SOIL ATLAS
THIRUCHIRAPPALLI DISTRICT

SOIL SURVEY & LAND USE ORGANISATION

(DEPARTMENT OF AGRICULTURE TAMIL NADU)

THANJAVUR 613 001

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வீரபாண்டி எஸ். ஆறுமுகம்
வேளாண்மைத் துறை அமைச்சர்

தலைமைச் செயலகம்
சென்னை 600 009

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, விரிவாக்க அலுவலர்களுக்கும் மிகவும் பயன் உள்ளதாக இருக்கும் என நம்புகிறேன்.

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

அன்புடன்,

வீ. ஆறுமுகம்
27.4.98

நா. ஆதிமூலம், இ.ஆ.ப.
அரசு செயலர்

வேளாண்மைத் துறை
சென்னை 600 009

அணிந்துரை

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

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

இத்தொகுப்பேட்டில் விரவிக்கிடக்கும் விவரங்கள் சீரிய திட்டமிடலுக்கு அடித்தளமாக அமைகின்றன. ஒரிடத்தில் நிலவும் தட்பவெப்ப நிலை, பாசன வளம், பயிர் சாகுபடி விவரங்கள், மண் வகைகள் அவற்றின் விளைதிறன், ஏற்புடைய பயிர்கள் பற்றிய விளக்கங்கள் இடம்பெற்றுள்ளன. ஆக இவற்றின் அடிப்படையில் அமல்படுத்தப்படும் உற்பத்திப் பெருக்கத் திட்டங்கள் அபரிமித வெற்றி அளிப்பதில் ஆச்சரியமில்லை. உதாரணமாக அண்மையில் மணிகண்டம் ஒன்றியத்தில் நிறைவேற்றப்பட்ட வேளாண் வளர்ச்சியில் வளர்ந்திடத் திட்டத்தினைச் சொல்லலாம். இத்திட்டத்தின் முதன்மைச் செயல் அம்சமாக இப்பகுதி நிலங்கள் நெறிப்படுத்தப்பட்டன. இத்தலைய அணுகுமுறையினால் களர்த்தன்மை உடைய இப்பகுதி நிலங்களில் சீர்த்திருத்தம் மேற்கொண்டதின் மகசூலானது எக்டேருக்கு 400 கிலோ முதல் 700 கிலோ வரை உயர்ந்துள்ளது என்பது பெருமைக்குரியதாகும்.

மிக பயன் அளிக்கவல்ல இத்தொகுப்பேட்டு விவரங்களினை உற்பத்தி முனைவோர் அனைவரும் பெற்றிட இதனை அச்சிடும் பணிக்கு ரூ. 10.5 இலட்சம் அனுமதித்து தமிழ்நாடுஅரசு ஆணையிட்டுள்ளது. அதன் தொடர் நிகழ்வாகவே ஏட்டளவில் இருந்த இத்தொகுப்பேடுகள் வண்ணமிகு வடிவுடனும், விவரப்பொலிவுடனும் அச்சேறி தற்போது நற்பயன் அளிக்கும் நிலை பெற்றுள்ளன. வேளாண்மை இயக்குநராக அன்று நான் துவங்கிய பணி, செயலராகப் பொறுப்பேற்றுள்ள இந்நாளில் மலர்ந்து மிளிர்வது குறித்து மட்டற்ற மகிழ்ச்சி அடைகிறேன். அத்துடன் இத்தொகுப்பேட்டுவிவரங்கள் நுண் திட்டமிடல், ஏழுமுகத் திட்டம் போன்றவற்றிற்கும் ஆதாரமாய் அமைகின்றன. புதிய சாதனைகளைத் தொடுவோரை வள்ளுவர்,

வானிற்பெருக்கி வளம்கூட்டு உற்றதவ
ஆராய் வான் எனப் பெருமைப்படுத்துவார்.

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

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

17.4.98

அரசு செயலர்
வேளாண்மைத்துறை

சென்னை
17. 4. 1998

டாக்டர். க. அருள்மொழி, இ.ஆ.ப.
வேளாண்மை இயக்குநர்

சேப்பாக்கம்
சென்னை 600 005

அணிந்துரை

நில மடந்தை நமக்கு அளித்துள்ள இயற்கை வளங்களில் மிக முதன்மையானது மண்வளம் ஆகும். அத்துடன் தமிழர் வாழ்வியலில் மண்ணும் மனிதனும் பின்னிப் பிணைந்தே பேசப்படும். எனவே தான் மண்வகைகளைப் பற்றியும், அவற்றின் சாதக பாதகத் தன்மைகள் பற்றியும் சங்க கால இலக்கியங்கள் விரிவாகவே பேசுகின்றன. பிற்கால அறிவியல் முன்னேற்றம் காரணமாக ஆய்ந்தறிந்து பெறப்பட்ட உண்மைகளும் முந்தையனவைப் பெரிதும் ஒத்து இருந்தமை ஆனது பண்டைத் தமிழரின் அறிவியல் மேன்மையை எடுத்துக் கூறுவதாக அமைந்துள்ளது.

மண்வளங்களைப் பயன்படுத்துவது என்பது சமுதாயக் கட்டாயங்களினால் ஏற்பட்டதாகும். விரிந்து வரும் மக்கள் தொகை பெருகி வரும் உணவுத் தேவைகள் மற்றும் சுருங்கி வரும் சாகுபடிப் பரப்பு ஆகியவை இவற்றுள் அடங்கும். இந்த வகையில் பல மண்வகையீட்டு முயற்சிகள் தேசிய அளவிலும், மாநில அளவிலும் எடுக்கப்பட்டுவந்துள்ளன. அந்நாட்களில் சென்னை இராஜதானியில் நடத்தப்பட்ட மண்வகையீட்டுமுயற்சி இதன் துவக்கம் எனலாம். இதுவும் பின்னர் நடத்தப்பட்ட திட்டங்களும், குறிப்பிட்ட நோக்கத்திற்காகவே அமல் செய்யப்பட்டன. இதன் உச்சக்கட்டமாக 1960 ம் ஆண்டில் தரமான மண்வகையீட்டுத் திட்டம் ஒன்று மண்வகைகளின் தன்மைகளை விரிவாகவும் விளக்கமாகவும் கூர்ந்தாய்வு செய்திட அறிமுகம் செய்யப்பட்டது.

தமிழ்நாட்டு மண்வள ஆதாரங்களை விளக்கும் வரைபடங்கள் தயாரிக்கும் பணியில் வேளாண் துறையில் வகையீட்டுஅலகுகள் பணிக்கப்பட்டன. இவைகள் நடத்திய துவக்க மண்வகையீடு மூலம் பெறப்பட்ட மண்வள ஆதார விவரங்கள் மாவட்ட வாரியாகத் தொகுக்கப்பட்டன. இவை மாவட்ட வளர்ச்சிக்கான திட்டமிடலுக்கு உதவுகரமாக அமைந்துள்ளன. எனினும் வெறும் வரைவு ஏடுகளாகவே இருந்து வந்த இத்தொகுப்பேடுகளை அனைவரும் பெற்றிடும் வகையில் அச்சுப் பதித்து வெளியிட தமிழ்நாடுஅரசு ரூ. 10.5 இலட்சம் நிதி அனுமதித்துள்ளது. இந்த இனிய துவக்கமாகவே மாவட்ட மண்வளத் தொகுப்பேடுகள் தற்சமயம் வெளியிடப்பட்டுள்ளன. இத்தொகுப்பேடுகளில் உணவு உற்பத்திக்கான ஊக்க முயற்சிகளுக்கு போதுமான நிலம் மற்றும் அதனைச் சார்ந்த அனைத்து விவரங்களும் இடம் பெற்றுள்ளன. நீர்ப்பாசனம், தட்பவெப்பச்சூழல், பயிர் வகைகள் விளைதிறன் ஆகிய விவரங்களின் அடிப்படையில் கிராம அளவிலான நுண் திட்டமிடல், ஏறுமுக வளர்ச்சித்திட்டம், பல்துறை பங்கேற்புத் திட்டம் போன்ற முயற்சிகள் அமல் செய்யப்படுவதற்கான இடங்களை அடையாளம் காண இத்தொகுப்பேடு பெரிதும் உதவும்.

பெரும்பயன் தரவல்ல இத்தொகுப்பேட்டினை உருவாக்கி, தொகுத்து வடிவமைத்து வெளியிட உதவிய அனைவர்க்கும் எனது பாராட்டுதல்களை மகிழ்ச்சியுடன் தெரிவித்துக் கொள்கிறேன்.

சென்னை
30. 3. 1998

வேளாண்மை இயக்குநர்

THIRUCHIRAPPALLI

CONTENTS

CONTENTS

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 agriculturl 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

THIRUCHIRAPPALLI DISTRICT

Thiruchirappalli district is most centrally located in the state of Tamil Nadu. This district is spread over eight taluks with a total geographical extent of 4404.12sq.km. with the head quarter at Thiruchirappalli. It is bounded on the north-east by Perambalur district, north,west by Namakkal district, east by Thanjavur district, West by Karur district, south - east by Pudukkottai district, and South by Sivagangai and Madurai district. This district lies between 78°10' to 79°5'. East longitudes and 10°15' and 11°2' North latitude.

Geocode : East longitude 78°10' to 79°5'
North latitude 10°15' and 11°2'

Agro Ecological Region :

D 3.4 Semi arid, hot - Tamilnadu upland with a growing period of 90 - 120 days and little to moderate moisture availability.

D 4.4 Semi arid, hot - central peninsular plateau with a growing period of 120 - 150 days with moderate moisture availability.

Cd 5.5 Dry, sub humid - coastal plain of Tamil Nadu including Cauvery delta with a growing period of 150 - 180 days with moderately high moisture availability.

Agro climatic Zone :

This district comes under three major Agroclimatic sub - zones namely,

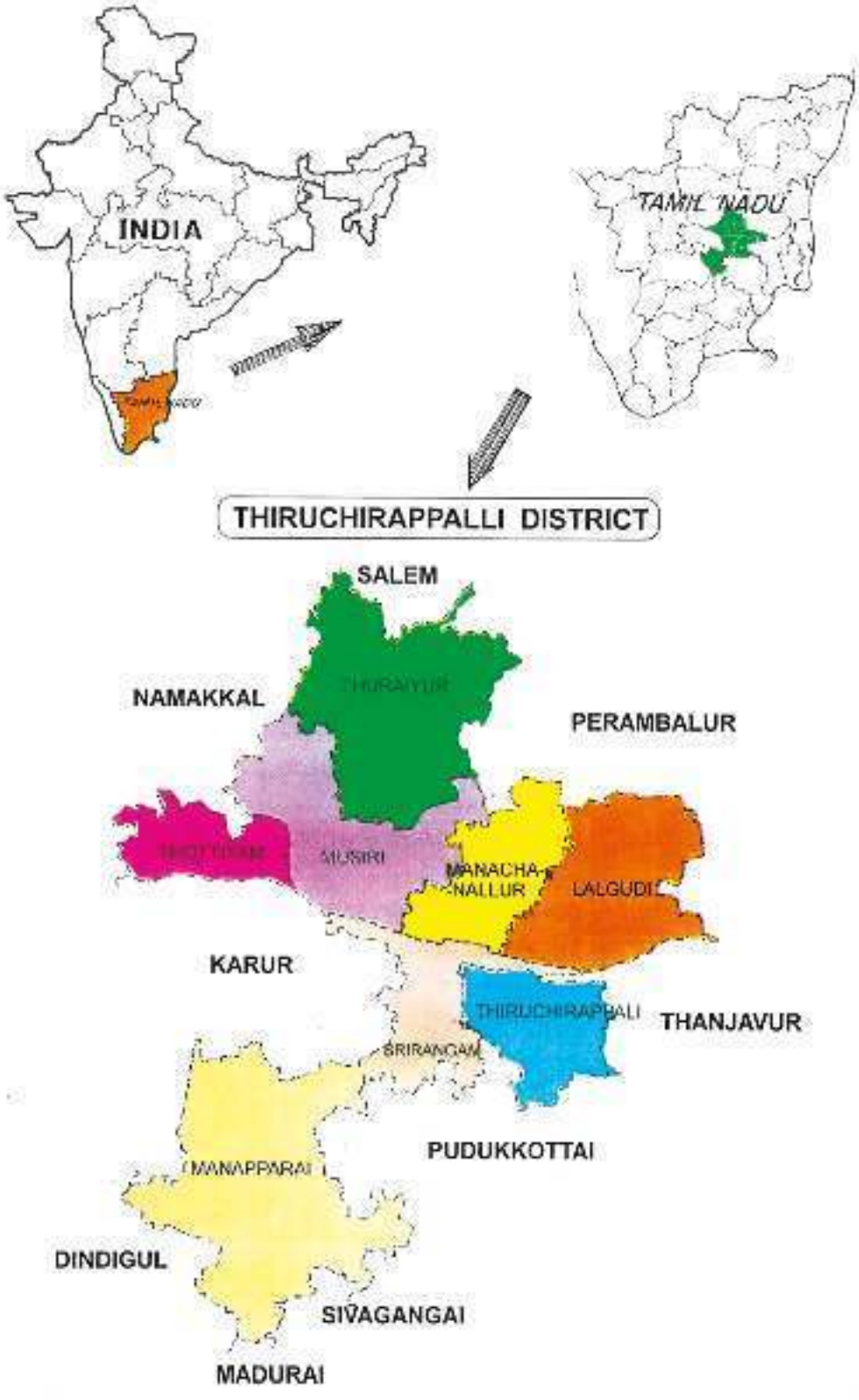
Sub - zone II - North - Western Zone

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

Sub - zone V - Southern zone

LOCATION MAP

THIRUCHIRAPPALLI DISTRICT



TALUKS AND PANCHAYAT UNIONS

THIRUCHIRAPPALLI DISTRICT

Thiruchirappalli district comprises eight taluks and fourteen panchayat unions. This district is spread over in 4,40,412 hectares of land. This district has 483 revenue villages. The geographical extent of each taluk is given below.

