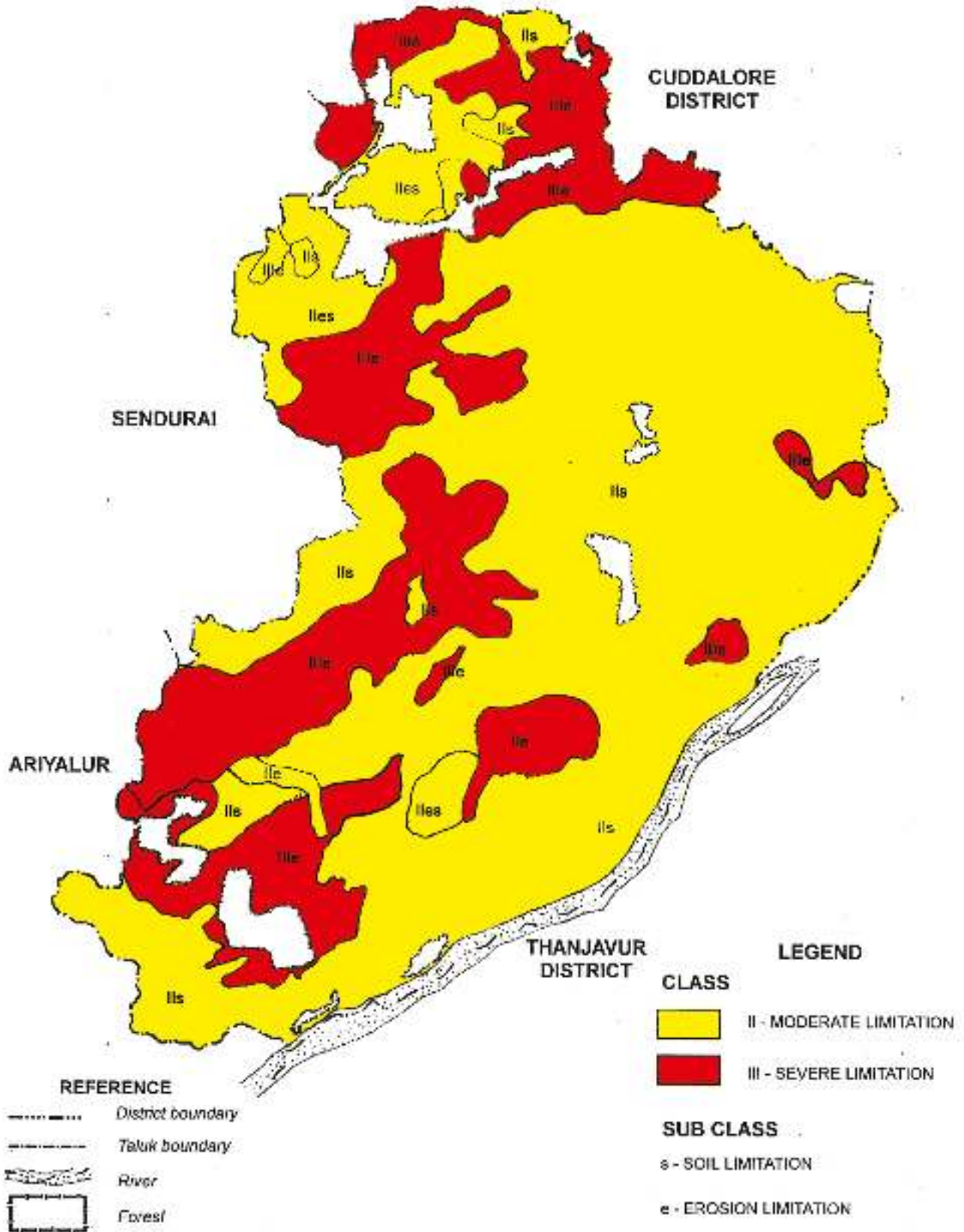
**e** *erosion and run off*

**s** *root zone limitation*

**w** *wetness*



# LAND CAPABILITY UDAIYARPALAYAM TALUK



## LAND IRRIGABILITY CLASSIFICATION

### UDAIYARPALAIYAM TALUK

S. No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations
1.	2 s - Lands that have moderate limitations for sustained use under irrigation	Madukkur	50,440	53.50	Light texture
	2 t - Lands that have moderate limitations for sustained use under irrigation	Mudukulam	6,012	6.38	Topography
	2 d - Lands that have moderate limitations for sustained use under irrigation	Kalathur	4,470	4.74	Heavy texture and poor drainage
	2 st - Lands that have moderate limitations for sustained use under irrigation	Padugai	401	0.43	Topography
2.	3 st - Lands that have severe limitations for sustained use under irrigation	Pattukkottai	23,651	25.09	Poor depth light texture and topography
	3 st - Lands that have severe limitations for sustained use under irrigation	Vallam and Vallam + Pattukkottai	1,069	1.13	Poor depth and light texture and topography
		Others	1,203	1.28	—
		Forest	7,023	7.45	—
<b>Total</b>			<b>94,269</b>	<b>100.00</b>	

**Class**

- 2** Lands that have moderate soil limitations for sustained use under irrigation
- 3** Lands that have severe soil limitations for sustained use under irrigation