Sl. No.	Name of taluks	Name of panchayat unions	Extent (ha)	Percent to total	No. of Revenue village
1.	Lalgudi	1. Lalgudi 2. Pullambadi	59,498	13.51	91
2.	Mannachanallur	3. Mannachanallur	37,149	8.44	44
3.	Manapparai	4. Manapparai 5. Marungapuri 6. Vaiyampatti	99,032	22.48	96
4.	Musiri	7. Musiri 8. Thathaiyangarpettai	66,286	15.05	64
5.	Srirangam	9. Manikandam 10. Andanallur	35,815	8.13	56
6.	Thiruchirappalli	11. Thiruverumbur	33,988	7.72	49
7.	Thottiyam	12. Thottiyam	27,802	6.31	30
8.	Thuraiyur	13. Thuraiyur 14. Uppiliyapuram	80,842	18.36	53
		Total	4,40,412	100.00	483

TALUKS & UNIONS
THIRUCHIRAPPALLI DISTRICT

ROADS AND RAILWAYS

THIRUCHIRAPPALLI DISTRICT

Thiruchirappalli district is well connected with a network of roads, railways and Air - ways. In this district, the total length of road is 2368km. The important roads are as follows.

National High ways :

NH - 45 Chennai - Thiruchirappalli - Madurai - Km. 460

National highways NH7 is connecting Karur and Dindigul

State high ways:

SH 8 - Thiruchirappalli - Coimbatore

SH 6 - Thiruchirappalli - Namakkal

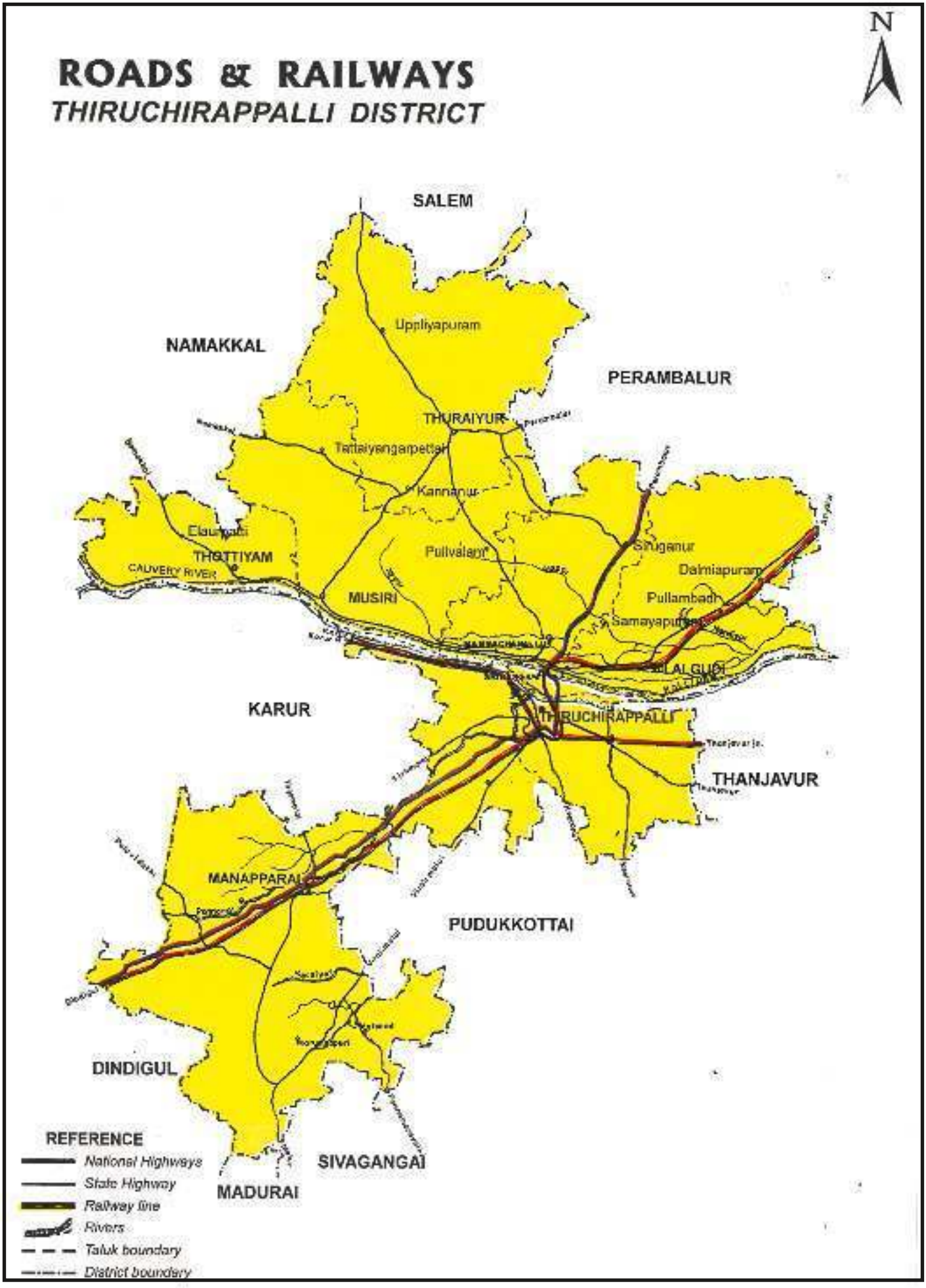
The total length is 739Km.

The major district roads connect the district head quarter, Thiruchirappalli with the taluk head quarters. The total length of the road is 1447 km.

The district is well connected by southern Railways with both metre gauge (137km) and Broad gauge (37km) railways. Thiruchirappalli and Madurai, Thiruchirappalli and Villupram, Thiruchirappalli and Thanjavur, Thiruchirappali and Pudukkottai are connected by metre gauge. Thiruchirappalli and Erode is connected by broad gauge. The total number of railway stations is 29 with one junction at Thiruchirappalli.

The district head quarter Thiruchirappalli is also having air - ways connecting colombo, Chennai and Trivandrum. It is also having airways to Sharja and Kuwait via Thiruchirappalli.

ROADS & RAILWAYS
THIRUCHIRAPPALLI DISTRICT



GEOLOGY

THIRUCHIRAPPALLI DISTRICT

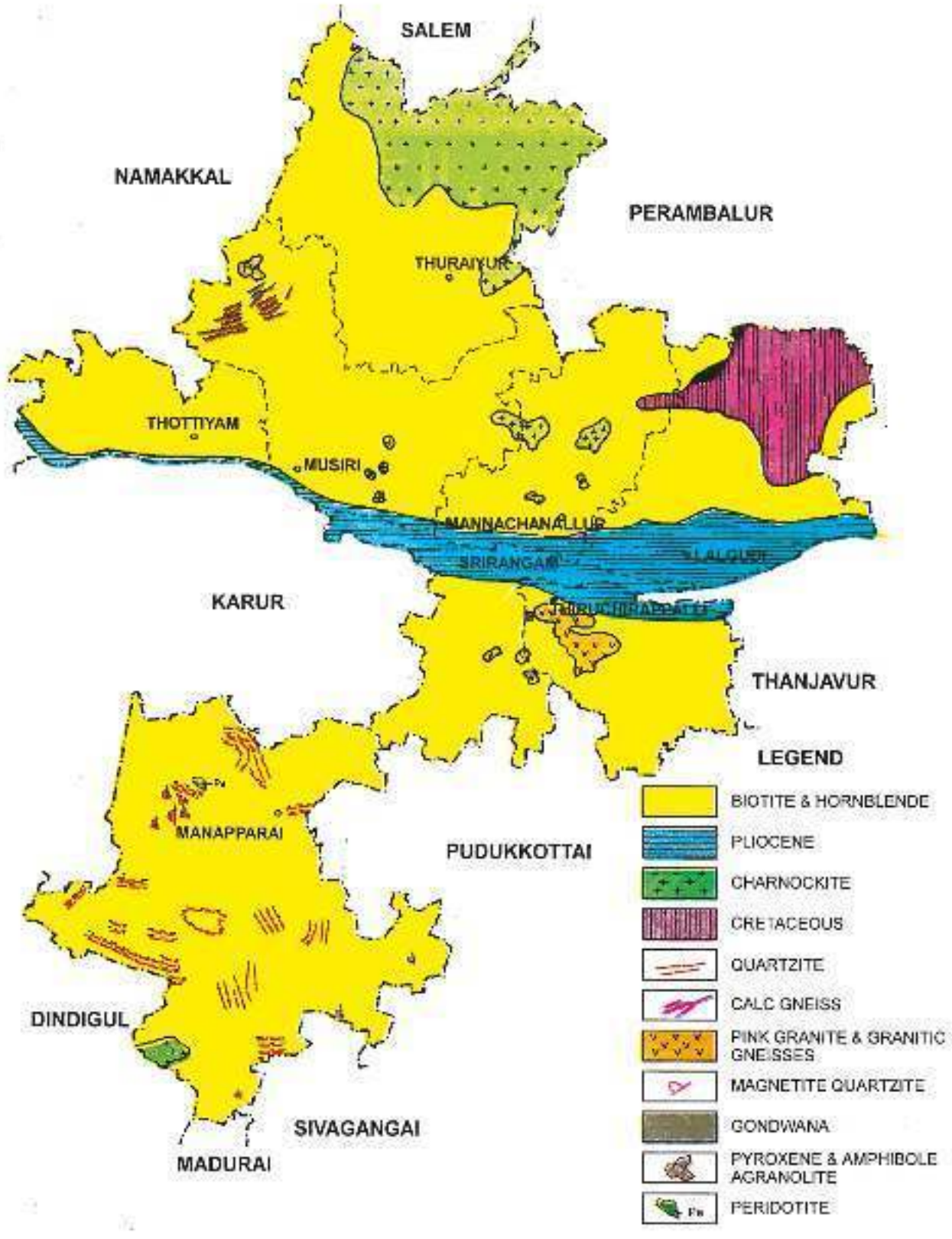
Thiruchirappalli district consists of Archaean, cretaceous and Quatenary geological formations. In limited extent of Lalgudi taluk, formation of Upper Gondwana is observed. The Archaeans consists of complex, igneous and metamorphic rocks such as Quartzite, Biotite and Horn blende, charnokite etc., Manapparai taluk is having limited number of small patches of Quartzite. Biolite and Hornblende are found in large extent in all the eight taluks of Thiruchirappalli district. In the North - Western part of Thuraiyur taluk, Charnockite and associated rocks dominating while pink colour is observed in certain parts of Thiruchirappalli district. Narrow stretches of quartenary formation are seen on the border area between Thuraiyur and Thiruchirappalli taluks. Upper Jurassic formation are represented by the equivalents of Gondwana in small patches in parts of lalgudi which overlay the Archaeans.

Mineral resources :-

Thiruchirappalli district is rich in minerals like lime stone, gypsum, clay and feldspar.

Gypsum	:	The gypsum is deposited, in the bad lands of Tappay and Periyakarukkai villages of Lalgudi taluks. In few localities of Thiruchirappalli district gypsum associated with kankar has been observed.
Clays	:	Small patches of Upper Gondwana clays occur in Lalgudi taluk. These clays are superior type of pottery clays and also used for salt glazed pipes, fire bricks and chemical insulators.
Lime stone	:	Sedimentary lime stone occurring as cretaceous formations in Tiruppathur village of Lalgudi taluk and is estimated 3,00,000 tonnes of 50% CaO.
Crystalline lime stone	:	(Cement grade) Reserves of six million tonnes have been located at Thatchan Kurichi Reservoir forest and kalpalayam area of Lalgudi taluk. High grade crystalline limestone is located in Kallakudi and vadagapatti villages of Lalgudi taluk which is used for the manufacture of cement.
Feldspar	:	A number of pegmatites are found around Manapparai taluk. The mineral is coarse and pink coloured.
Pot - stone	:	It is occuring in the area of Musiri taluk. It is used to prepare utensils.
Phosphatic nodules	:	Phosphatic nodules are found in the gypsum clays of Uttatur group of cretaceous formations in Nambukurichi village of Lalgudi taluk.
Mica	:	Small sized mica have been reported in Manapparai taluk
Vermiculite	:	Hydrobiotite occuring in pegmatite near Sakkampatti and Rajapatti of Manapparai taluk.
Building stone / Road metal	:	Granite rocks occuring at several places as patches in Thiruchirappalli and Musiri taluks are being used as building material.

GEOLOGY
THIRUCHIRAPPALLI DISTRICT



PHYSIOGRAPHY

THIRUCHIRAPPALLI DISTRICT

Thiruchirappalli district is rather irregular in shape. Barring few hills and hillocks, the district is composed of plains, valley bottoms, unduiating upland area and broken chain of Eastern Ghats viz., Pachamalai hills. Part of Pachamalai hills are situated in Musiri taluk. Musiri and Thuraiyur taluks present a gently undulating upland area. Lalgudi taluk is fairly plain. North and North - western parts of Thiruchirappalli present a vast stretch of flat flood plain of Cauvery alluvium with morphology associated with meandering river system. The southern and south Eastern parts present an undulating plains to level plain topography.

The western part of Manapparai taluk includes hilly reserve forests, rock hills in the central part and undulating plains in the rest of the part. In this taluk dykes are prominent.

The major physiographic divisions for this district are established as follows.

Pec : Tamil Nadu plains.

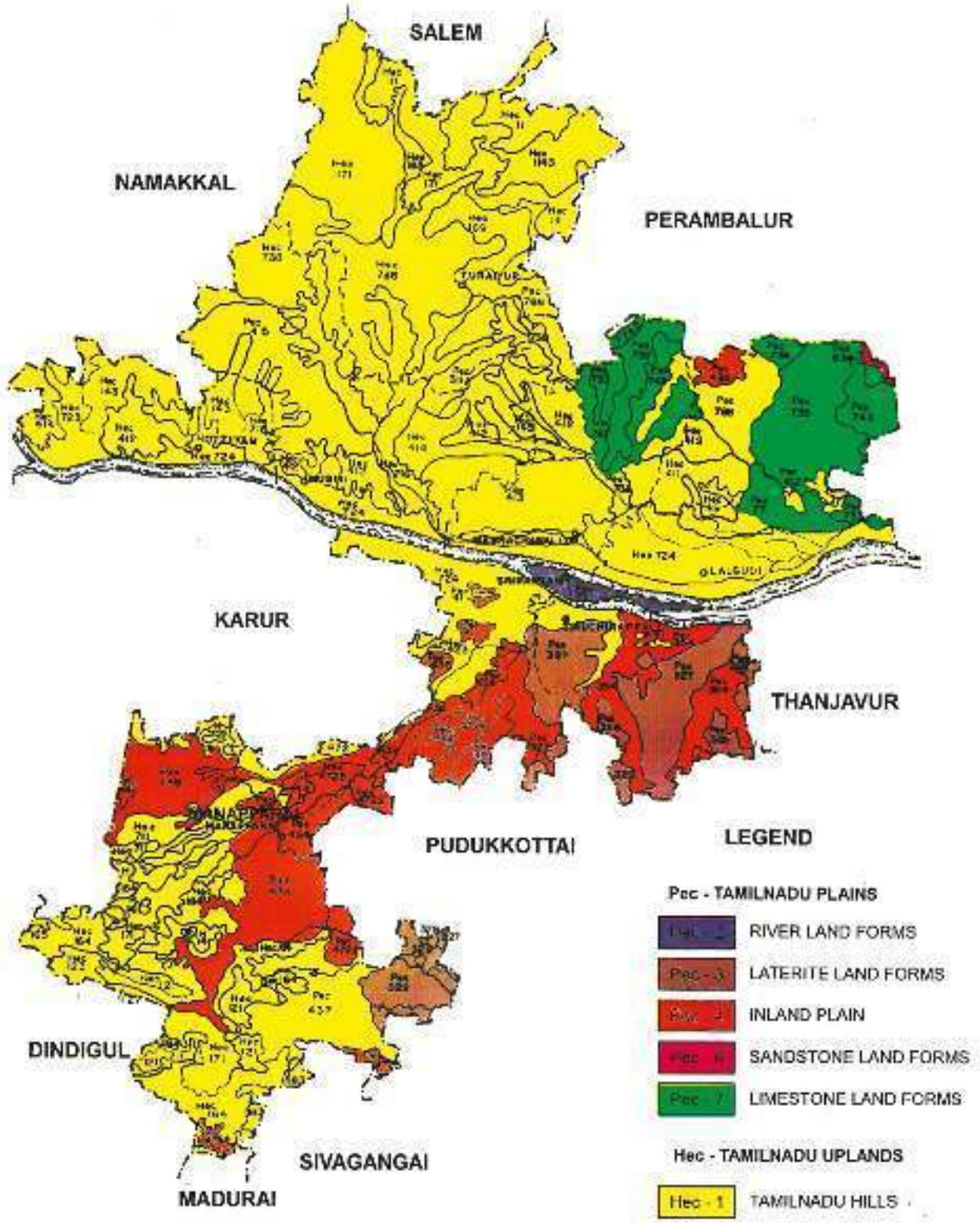
PEC 2 - Riverine land form	:	21 - Alluvial plain
PEC 3 - Lateriteland form	:	326, 327, 328, 329 - Gently sloping to undulating lands
		354 - Low lands - tank irrigated.
PEC 4 - Inland plain	:	434, 436, 438, 439, 4311 - Gently sloping to undulating uplands
		472, 4722, 4724 4725, 4726 - low lands (tank irrigated)
PEC 6 - Sand stone land form	:	- 634 - Gently sloping lands
PEC 7 - Lime stone land form	:	- 73, 732, 733, 735, 738 - Gently sloping lands.
		743 - low lands / valleys.

HEC : Tamil Nadu uplands

HEC 1 : Tamil Nadu Hills	:	111, 1143 - High Hills / hill ranges
		121, 123, 127 - low hills.
		14, 143 - Isolated hills / hillocks.
		163, 164, 169 - undulating to gently sloping foot slopes.
		171 - Interhilly basin.
		311 - Undulating uplands
		411, 412, 413, 414, 415, 423, 4725, 49 - Gently sloping to undulating uplands
		711, 716 - Tank irrigated area.
		723, 724 - Canal irrigated area.
		738 - Tank / canal irrigated area.

PHYSIOGRAPHY

THIRUCHIRAPPALLI DISTRICT



RIVER BASIN - WATERSHEDS

THIRUCHIRAPPALLI DISTRICT

The important rivers flowing and substantially benefitting agricultural activities in this district are Cauvery, Coleroon and Vellar. There are six minor River basins in this district. The taluks benefitted by those river basins are given below.

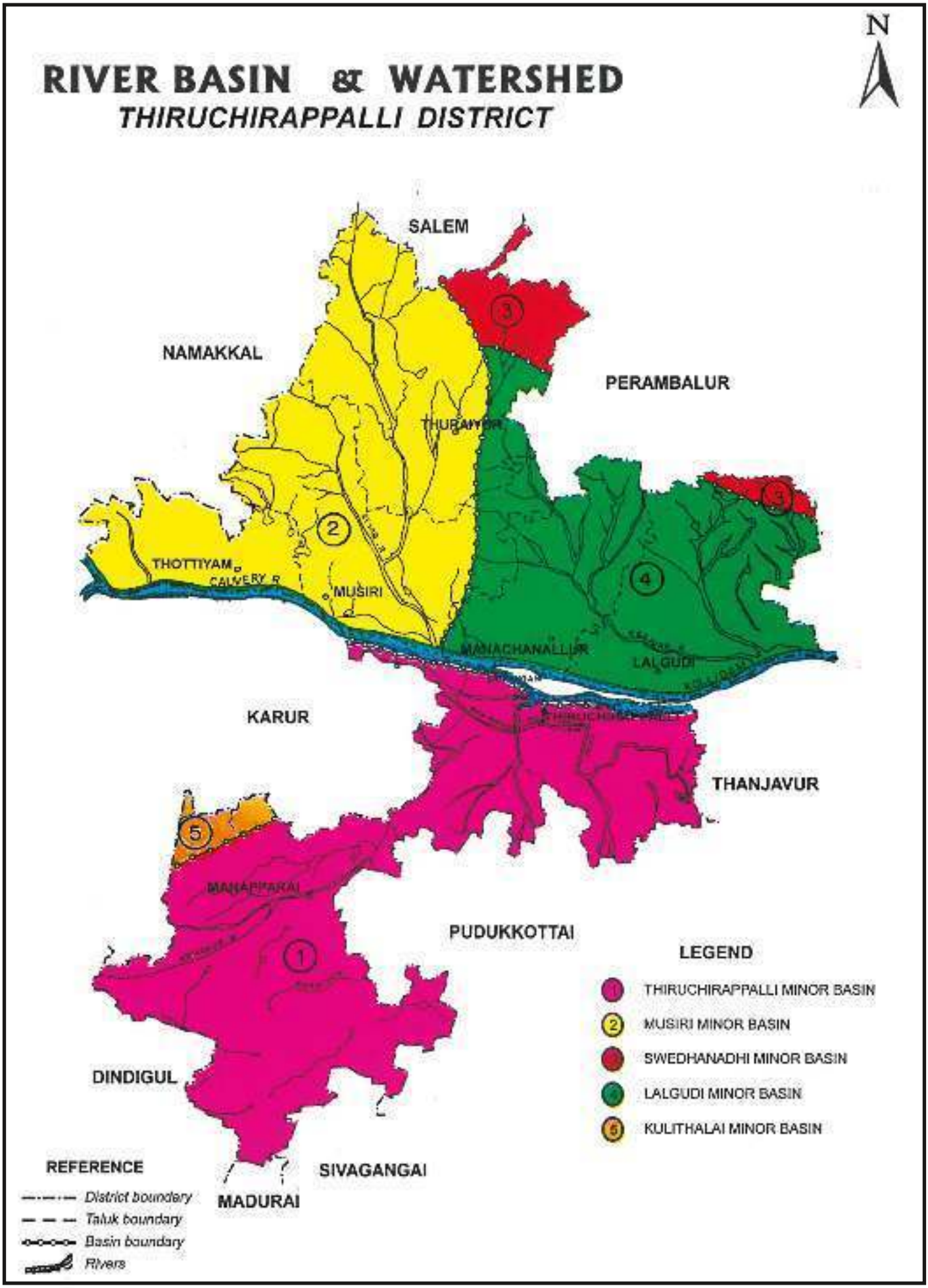
Sl. No.	Name of River Basins	Taluks benefitted
1.	Kulithalai minor basins	Kulithalai taluk and part of Thiruchirappalli taluk.
2.	Thiruchirappalli minor basins	Thiruchirappalli and Manapparai taluks
3.	Musiri minor basin	Musiri and part of Lalgudi taluk
4.	Lalgudi minor basin	Lalgudi taluk
5.	Swedhanadhi minor basin	Part of Thuraiyur taluk
6.	Perambalur minor basin	Part of Musiri taluk

There are about 20 river channels with ayacut each ranging form 400 hectares to 13000 hectares. Some of the important channels are Uyyakondan, High level Kattalai Channel, Raja Ayyan, Peruvalai, South bank canal etc.,

Uyyakondan and High level Kattalai channels benefit parts of Thiruchirappalli taluk and Manapparai taluk and the entire villages of Manikandam panchayat union (Srirangam taluk).

RIVER BASIN & WATERSHED

THIRUCHIRAPPALLI DISTRICT



RAINFALL DISTRIBUTION

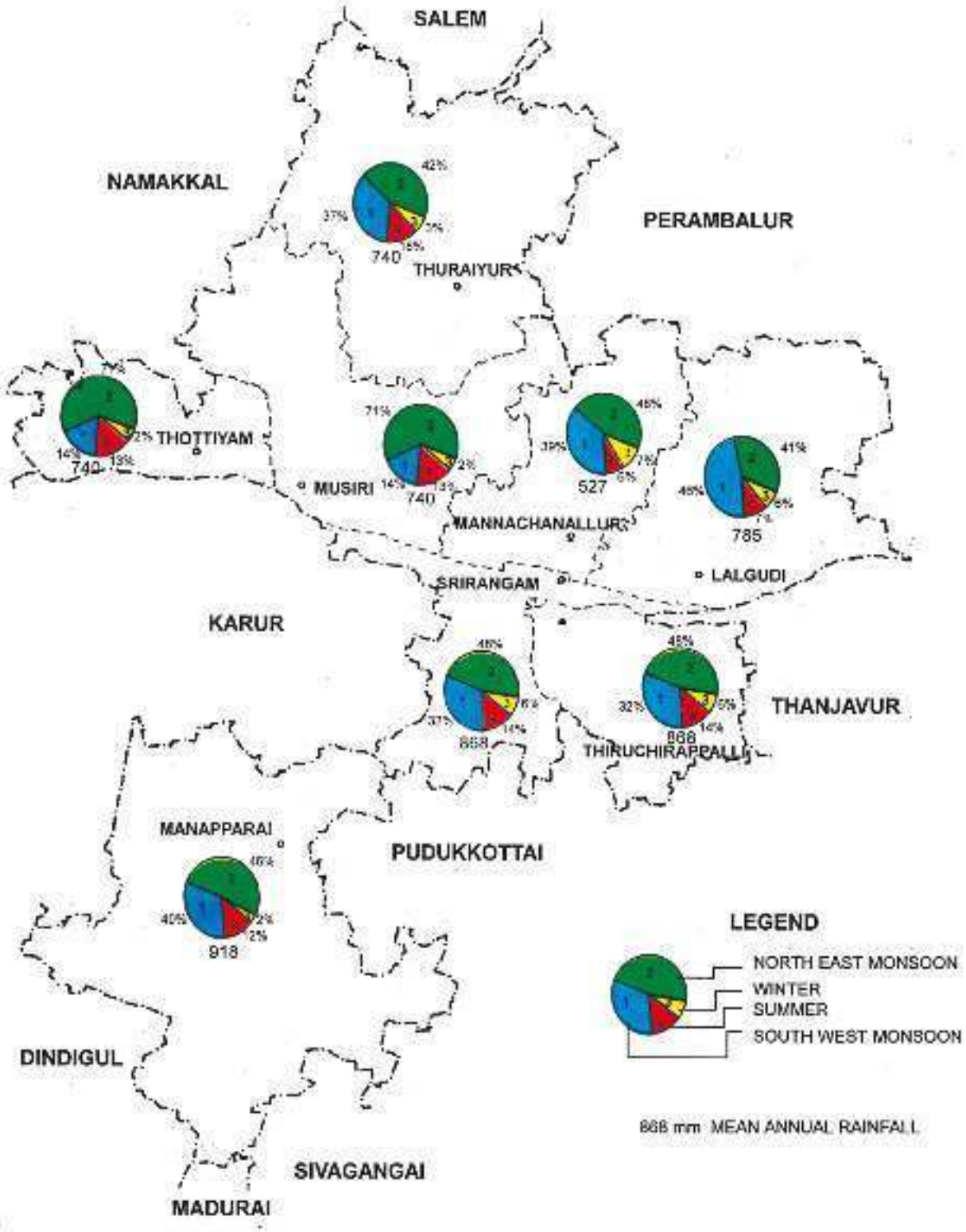
THIRUCHIRAPPALLI

The annual distribution pattern of rainfall in the different taluks of Thiruchirappalli district over a period of 20 years (1976-1995) is furnished below.