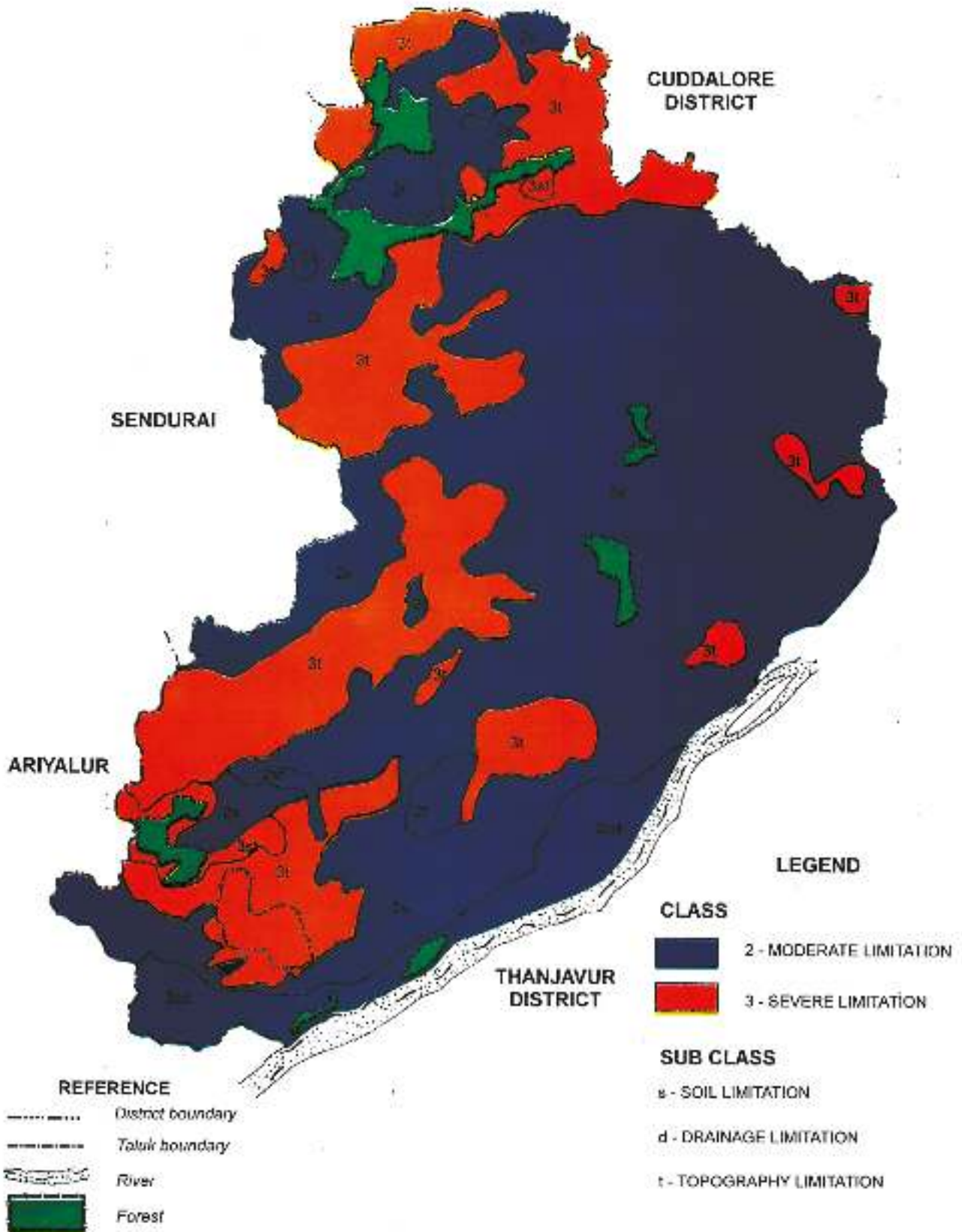
**Sub class**

- s** soil problem
- t** topography
- d** drainage



# LAND IRRIGABILITY

## UDAIYARPALAYAM TALUK



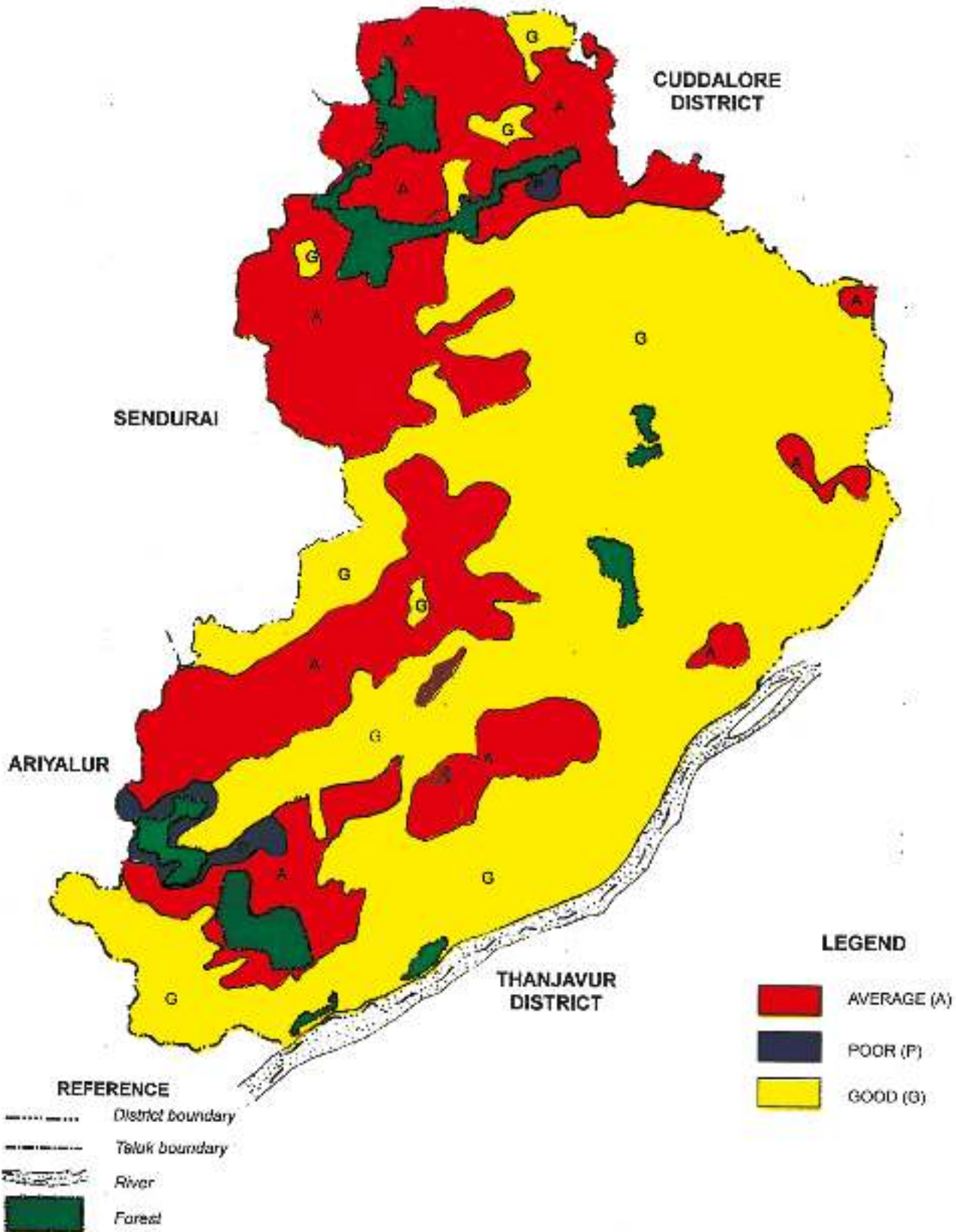
## SOIL PRODUCTIVITY

### UDAIYARPALAIYAM TALUK

S.No.	Productivity		Soil series	Extent (ha)	Per cent to total
	Rating	Groupings			
1.	8 - 19	Poor (P)	Vallam and Vallam+Pattukkottai	1,069	1.13
2.	20 - 34	Average (A)	Mudukulam and Pattukkottai	29,663	31.47
3.	35 - 64	Good (G)	Kalathur, Madukkur and Padugai	55,311	58.67
			Others	1,203	1.28
			Forest	7,023	7.45
<b>Total</b>				<b>94,269</b>	<b>100.00</b>



# SOIL PRODUCTIVITY UDAIYARPALAYAM TALUK



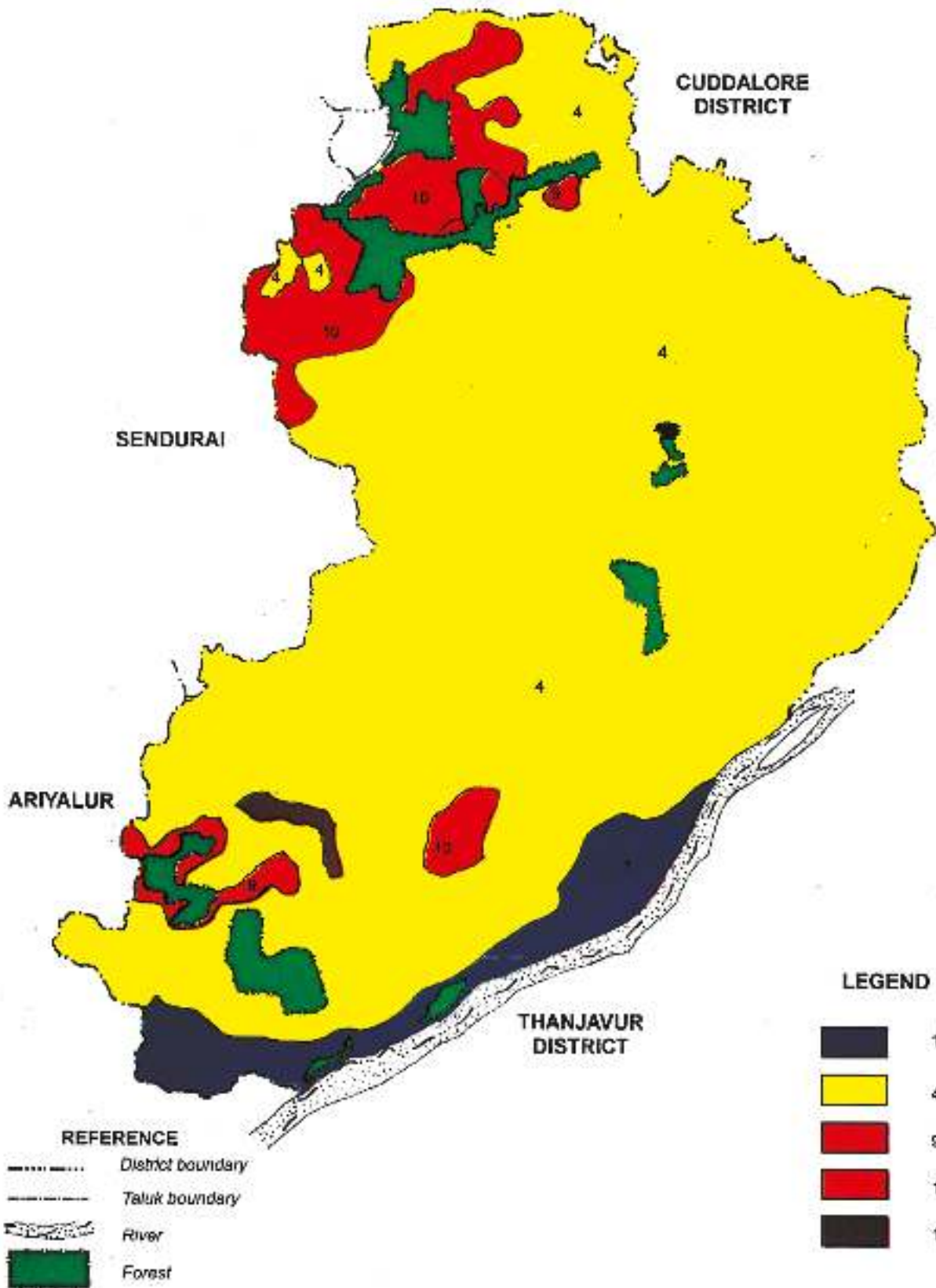
## CROPS GROWN

### UDAIYARPALAIYAM TALUK

S.No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Rice, Sugarcane and Banana	Millets and Pulses	1	Kalathur
2.	Rice, Millets, Groundnut and Cotton	Groundnut, Millets, Gingelly and Redgram	4	Madukkur and Pattukkottai
3.	Groundnut, Redgram, Cholam and Onion	Groundnut, Redgram, Millets and Cashew	9	Vallam and Vallam+Pattukkottai
4.	Groundnut, Redgram, Cholam and Onion	Groundnut	10	Mudukulam
5.	Rice, Vegetables and Chillies		12	Padugai