Sl. No.	Taluks	Mean annual rainfall	Seasonal rainfall							
			South-West monsoon (Jun-Sep)		North-East monsoon (Oct-Dec)		Winter monsoon (Jan - Feb)		Summer monsoon (Mar - May)	
		mm	mm	Per cent to total	mm	Per cent to total	mm	Per cent to total	mm	Per cent to total
1.	Thiruchirappalli	868	273	32	419	48	55	6	121	14
2.	Srirangam	868	273	32	419	48	55	6	121	14
3.	Lalgudi	785	359	46	321	41	50	6	55	7
4.	Mannachanallur	527	207	39	255	48	30	7	35	6
5.	Thuraiyur	740	276	37	308	42	25	3	131	18
6.	Musiri	740	102	14	523	71	17	2	98	13
7.	Manapparai	918	364	40	421	46	17	2	116	12
8.	Thottiyam	740	102	14	523	71	17	2	98	13

In all the eight taluks of this district the precipitation is more during North - East monsoon. During North - East monsoon, Musiri and Thottiyam taluks received more rains of 523 mm and 523 mm respectively as against least rain of 102mm and 102 mm respectively during south-west monsoon.

RAINFALL
THIRUCHIRAPPALLI DISTRICT



TEMPERATURE

THIRUCHIRAPPALLI DISTRICT

The atmospheric temperature is the primary source of soil temperature. Soil temperature is the resultant effect of absorption and reradiation of electromagnetic radiation emitted by sun. Thus soil temperature is a function of time of solar insolation and soil- site conditions and normally bears linear relationships with the air temperature. Therefore, the soil temperature can be estimated from air temperature with precision. The radiation absorbed by soil and the amount of heat enters the soil are controlled by climate, colour of soil, altitude and 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 processes with in the soil and regulates soil - air movement.

Soil temperature regime as defined are the range in temperature classes in which biological activity of different degree prevails. There is no biotic activity at temperatures below freezing point (0°C). Between 0° and 5°C root growth and seed germination of most plants is impossible. The atmospheric temperature was used for the calculation of soil temperature by adding 3.5°C. If the soil temperature is 35°C and above, root growth and germination of most plants are severely restricted. Nitrification process through micro organisms are at the maximum between 80-90°F.

The atmospheric temperature data recorded over a period of 20 years (1976 - 1995) was computed and the mean minimum and maximum, presented below.

Sl No.	Months	Maximum temperature (0°C)	Minimum temperature (0°C)	Mean temperature (0°C)
1.	January	31.0	20.3	25.65
2.	February	32.9	21.4	27.15
3.	March	36.0	22.5	29.25
4.	April	36.6	25.4	31.00
5.	May	39.0	27.1	33.05
6.	June	36.8	26.4	31.60
7.	July	35.4	25.7	30.55
8.	August	35.0	25.1	30.05
9.	September	34.8	25.1	29.95
10.	October	33.0	24.3	28.65
11.	November	31.1	23.9	27.50
12.	December	30.4	20.4	25.40

From the table, the hot months happens to be April, May and June with the maximum temperature ranging from 37°C to 39°C and the cool months being December, January and February with the minimum ranging from 20.0 to 21.4°C

Soil moisture regime : USTIC

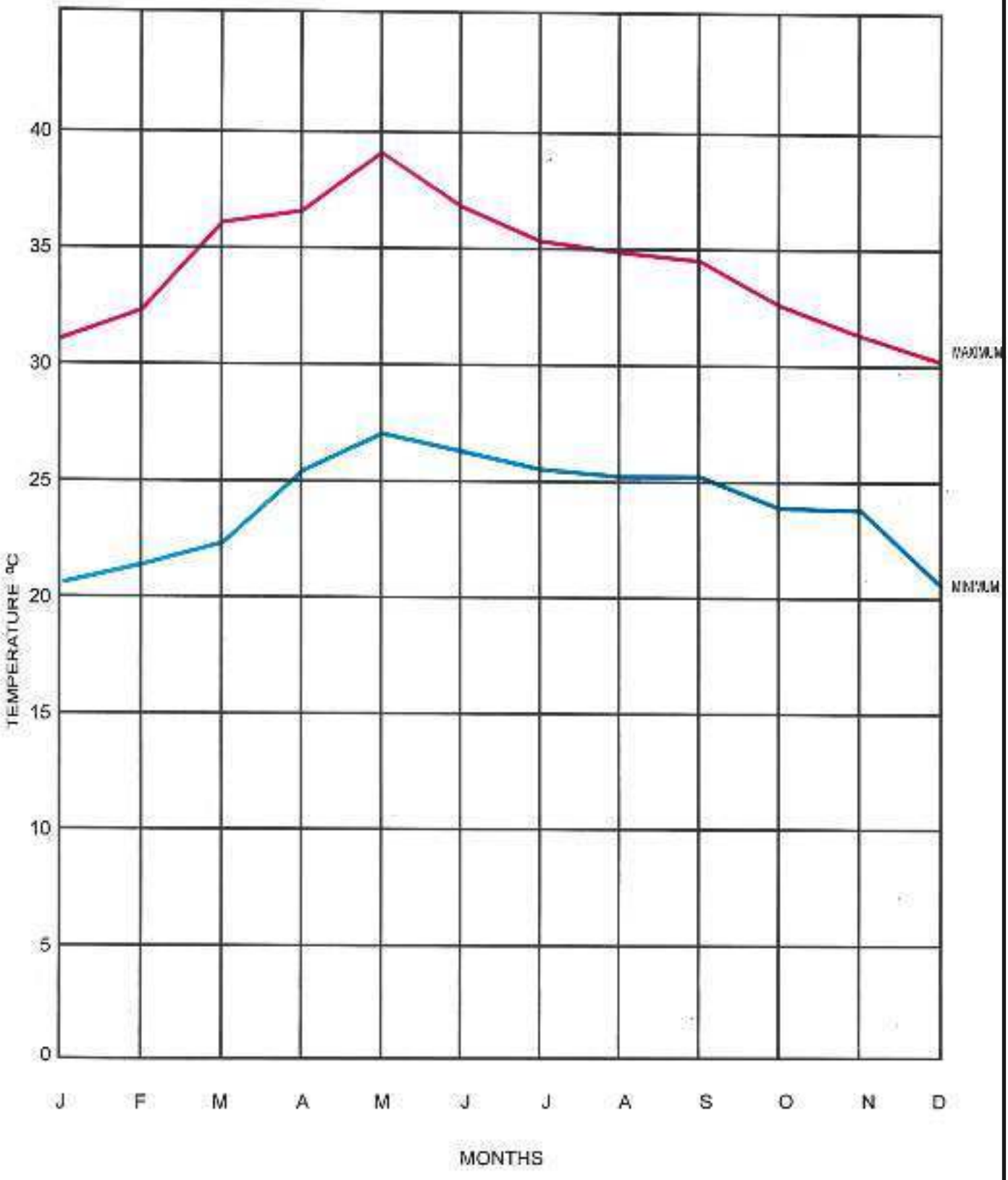
soil moisture refers to the presence or absence of water in a soil at different times of the year.

USTIC moisture regime : The USTIC (L Ustus - burnt, implying dryness)

Moisture regime is one that is limited but is present at a time when conditions are suitable for plant-growth. The 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 days per year or for 90 or more cumulative days per year. But the moisture control section is moist in some part either for more than 180 cumulative days 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 rainy season of three months or more.

TEMPERATURE

THIRUCHIRAPPALLI DISTRICT



OMBROTHERMIC DATA

THIRUCHIRAPPALLI DISTRICT

The mean monthly rainfall and temperature of Thiruchirappalli district over a period of 20 years (1976-1995) are furnished in the form of ombrothermic diagram

Sl No.	Months	Mean Rainfall (mm)	Mean Temperature (°C)
1.	January	28.1	25.7
2.	February	12.4	27.2
3.	March	14.1	29.3
4.	April	42.9	31.0
5.	May	77.0	33.1
6.	June	30.3	31.6
7.	July	37.4	30.6
8.	August	91.6	30.1
9.	September	114.0	30.0
10.	October	183.1	28.7
11.	November	149.7	27.5
12.	December	62.0	25.4

Season :			(mm)
Winter	: (January to February)	=	40.5
Summer	: (March to May)	=	134.0
South-west monsoon	: (June to September)	=	273.3
North East monsoon	: (October to December)	=	394.8
	Total	=	842.6

Moisture regime : USTIC
Temperature regime : **Isomegathermic**

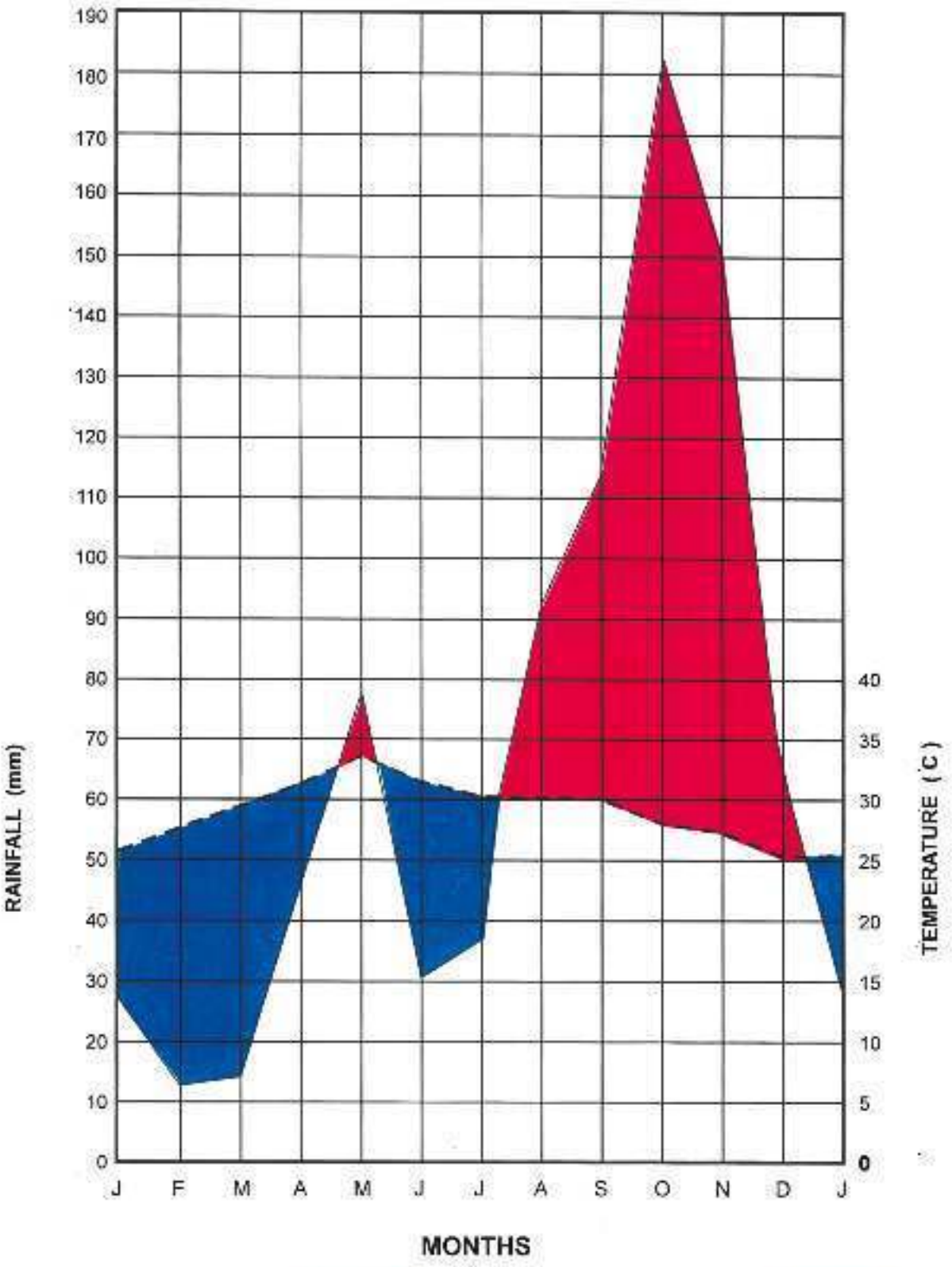
TEMPERATURE REGIME :

As the mean annual temperature is above 28°C and difference between mean summer and mean winter temperature is less than 5°C, the area is falling under "ISOMEGATHERMIC" soil temperature regime.