# CROPS GROWN UDAIYARPALAYAM TALUK



## DISTRIBUTION OF SOIL SERIES

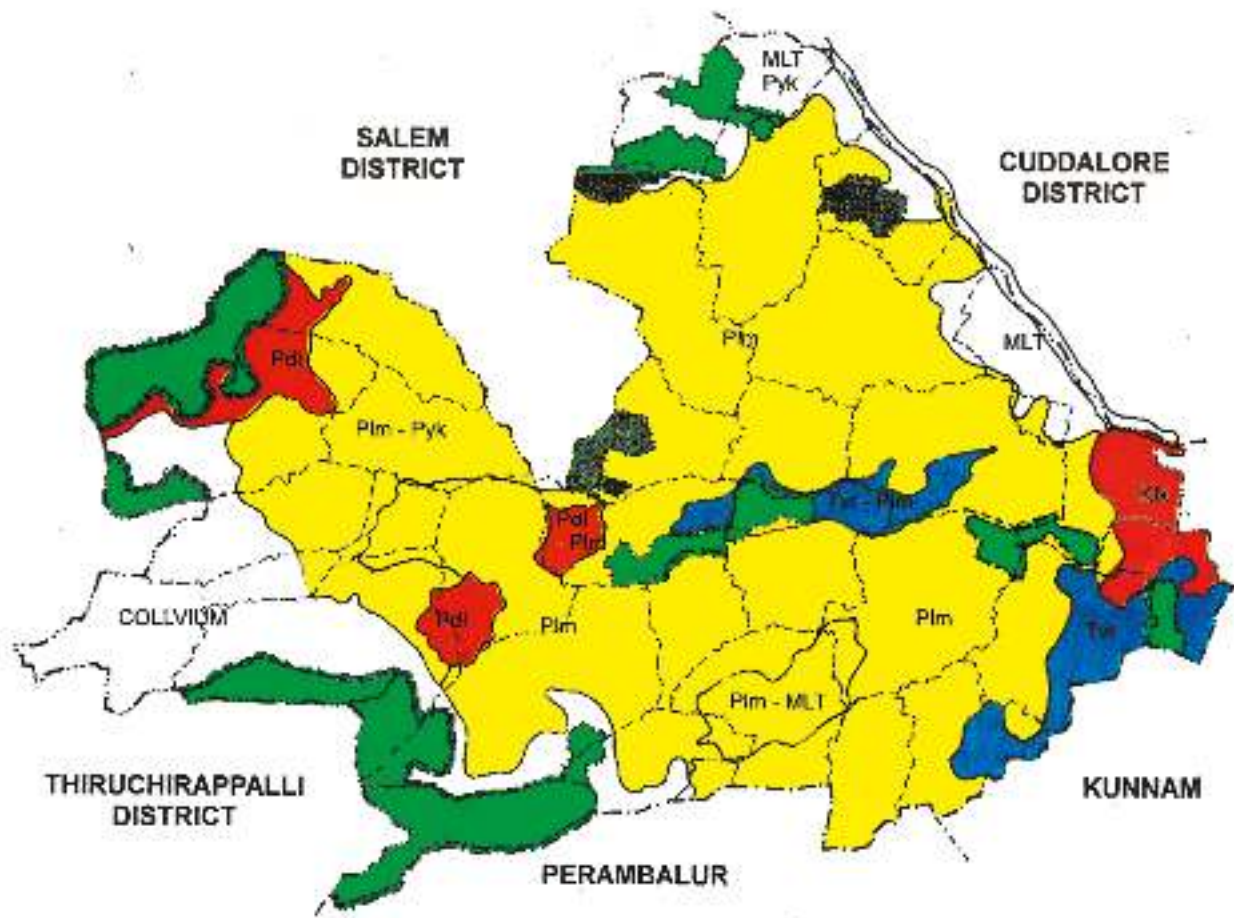
### VEPPANTHATTAI TALUK

S.No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Kallakkudi	Klk	1,391	2.42
2.	Padalur	Pdl	1,899	3.31
3.	Pilamedu	Plm	27,420	47.79
4.	Thevaiyur	Tvr	1,452	2.53
5.	Padalur+Pilamedu	Pdl+Plm	275	0.48
6.	Pilamedu+Miscellaneous Land Type	Plm+MLT	1,285	2.24
7.	Pilamedu+Periyayakkanpalayam	Plm+Pyk	5,586	9.74
8.	Thevaiyur+Pilamedu	Tvr+Plm	726	1.27
9.	Miscellaneous Land Type	MLT	4,022	7.01
10.	Others	—	6,202	10.81
11.	Forests	—	7,114	12.40
<b>Total</b>			<b>57,372</b>	<b>100.00</b>



# SOILS

## VEPPANTHATTAI TALUK



### REFERENCE

-  District boundary
-  Taluk boundary
-  Village boundary
-  Forest boundary
-  River

### LEGEND

-  P<sub>lm</sub> PILAMEDU
-  K<sub>kl</sub> KALLAKKUDI
-  P<sub>dl</sub> PADALUR
-  T<sub>ve</sub> THEVAIYUR+PILAMEDU
-  FOREST

**VILLAGE WISE DISTRIBUTION OF SOIL SERIES AND FERTILITY INDICES**
**VEPPANTHATTAI TALUK**

Sl. No.	Revenue village	Village No.	Distribution of Soil series in Percentage	Fertility indices (kg/ac)		
				Nitrogen (N)	Phosphorus (P <sub>2</sub> O <sub>5</sub> )	Potassium (K <sub>2</sub> O)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Anukkur	56	Plm 55, Plm+MLT 45	48	23	183
2.	Arumbavoor	4	Colluvium 55, Plm+Pyk 45	76	33	301
3.	Brahmmadesham	55	Plm 85, Pdl 15	65	23	223
4.	Eraiyr	26	Klk 50, Tvr 40, Plm 10	113	41	186
5.	Kaikkalathur-West	15-1	Plm 90, MLT+Pyk 10	79	19	275
6.	Kaikkalathur-East	15-2	Plm 90, MLT+Pyk 10	79	19	275
7.	Kaariyanoor	16	Plm 75, Pyk+MLT 25	84	19	446
8.	Malaiyalappatti	6	Colluvium 90, Plm-Pyk 10	103	16	206
9.	Mettuppalaiyam North	23-1	Plm 90, Plm+MLT 10	82	68	212
10.	Mettuppalaiyam South	23-2	Plm 90, Plm+MLT 10	82	68	212
11.	Neikuppai	19	Plm 100	84	39	223
12.	Nooththappoor North	13-1	Plm 95, Pyk+MLT 5	65	23	362
13.	Nooththappoor South	13-2	Plm 95, Pyk+MLT 5	65	23	362
14.	Paandagappaadi	18	Plm 95, Tvr+Plm 5	85	11	210
15.	Pasumbaloor-North	17-1	Plm 85, MLT 15	87	58	232
16.	Pasumbaloor-South	17-2	Plm 85, MLT 15	87	58	232
17.	Peraiyur	25	Klk 65, Plm 35	91	56	243

(1)	(2)	(3)	(4)	(5)	(6)	(7)
18.	Periyavadagarai	12	Plm 100	57	24	432
19.	Pillangulam	14	Pyk-MLT 95, Plm 5	84	19	446
20.	Pimbaloor	20	Plm 80, Tvr-Plm 20	102	102	410
21.	Poolambadi-East	2-1	Plm-Pyk 35, Colluvium 35, Pdl 30	115	19	161
22.	Poolambadi-West	2-2	Plm-Pyk 35, Colluvium 35, Pdl 30	115	19	161
23.	Thazhuthazai	5	Plm 90, Plm-Pyk 10	112	21	143
24.	Thevaiyur-North	24-1	Plm 45, Tvr 45, Klk 10	113	41	429
25.	Thevaiyur-South	24-2	Plm 45, Tvr 45, Klk 10	113	41	429
26.	Thiruvaalanthurai	21	MLT 95, Plm 5	86	65	257
27.	Thondamanthurai North	7-1	Colluvium 55, Plm-Pyk 35, Pdl 5, Plm 5	70	19	186
28.	Thondamanthurai South	7-2	Colluvium 55, Plm-Pyk 35, Pdl 5, Plm 5	70	19	186
29.	Thondappaadi	10	Plm 100	50	6	135
30.	Udumbium	1	Plm-Pyk 80, Pdl 20	51	19	186
31.	Vaalikandapuram	54	Plm 65, Tvr 35	48	23	183
32.	Venbavoor	11	Plm 60, Pdl-Plm 15, Tvr-Plm 15, RF 10	79	19	275
33.	Vengalam-East	8-1	Plm 75, Pdl 20, Pdl-Plm 5	98	19	216
34.	Vengalam-West	8-2	Plm 75, Pdl 20, Pdl-Plm 5	98	19	216
35.	Venganoor	2	Plm-Pyk 95, Plm 5	76	33	301
36.	Veppanthattai-North	9-1	Pdl 5, Plm 95	49	33	238
37.	Veppanhattai-South	9-2	Plm 45, Colluvium 35, RF 20	49	33	238
38.	V.Kalathur	22	Plm 100	86	65	257

## LAND CAPABILITY CLASSIFICATION

### VEPPANTHATTAI TALUK

S. No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations	Needs
1.	III s - Lands that have severe limitations for sustained use under agriculture	Padalur and Padalur + Pilamedu	2,174	3.79	Salinity and alkalinity	Textural improvement and cultivation of suitable crops
	III es -Lands that have severe limitations for sustained use under agriculture	Kallakkudi, Pilamedu, Thevaiyur, Pilamedu+ Perivanayakkanpalayam, Thevaiyur + Pilamedu and Pilamedu + Miscellaneous Land Type	37,860	65.99	Erosion alkalinity and slow permeability	Soil reclamation and conservation drainage improvement and cultivation of suitable crops
		Others	10,224	17.82	—	—
		Forest	7,114	12.40	—	—
<b>Total</b>			<b>57,372</b>	<b>100.00</b>	—	—