The Ombrothermic diagram reveals the wet and dry periods in a year. It gives an idea of soil moisture regime. Soil temperature and moisture regimes are used in soil classification. There is a continuous spell of dry periods from January to July after which the monsoon set in. This may lead to non - utilisation of rain water. This indicates the necessity for water management of dry period for raising short term crops.

OMBROTHERMIC DIAGRAM

THIRUCHIRAPPALLI DISTRICT



TALUK WISE LAND USE PATTERN

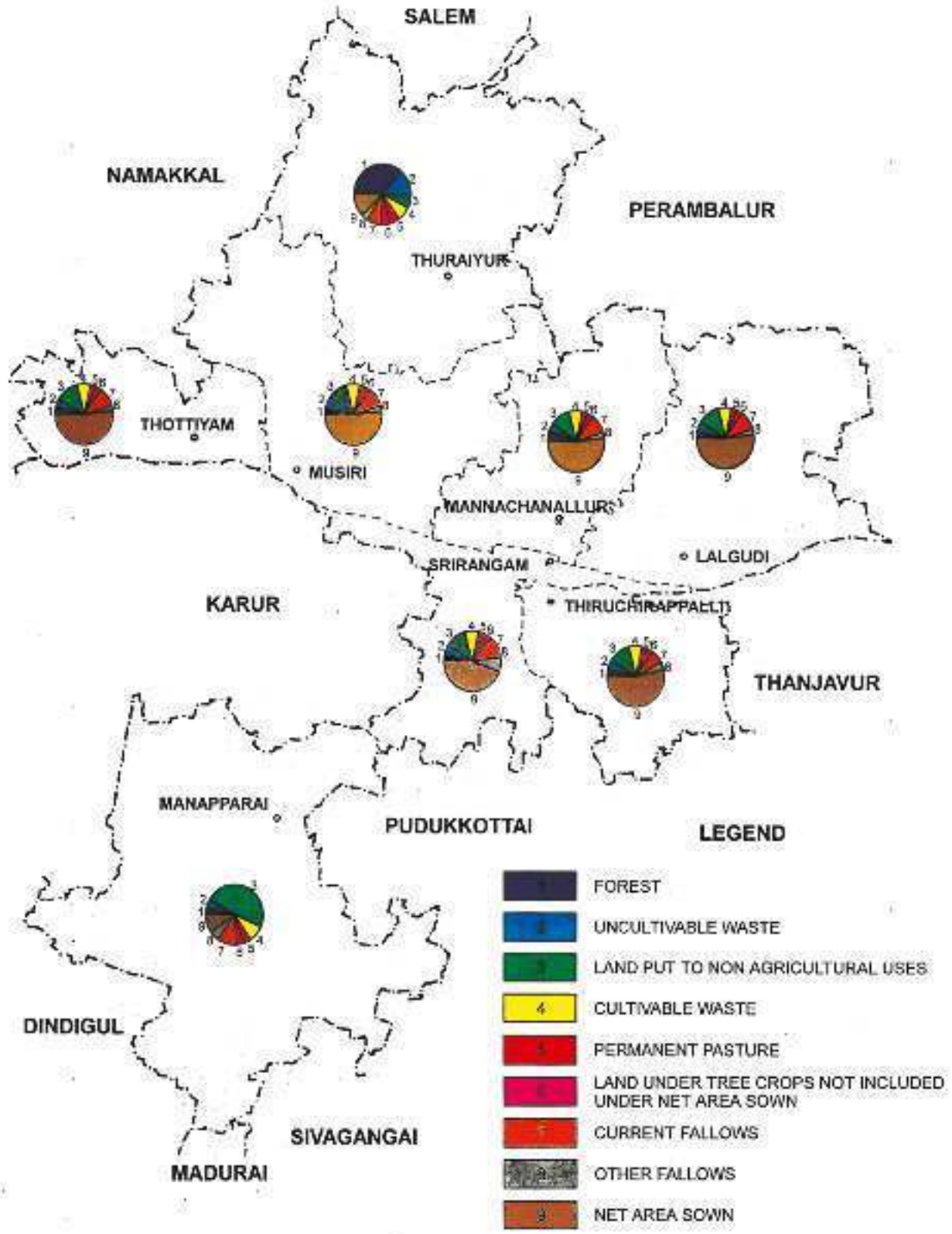
THIRUCHIRAPPALLI DISTRICT

In this district out of the total geographical extent of 4,40,412 hectares only 1,89,141 hectares (42.94%) are used for regular agricultural practices. A total of 78,703 hectares (17.87%) are kept as fallow lands. The lands put to non-Agricultural purposes cover 71,511 hectares. The cultivable waste lands of 28,340 hectares can be made use by suitable package of practices.

Sl. No.	Particulars	Taluks with extent (ha)								
		Lalgudi	Manapparai	Mannachanallur	Musiri	Srirangam	Thiruchirappalli	Thottiyam	Thuraiyur	Total
1.	Forest	1,054 (1.77)	8,312 (8.39)	1,555 (4.19)	1,660 (2.5)	45 (0.13)	135 (0.40)	77 (0.28)	28,837 (35.67)	41,675 (9.46)
2.	Uncultivable waste	1,547 (2.60)	1427 (1.44)	811 (2.18)	2,619 (3.95)	679 (1.90)	708 (2.08)	193 (0.69)	10,718 (13.26)	18,702 (4.25)
3.	Land put to non - Agricultural uses	10,902 (18.32)	16,155 (16.31)	5,540 (14.91)	9,667 (14.59)	8,418 (23.51)	5,914 (17.40)	6,627 (23.84)	8,288 (10.25)	71,511 (16.23)
4.	Cultivable wastes	1,465 (2.46)	14,693 (14.84)	1,377 (3.71)	3,042 (4.59)	1,821 (5.08)	2,611 (7.68)	295 (1.06)	3,036 (3.75)	28,340 (6.44)
5.	Permanent pasture	1,263 (2.12)	78 (0.08)	1,182 (3.18)	147 (0.22)	19 (0.05)	96 (0.28)	80 (0.29)	3,492 (4.32)	6,357 (1.45)
6.	Land under trees not included under net area sown	443 (0.75)	222 (0.22)	107 (0.29)	187 (0.28)	230 (0.64)	339 (1.00)	100 (0.36)	4,355 (5.39)	5,983 (1.36)
7.	Current fallows	4,947 (8.31)	18,108 (18.29)	4,622 (12.44)	9,742 (14.70)	5,856 (16.35)	2,126 (6.26)	4,875 (17.53)	8,055 (9.96)	58,331 (13.24)
8.	Other fallows	2,401 (4.04)	2,329 (2.35)	2,031 (5.47)	3,117 (4.70)	4,212 (11.76)	3,349 (9.85)	972 (3.50)	1,961 (2.43)	20,372 (4.63)
9.	Net area sown	35,476 (59.63)	37,708 (38.08)	19,924 (53.63)	36,105 (54.47)	14,535 (40.58)	18,710 (55.05)	14,583 (52.45)	12,100 (14.97)	1,89,141 (42.94)
	Total Geographical Extent	59,498 (100)	99,032 (100)	37,149 (100)	66,286 (100)	33,815 (100)	33,988 (100)	27,802 (100)	80,842 (100)	4,40,412 (100)

Note : The figures with in bracket refer to the percentage of land uses to the geographical extent of a particular taluk.

LAND USE PATTERN
THIRUCHIRAPPALLI DISTRICT



FORESTS

THIRUCHIRAPPALLI DISTRICT

In this district, the total extent of Reserve Forest wealth is 41675 hectares which represent 9.46% of the total geographical extent of this district.

The types of forests in this district are as given below.

1. Tropical dry deciduous forests.
2. Dry mixed deciduous forests.
3. Dry ever green forests.
4. Sub-tropical hill forests.

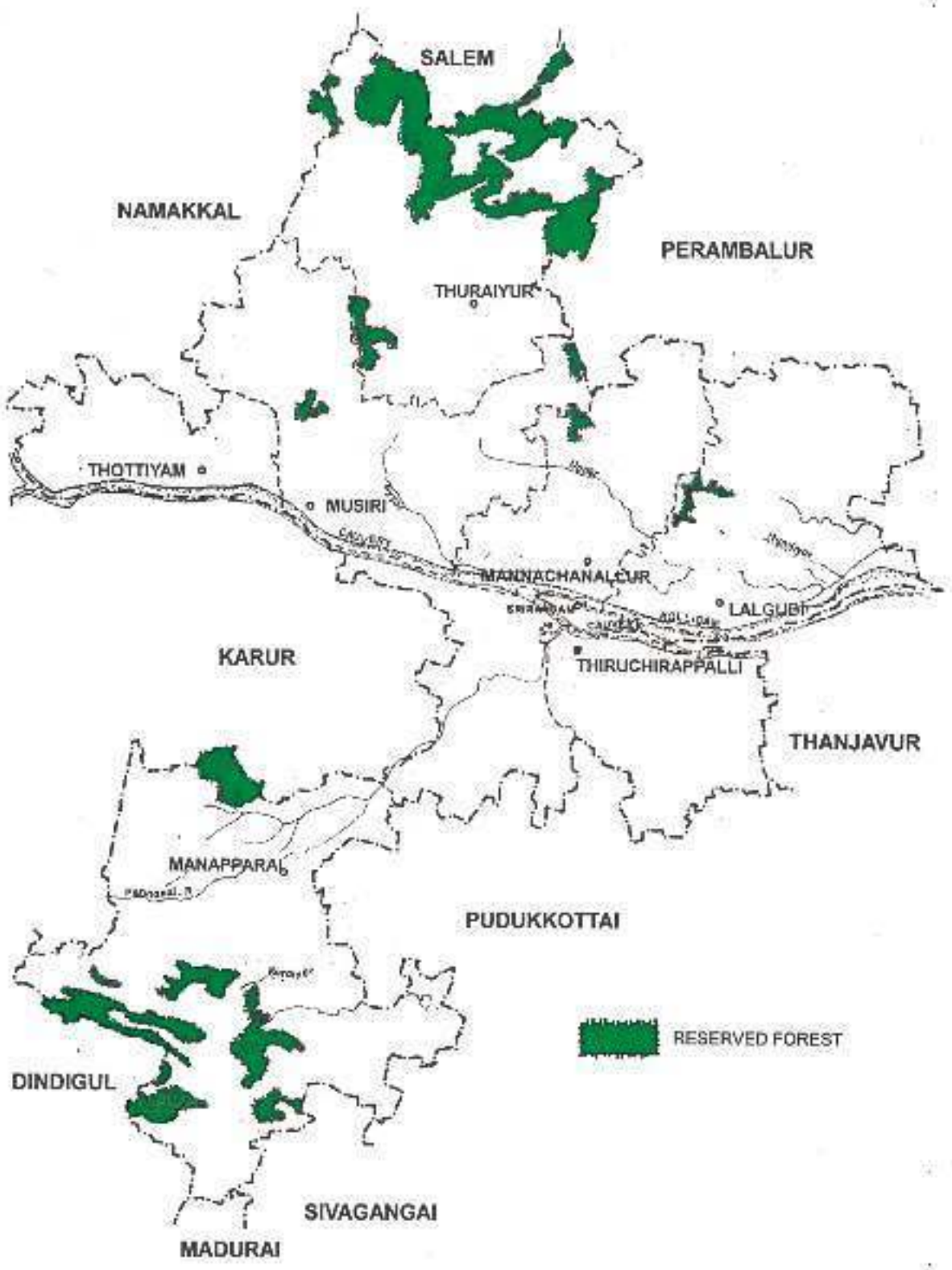
The above types of forests are located predominantly by in Thuraiyur and Manapparai taluks.

Sl. No.	Taluks	Total extent of forest (ha)	Percent to toal
1.	Lalgudi	1,054	2.53
2.	Manapparai	8,312	19.95
3.	Mannachanallur	1,555	3.73
4.	Musiri	1,660	3.98
5.	Srirangam	45	0.11
6.	Thiruchirappalli	135	0.33
7.	Thottiyam	77	0.18
8.	Thuraiyur	28,837	69.19
	Total	41,675	100.00

The extent of Reserve forest occupy in Thuraiyur (28,837 ha) and Manapparai (8,312 ha) taluks which account for 69.19% and 19.95% respectively.