**Class**

**III** *Lands that have severe limitations for sustained use under agriculture*

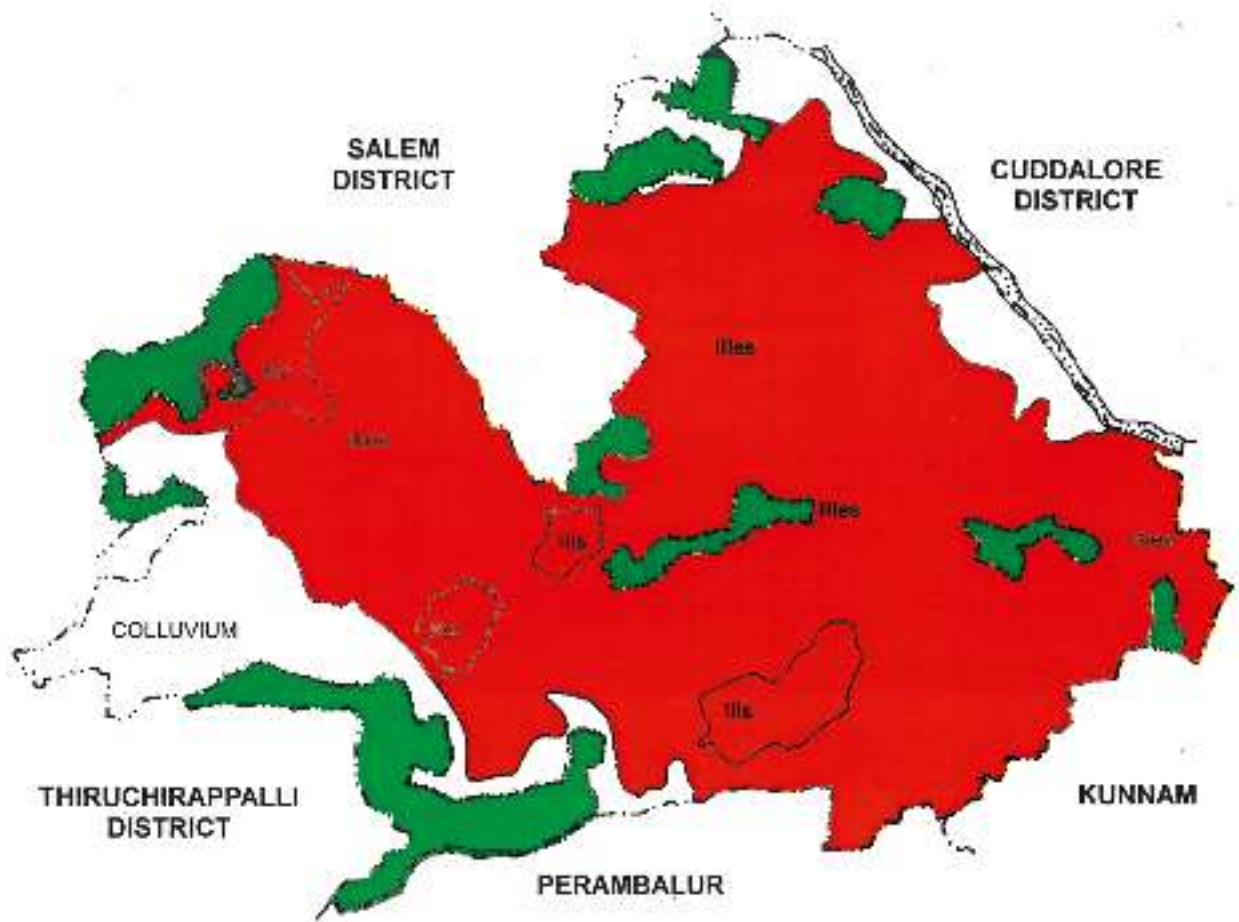
**Sub class**

**e** *erosion and run off*  
**s** *root zone limitation*  
**w** *wetness*



# LAND CAPABILITY

## VEPPANTHATTAI TALUK



### REFERENCE

-  District boundary
-  Taluk boundary
-  River
-  Forest

### LEGEND

#### CLASS

-  II - MODERATE LIMITATION

#### SUB CLASS

- e - SOIL LIMITATION
- c - EROSION LIMITATION

## LAND IRRIGABILITY CLASSIFICATION

### VEPPANTHATTAI TALUK

S. No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations
	3 sd - Lands that have severe limitations for sustained use under irrigation	Kallakkudi, Pilamedu, Pilamedu + Perivanayakkanpalayam and Pilamedu + Miscellaneous Land Type	35,682	62.19	Alkalinity, heavy texture and poor drainage
	3 st - Lands that have severe limitations for sustained use under irrigation	Padalur, Thevaiyur, Padalur + Pilamedu and Thevaiyur + Pilamedu	4,352	7.59	Light texture and topography
—		Others	10,224	17.82	—
—		Forest	7,114	12.40	—
<b>Total</b>			<b>57,372</b>	<b>100.00</b>	—

**Class**

**3** *Lands that have severe soil limitations for sustained use under irrigation*

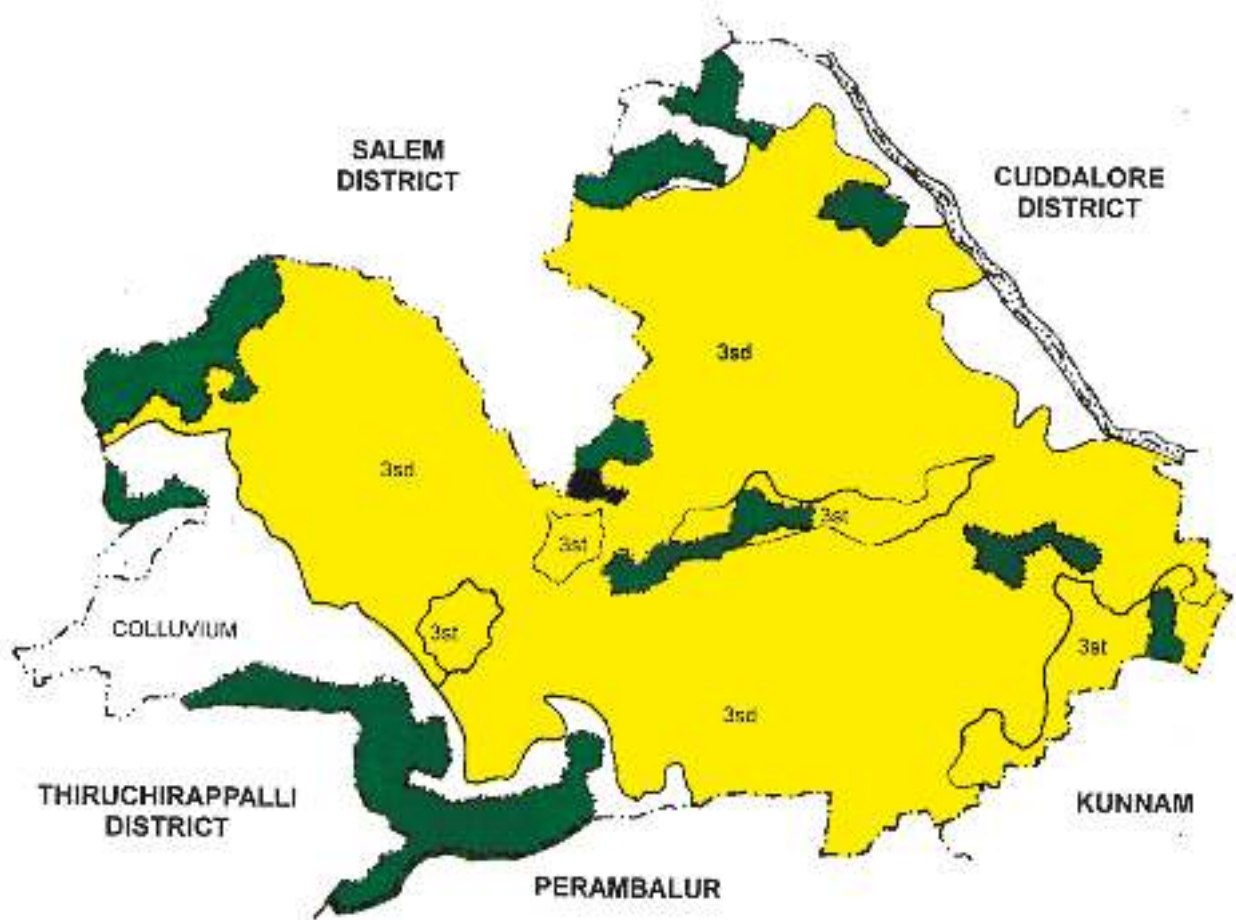
**Sub class**

**s** *soil problem*  
**t** *topography*  
**d** *drainage*



# LAND IRRIGABILITY

## VEPPANTHATTAI TALUK



### REFERENCE

-  District boundary
-  Taluk boundary
-  River
-  Forest

### LEGEND

#### CLASS

-  3 - SEVERE LIMITATION

#### SUB CLASS

- s - SOIL LIMITATION
- d - DRAINAGE LIMITATION
- t - TOPOGRAPHY LIMITATION

## SOIL PRODUCTIVITY

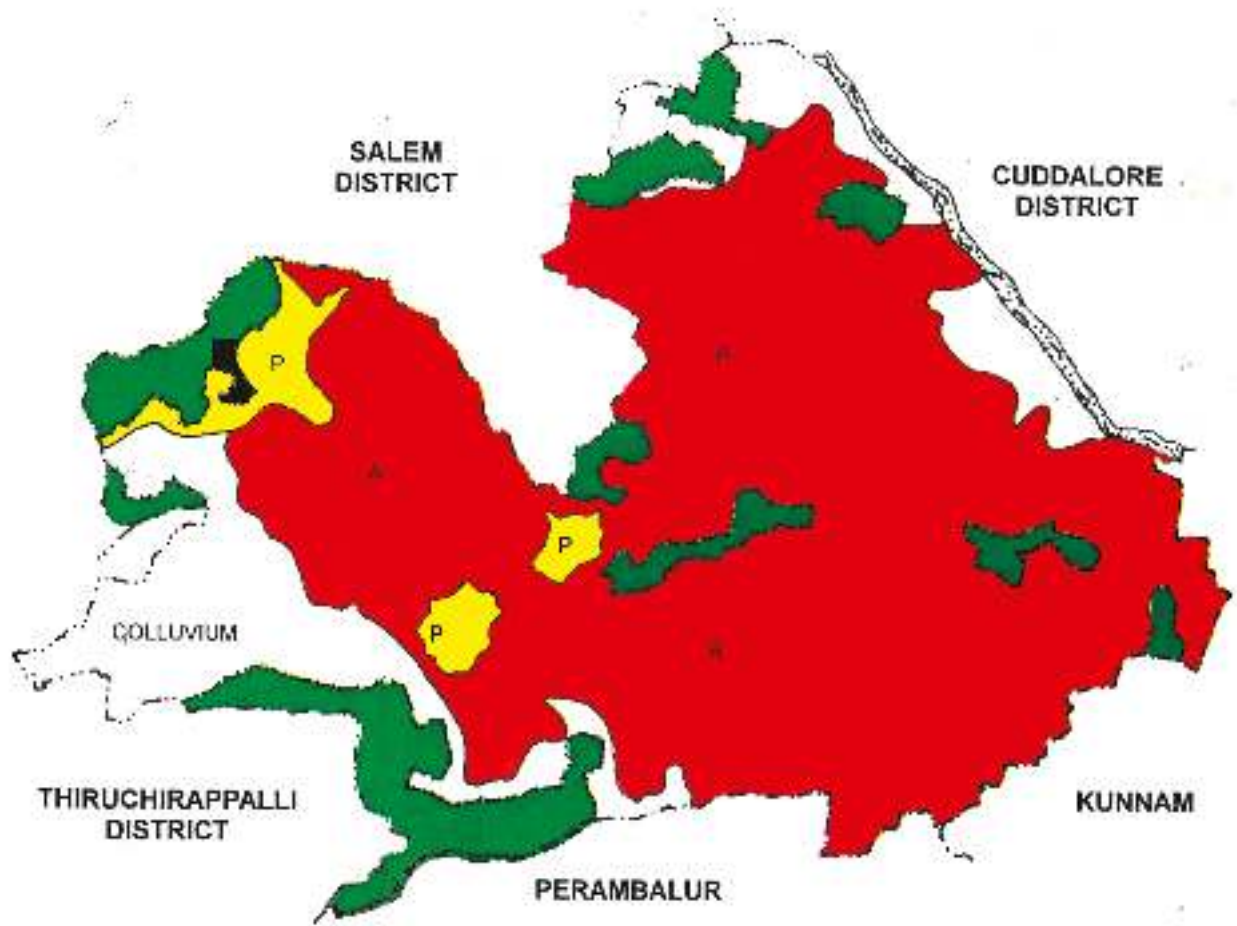
### VEPPANTHATTAI TALUK

S.No.	Productivity		Soil series	Extent (ha)	Per cent to total
	Rating	Groupings			
	8 - 19	Poor (P)	Padalur and Padalar+Pilamedu	2,174	3.79
	20 - 34	Average (A)	Kallakkudi, Pilamedu, Thevaiyur, Pilamedu+ Perianayakkanpalayam, Thevaiyur + Pilamedu and Pilamedu + Miscellaneous Land Type	37,860	65.99
			Others	10,224	17.82
			Forest	7,114	12.40
<b>Total</b>				<b>57,372</b>	<b>100.00</b>