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

FORESTS
THIRUCHIRAPPALLI DISTRICT



CROP AREA

THIRUCHIRAPPALLI DISTRICT

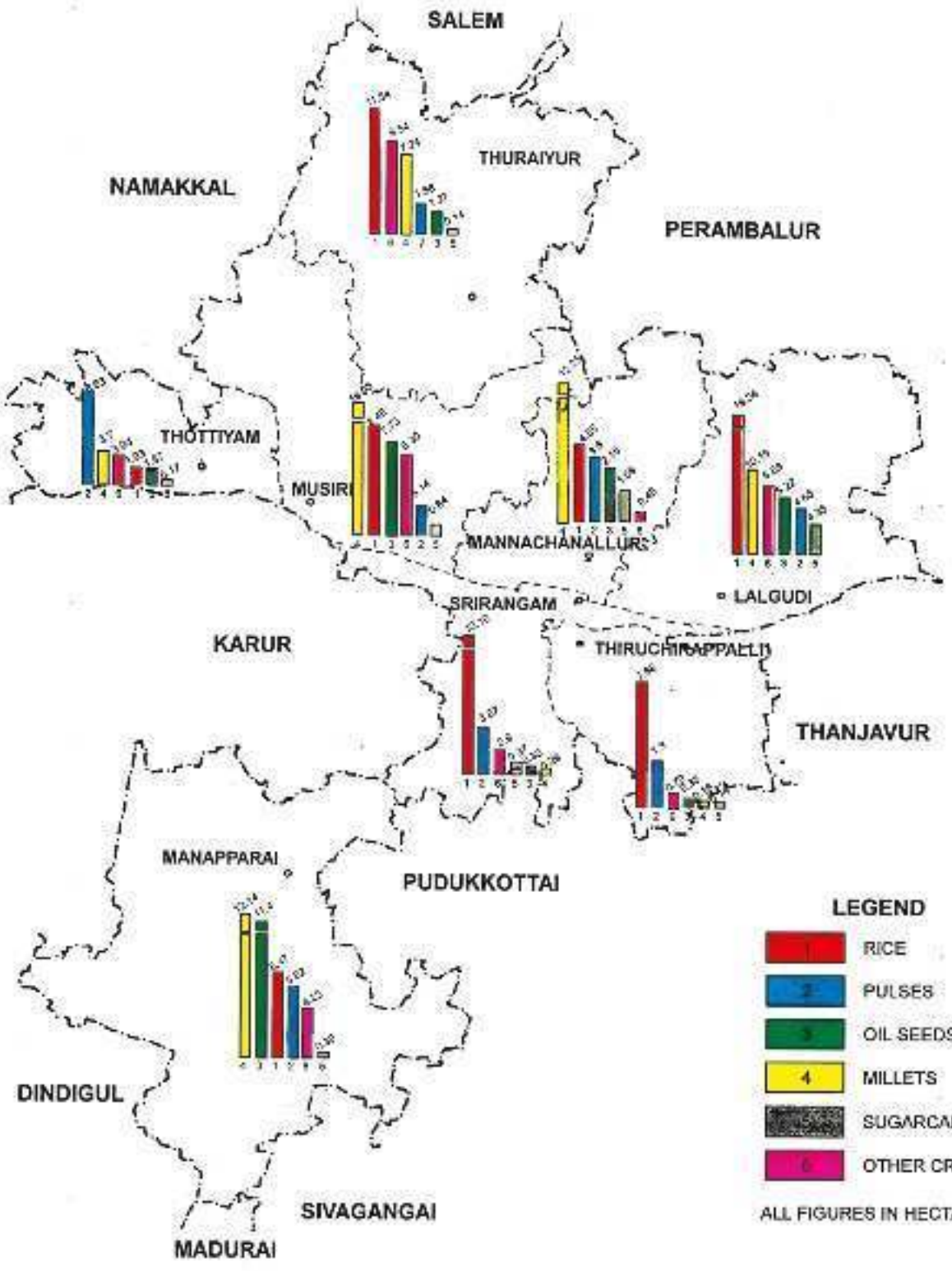
The taluk wise distribution of the various crops cultivated in this district is given below. In this district the principal crops grown is rice in 73,090 hectares (30.04%), millets in 65,000 hectares (26.72%) pulses in 33,090 hectare (13.60%) and oil seeds in 30,350 hectares (12.48%)

Sl. No.	Crops	Taluks with extent (ha)								Total (ha)	Per cent total
		Lalgudi	Manapparai	Mannachanallur	Musiri	Srirangam	Thiruchirappalli	Thottiyam	Thuraiyur		
1.	Rice	19,340	6,470	4,550	8,480	13,100	7,680	1,930	11,540	73,090	30.04
2.	Pulses	4,650	5,620	3,600	5,140	3,870	1,900	6,630	1,680	33,090	13.60
3.	Oil seeds	5,220	11,400	2,180	7,730	350	330	1,870	1,270	30,350	12.48
4.	Millets	10,190	12,140	12,230	19,050	290	160	3,700	7,240	65,000	26.72
5.	Sugarcane	4,350	390	1,090	840	370	140	170	140	7,490	3.08
6.	Others	6,990	4,230	460	6,300	2,900	790	3,040	9,540	34,250	14.08
	Total	50,740	40,250	24,110	47,540	20,880	11,000	17,340	31,410	2,43270	100.00

The deltaic area of this district has a network of the river Cauvery and its tributories. Banana and Sugarcane are grown in some part of the delta. Pulses are grown in rice fallows. In Musiri and Thottiyam taluks, banana is grown in bulk of the area.

In uplands, millets like Sorghum, pearlmillet and finger millets, oil seeds such as groundnut and gingelly are grown both under irrigated and rainfed conditions. Further, cotton, chillies and coriandar also grown in some part of the district.

CROPS AREA
THIRUCHIRAPPALLI DISTRICT



CROPPING CALENDAR

THIRUCHIRAPPALLI DISTRICT

The major crops cultivated in this district are rice, millets, pulses, banana, sugarcane and oil seeds. Rice is grown under irrigated conditions in three seasons viz., Kuruvai, Samba and Thaladi.

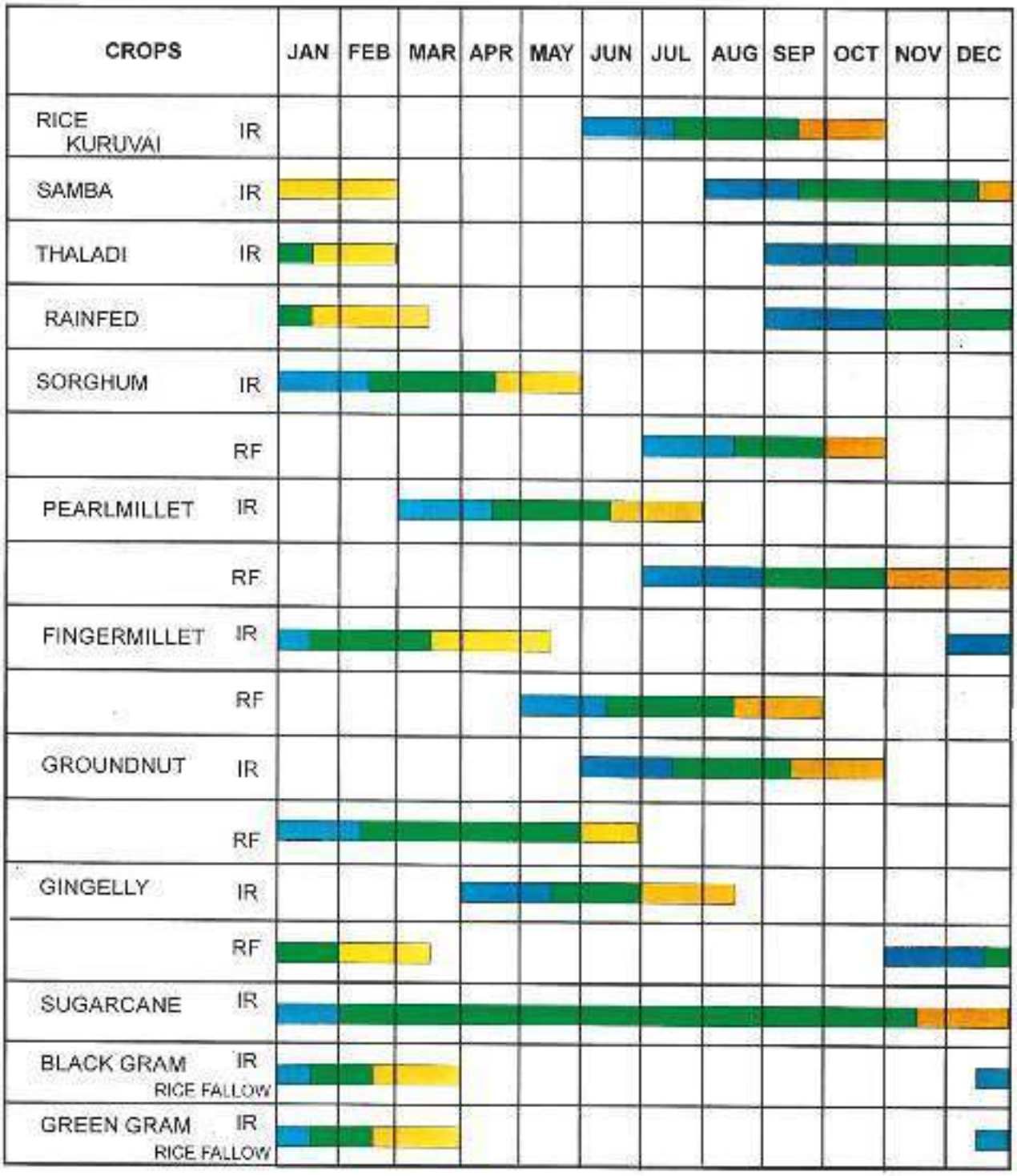
In upland area rice is grown as rainfed crop. Millets are grown both as irrigated and rainfed crops. Wetland banana is popular in Musiri and Thottiyam taluks. Oil seeds such as ground nut and gingelly are cultivated both under irrigated and rainfed conditions. Pulses like blackgram, greengram and only oil seeds gingelly are also grown in rice fallows.

The sowing seasons for the major crops of this district are as fallows.

Crop	Season	Irrigated/ Rainfed	Months
Rice	Kuruvai, Thaladi Samba	Irrigated Irrigated Irrigated	June to October September to February August to February
Rice	—	Rainfed	September to March
Sorghum	—	Irrigated Rainfed	January to May July to October
Pearl millet	—	Irrigated Rainfed	March to July July to December
Finger millet	—	Irrigated Rainfed	December to May May to September
Ground nut	—	Irrigated Rainfed	June to October January to June June to November
Gingelly	—	Irrigated Rainfed	March to July November to March
Sugarcane, Black gram and Green gram	—	Irrigated Rice fallow	January to December December to March

CROPPING CALENDAR

THIRUCHIRAPPALLI DISTRICT



SOURCES OF IRRIGATION

THIRUCHIRAPPALLI DISTRICT

The chief source of irrigation in the district is river. Cauvery river system is the major source. The South-West- monsoon provides the bulk of the water which is impounded at Mettur. Supplies are regulated therefrom to a considerable extent. The details of canal length, number of wells and tanks are furnished below.

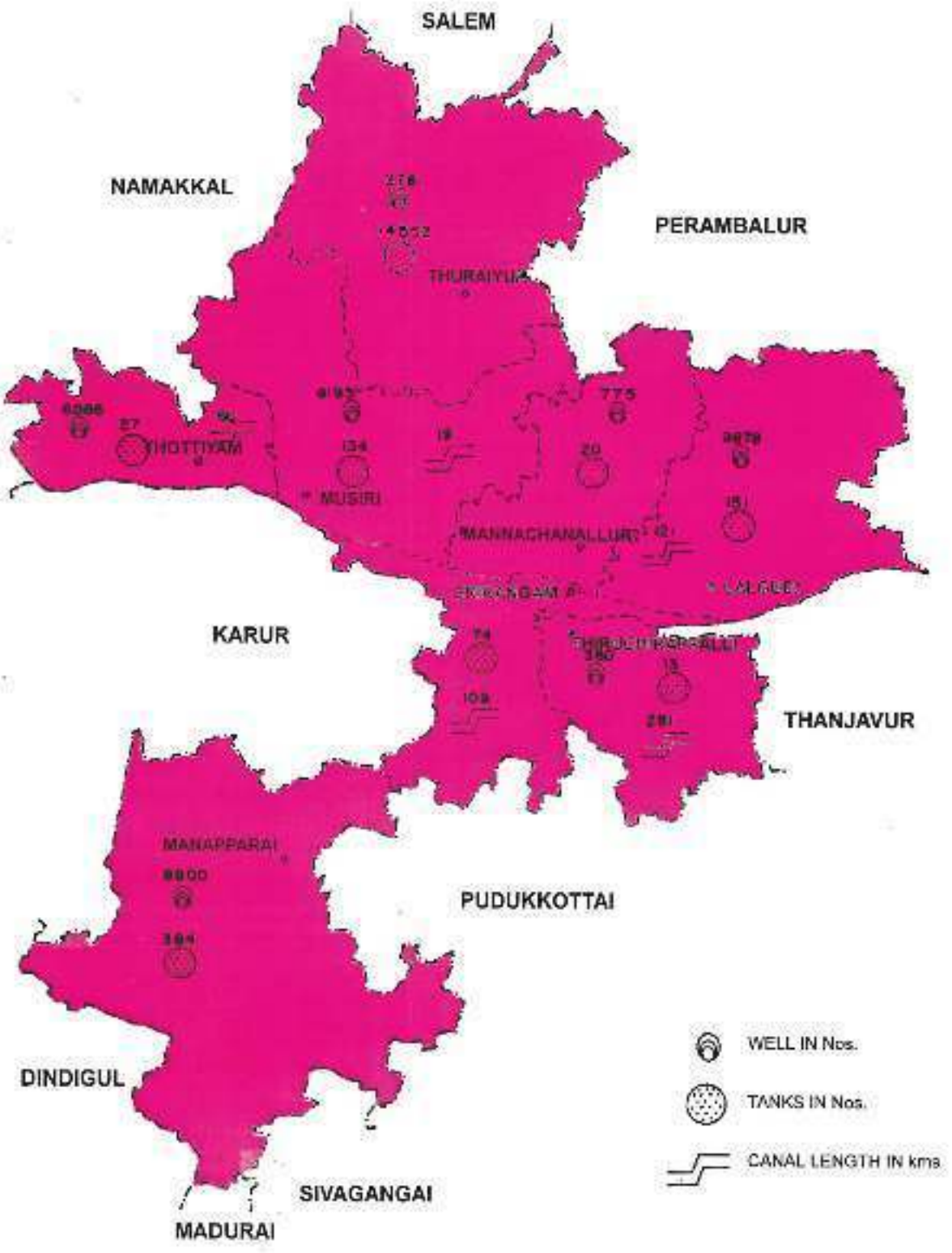
Sl. No.	Taluks	Sources of irrigation		
		Canal length (km)	Wells (nos)	Tanks (nos)
1.	Lalgudi	121	9,878	151
2.	Mannachanallur	—	755	20
3.	Manapparai	—	8,800	384
4.	Musiri	19	8,193	134
5.	Srirangam	109	—	74
6.	Thiruchirappalli	281	360	13
7.	Thottiyam	60	6,086	27
8.	Thuraiyur	—	14,552	376
	Total	590	48,624	1179

Considerable extent of lands is benefitted by tank irrigation in the taluks of Manapparai (384 nos), Thuraiyur (376 nos) and Lalgudi (151 nos.)