# SOIL PRODUCTIVITY

## VEPPANTHATTAI TALUK



### REFERENCE

- District boundary
- Taluk boundary
- River
- Forest

### LEGEND

- AVERAGE (A)
- POOR (P)

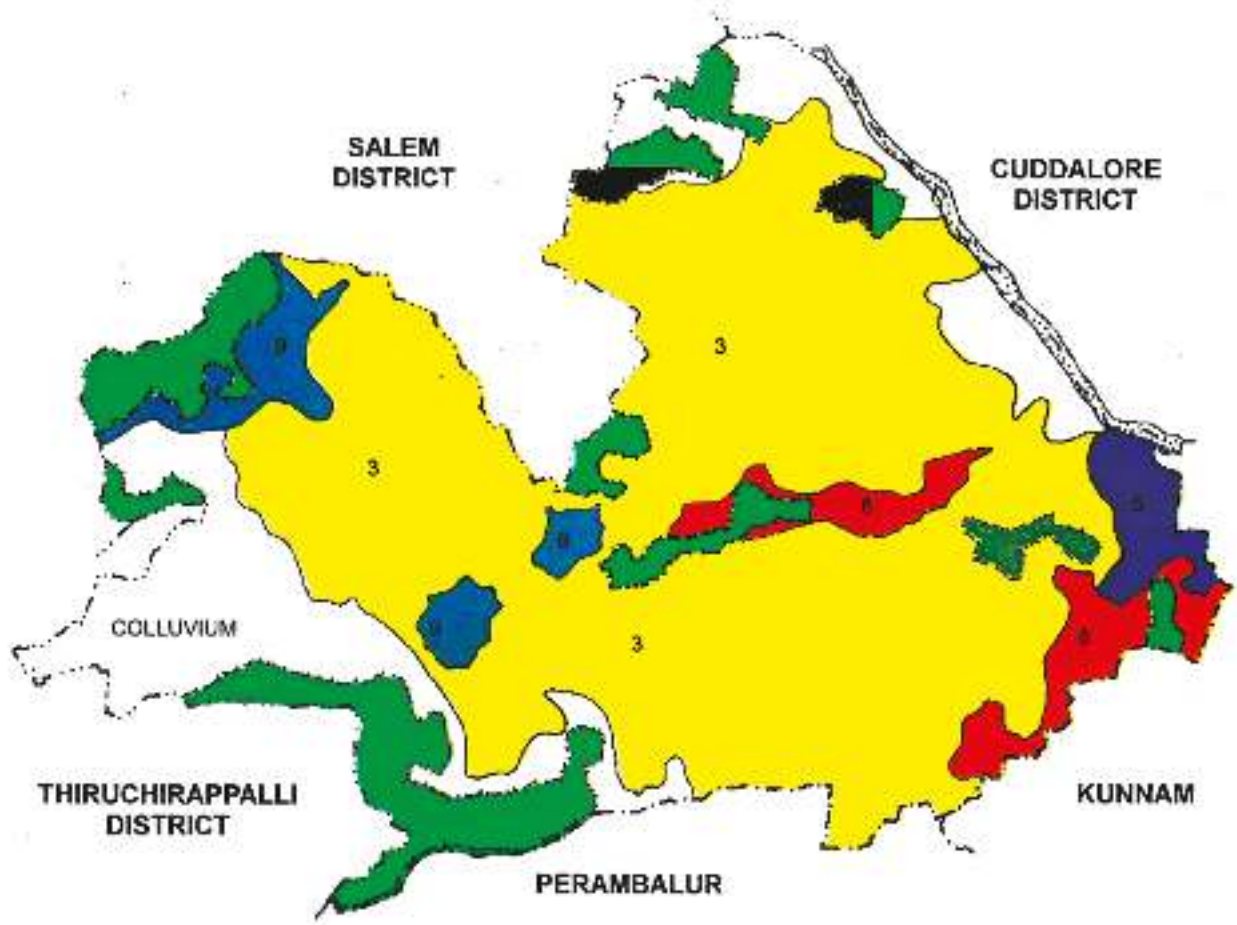
**CROPS GROWN**

**VEPPANTHATTAI TALUK**

S.No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Sugarcane, Tapioca, Onion, Groundnut and Rice	Chillies, Groundnut, Gingelly, Coriander, Cotton, Millets and Redgram	3	Pilamedu, Pilamedu+ Periyamayakkanpalayam and Pilamedu + Miscellaneous Land Type
2.	Rice and Chillies	Chillies, Groundnut, Millets and Rice	5	Kallakkudi
3.	—	Sorghum, Gingelly and Groundnut	8	* Thevaiyur
4.	Sorghum, Onion, Groundnut and Redgram	Cashew, Groundnut, Millets and Redgram	9	Padalur and Padalur+Pilamedu




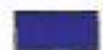

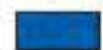
# CROPS GROWN VEPPANTHATTAI TALUK



### REFERENCE

-  District boundary
-  Taluk boundary
-  River
-  Forest

### LEGEND

-  3
-  5
-  8
-  9



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Report No. 5 Published by SS&LUO Coimbatore  
  
ii) *Soil Brochure Thiruchirappalli district*  
Compiled by staff Soil Testing Laboratory Thiruchirappalli  
  
ii) *Village level fertility status*  
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