The lands of the Thiruchirappalli and Srirangam, situated on either side of the river Cauvery are more benefitted.

Besides river and tanks the other source of irrigation is wells. The number of wells is more in Thuraiyur (14552 nos.), followed by Lalgudi (9878 nos) and Musiri (8193 nos) taluks.

SOURCES OF IRRIGATION
THIRUCHIRAPPALLI DISTRICT



AGRICULTURAL INSTITUTIONS

THIRUCHIRAPPALLI DISTRICT

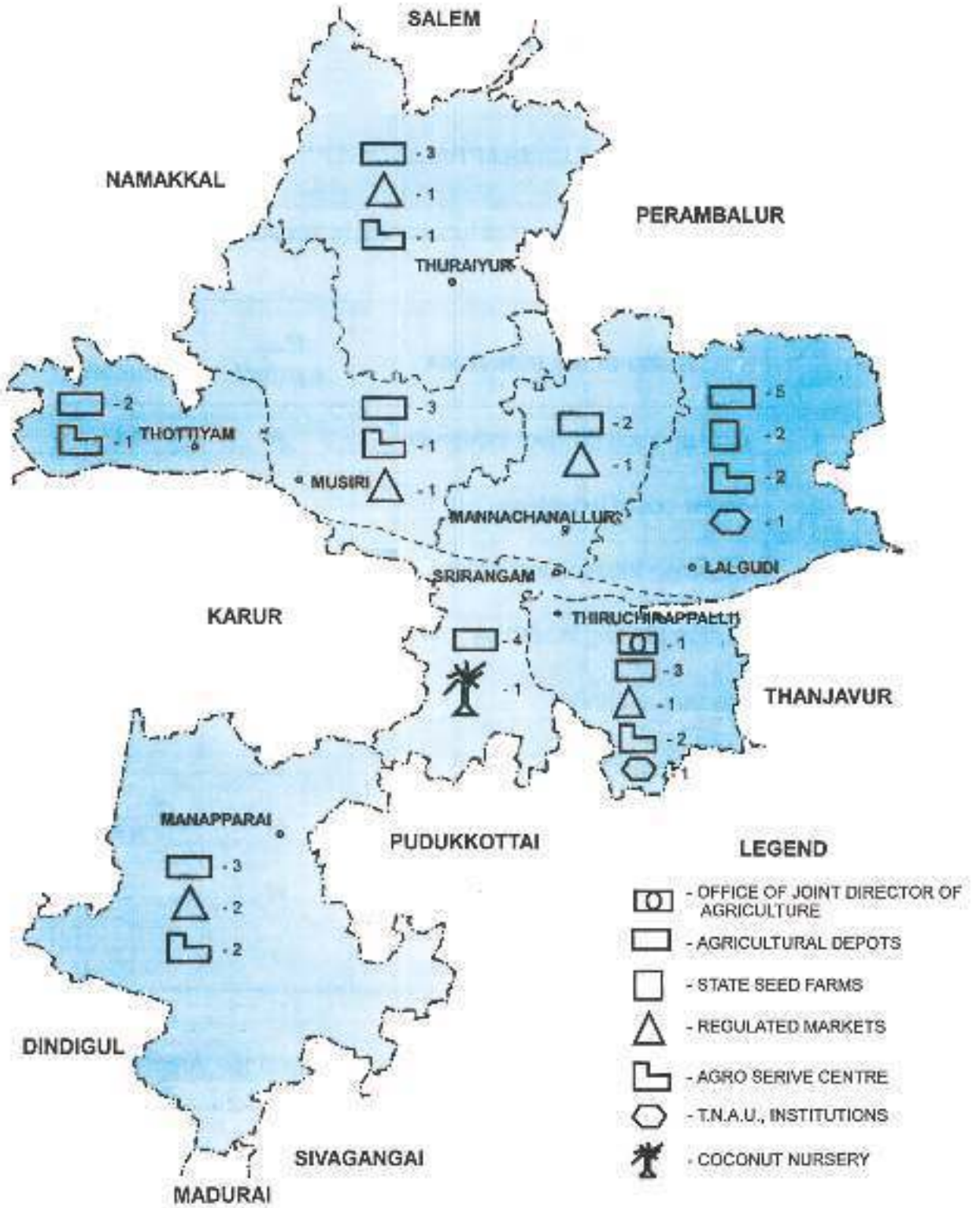
The details of various Agricultural Institutions functioning in this district are furnished below. All the laboratories are situated in the central part of Thiruchirappalli taluk.

Sl. No.	Name of Institutions	Taluks								Total
		Thiru chirap palli	Sri rangam	Lalgudi	Manap paral	Thurai yur	Musiri	Thotti yam	Manna cha nallur	
1.	Office of the Joint director of Agriculture	1	—	—	—	—	—	—	—	1
2.	Agricultural depots	3	4	5	3	3	3	2	2	25
3.	Office of the Assistant Director of Agriculture	1	1	1	1	1	1	1	1	8
4.	State seed forms	—	—	2	—	—	—	—	—	2
5.	TamilNadu Agricultural University Institutions	1	—	1	—	—	—	—	—	2
6.	Soil Testing laboratory	1	—	—	—	—	—	—	—	1
7.	Mobile soil testing laboratory	1	—	—	—	—	—	—	—	1
8.	Bio-fertilizer production centre	1	—	—	—	—	—	—	—	1
9.	Pesticides Testing laboratory	1	—	—	—	—	—	—	—	1
10.	Fertilizer control laboratory	1	—	—	—	—	—	—	—	1
11.	cocount nursery	—	1	—	—	—	—	—	—	1
	Total	11	6	9	4	4	4	3	3	44

Besides the above institutions, Farmer's Training centre, seed processing unit and Agricultural implement workshop also functioning in this district.

AGRICULTURAL INSTITUTION

THIRUCHIRAPPALLI DISTRICT



AGRO INDUSTRIES

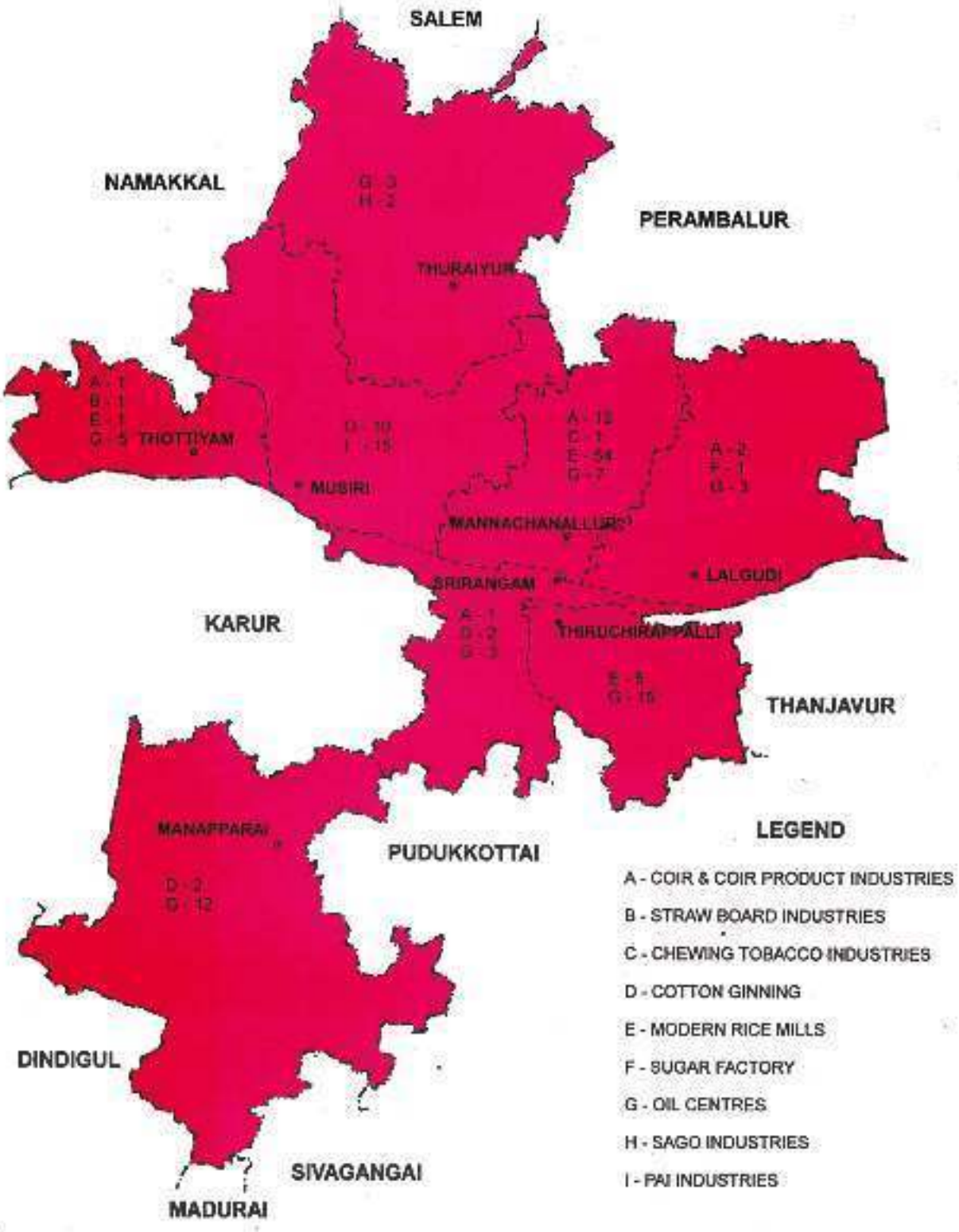
THIRUCHIRAPPALLI DISTRICT

The details of Agro based Industries functioning in this district are furnished below.

Sl. No.	Name of the Industries	Map symbol	Total numbers
1.	Coir and coir product industries	A	14
2.	Straw board industries	B	1
3.	Chewing tobacco industries	C	1
4.	Cotton ginning industries	D	4
5.	Modern rice mills	E	60
6.	Sugar factory	F	1
7.	Oil centres	G	58
8.	Sago industries	H	2
9.	Pai industries	I	15

Besides these industries, Agricultural implements industries, Arecaunut industries cashew industry and Soap nut powder industry are also functioning in this district.

AGRO INDUSTRIES
THIRUCHIRAPPALLI DISTRICT



ANIMAL HUSBANDRY INSTITUTIONS

THIRUCHIRAPPALLI DISTRICT

The details of various Animal Husbandry Institutions functioning in this district are furnished below.

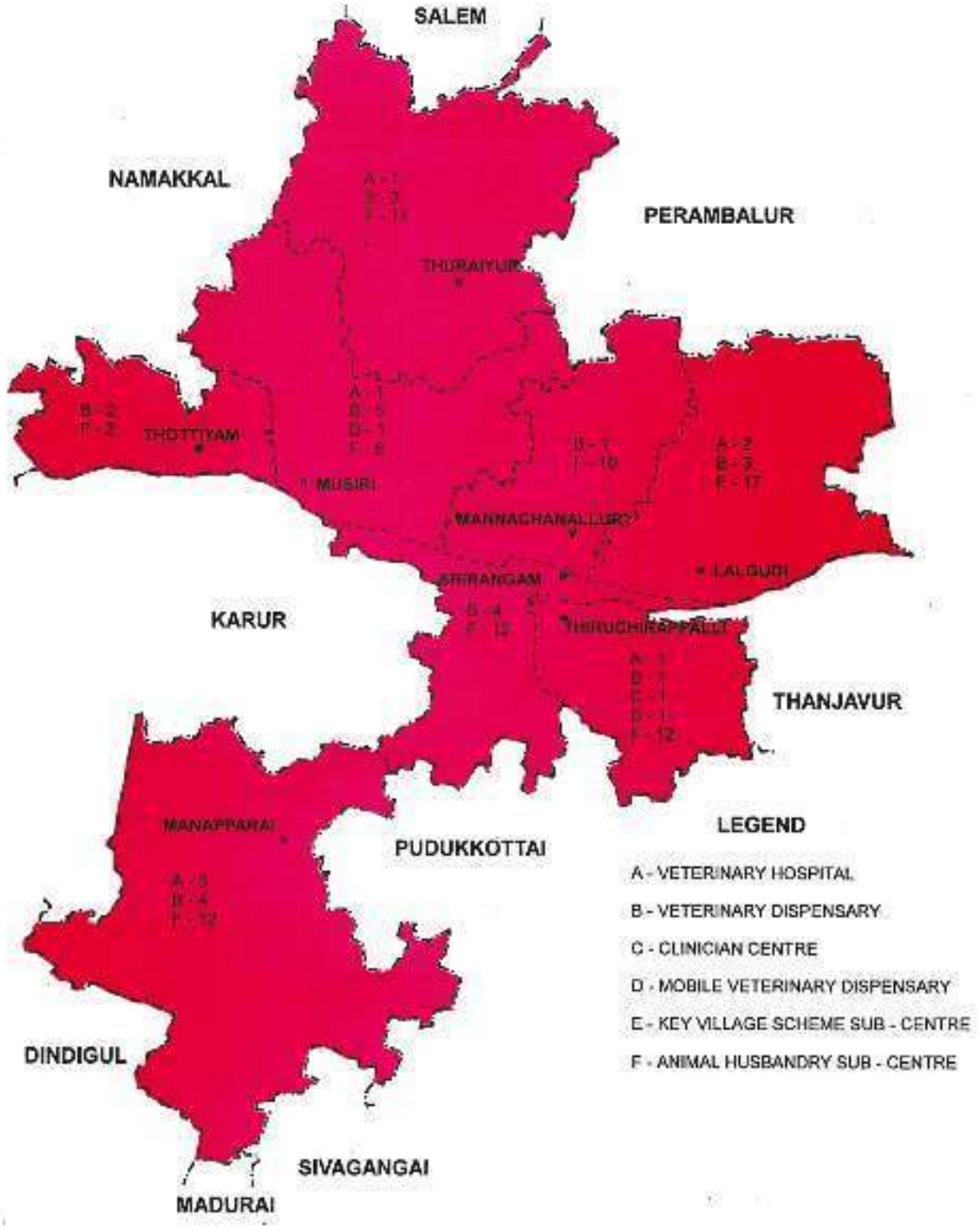
Sl. No.	Name of Institutions	Taluks									Total
		Thiru chirap palli	Sri rangam	Lalgudi	Manap parai	Thurai yur	Musiri	Thotti yam	Manna cha nallur	Map symbol	
1.	Veterinary Hospital	1	—	2	—	1	1	—	3	A	8
2.	Veterinary Dispensary	1	4	3	1	3	5	2	4	B	23
3.	Clinician centre	1	—	—	—	—	—	—	—	C	1
4.	Mobile Veterinary Dispensary	1	—	—	—	—	1	—	—	D	2
5.	Animal Husbandry sub-centres	12	12	17	10	12	7	3	12	E	85

In addition to the above institutions, 50 numbers of intensive cattle development project sub-centres, 66 numbers of key village centres and animal disease intelligence unit, poultry extension centre and Bull stations are also functioning in this district

Animal wealth of this district is impressive. Kangayam breed is extensively propagated in this district. Umbalacheri breed is found in the eastern part of Thiruchirappalli district.

ANIMAL HUSBANDRY INSTITUTIONS

THIRUCHIRAPPALLI DISTRICT



DISTRIBUTION OF SOIL SERIES

THIRUCHIRAPPALLI DISTRICT

Sl. No.	Soil series	Soil series symbol	Name of taluks with extent (ha)								Total	Percent to total
			Lalgudi	Manap parai	Manna cha nallur	Musiri	Sri rangam	Thiru chira ppalli	Thottiy am	Thur aiyur		
1.	Adhanur	Adn	—	—	—	—	3,612	972	—	—	4,584	1.04
2.	Alathur	Alt	—	—	—	—	5,976	5,457	—	—	11,433	2.60
3.	Govindapuram	Gpm	—	—	—	3,220	—	—	—	15,494	18,714	4.25
4.	Irugur	Igr	10,032	38,067	19,440	—	3,053	125	—	—	70,707	16.05
5.	Kalathur	Klt	—	—	—	—	215	2,592	—	—	2,807	0.64
6.	Kallagam	Kgm	897	—	—	—	—	—	—	—	897	0.20
7.	Kallakkudi	Klk	5,628	—	—	—	—	—	—	—	5,628	1.28
8.	Kallanpatti	Kpt	—	—	—	8,071	—	—	1,528	—	9,599	2.18
9.	Madukkur	Mdk	—	3,578	—	—	—	6,504	—	—	10,082	2.29
10.	Mangareipatti	Mgp	—	—	—	3,477	—	—	—	—	3,477	0.79
11.	Manmalai	Mmi	—	—	—	1,202	—	—	—	666	1,868	0.42
12.	Mixed Alluvium	Ma	9,745	—	3,129	—	8,255	573	—	—	21,703	4.93
13.	Omandur	Omd	—	—	1,612	—	—	—	—	—	1,612	0.37
14.	Palathurai	Pth	—	619	—	—	—	—	—	—	619	0.14
15.	Palaviduthi	Pvd	—	31,863	—	—	—	—	—	—	31,863	7.23

16.	Pattukkottai	Pkt	—	2,546	—	—	—	—	—	—	2,546	0.58
17.	Periyanayakkan palayam	Pyk	—	—	—	—	387	—	—	—	387	0.09
18.	Pilamedu	Plm	816	3,097	4,789	—	—	—	—	—	8,702	1.98
19.	Puvalur	Plr	9,909	—	1,043	—	—	—	—	—	10,952	2.49
20.	Solampatti	Sbt	—	—	—	4,937	—	—	4,724	—	9,661	2.19
21.	Tholurpatti	Tpt	—	—	—	3,306	—	—	5,029	—	8,335	1.89
22.	Thondipatti	Tdp	—	—	—	1,889	—	—	7,332	—	9,221	2.09
23.	Thinnakkonam	Tkm	—	—	—	3,735	—	—	3,690	—	7,425	1.69
24.	Thuraiyur	Tyr	—	—	—	10,347	—	—	—	7,014	17,361	3.94
25.	Tulukkanur	Tlk	—	—	—	18,461	—	—	3,502	—	21,963	4.99
26.	Uppiliyapuram	Upm	—	—	—	3,778	—	—	—	8,302	12,080	2.74
27.	Vayalogam	Vyg	—	2,822	—	—	7,439	7,749	—	—	18,009	4.09
	Others	—	21,416	8,138	5,581	2,203	6,834	9981	1,920	20,529	76,502	17.37
	Forest	RF	1,054	8,312	1,555	1,660	45	135	77	28,837	41,675	9.46
	Total	—	59,498	99.032	37,149	66,286	35,815	33,988	27,802	90,842	4,40,412	100.00

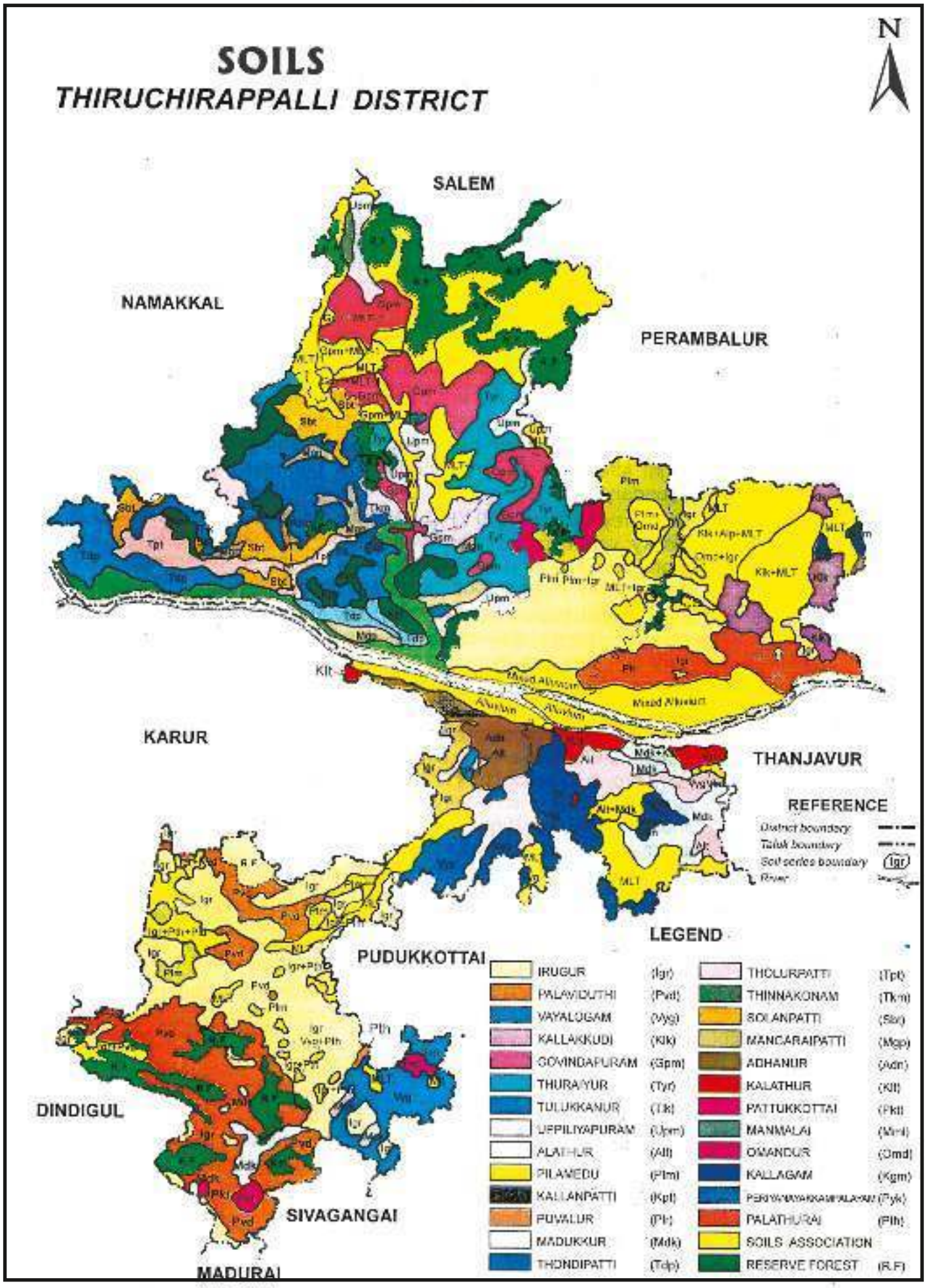
Note : Others - it includes Soil Associations, Miscelleneous Land type etc.,

Continued

1.	Alathur + Madukkur	Alt + Mdk	—	—	—	—	—	2,039	—	—	2,039	2.67
2.	Irugur + Palathurai	Igr + Pth	—	3,372	—	—	—	—	—	—	3,372	4.41
3.	Irugur + Palaviduthi	Igr + Pvd	—	2,615	—	—	—	—	—	—	2,615	3.42
4.	Kallakkudi + Aluthalai Pur + Miscellaneous land type	Klk + Alp + MLT	9,298	—	—	—	—	—	—	—	9,298	12.15
5.	Kallakkudi + Miscellaneous land type	Klk + MLT	7,626	—	—	—	—	—	—	—	7,626	9.96
6.	Madukkur + Kalathur	Mdk + Klt	449	—	—	—	—	994	—	—	994	1.30
7.	Ommandur + Irugur	Omd + Igr	449	—	—	—	—	—	—	—	449	0.59
8.	Pilamedu + Irugur	Plm + Igr	—	—	142	—	—	—	—	—	142	0.19
9.	Pilamedu + Omandur	Plm + Omd	—	—	1,754	—	—	—	—	—	1,754	2.29
10.	Pilamedu + Omandur + Irugur	Plm + Omd + Igr	—	—	688	—	—	—	—	—	688	0.90
11.	Veyalogam + Vallam	Vyg +Vlm	—	—	—	—	—	2,114	—	—	2,114	2.76
	Miscelleneous Land type	MLT	3466	21,151	284	—	3612	4734	—	—	14,247	18.62
	Miscellaneous Land Type + Irugur	MLT+ Igr	—	—	901	—	—	—	—	—	901	1.18
	Others		577	—	1812	2,203	3,222	—	1,920	20,529	30,263	39.56
	Total		21,416	8,138	5,581	2,203	6,834	9,881	1,920	20,529	76,502	100.00

Note : 1) 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

2) 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. They are nam d primarily in terms of land form and secondarily interms of material.


SOILS
THIRUCHIRAPPALLI DISTRICT
N
SALEM
NAMAKKAL
PERAMBALUR
KARUR
THANJAVUR
PUDUKKOTTAI
DINDIGUL
SIVAGANGAI
MADURAI
REFERENCE
District boundary
Taluk boundary
Soil series boundary
River
LEGEND
IRUGUR (Igr)
PALAVIDUTHI (Pvd)
VAYALOGAM (Vyg)
KALLAKKUDI (Klk)
GOVINDAPURAM (Gpm)
THURAIYUR (Tyr)
TULUKKANUR (Tlk)
UPPILIYAPURAM (Upm)
ALATHUR (Alt)
PILAMEDU (Plm)
KALLANPATTI (Kpt)
PUVALUR (Plr)
MADUKKUR (Mdk)
THONDIPATTI (Tdp)
THOLURPATTI (Tpt)
THINNAKONAM (Tkm)
SOLANPATTI (Sbr)
MANCARAIPATTI (Mgp)
ADHANUR (Adn)
KALATHUR (Klt)
PATTUKKOTTAI (Pkt)
MANMALAI (Mnl)
OMANDUR (Omd)
KALLAGAM (Kgm)
PERIYANAYAKANPALAYAM (Pyk)
PALATHURAI (Plh)
SOILS ASSOCIATION
RESERVE FOREST (R.F)

ADHANUR (Adn) SERIES

Brief description : Very dark grey to dark yellowish brown, very deep mild to moderately alkaline calcareous soils.
Physiography : Tamil Nadu plain - riverine flat land from.
Drainage : Moderately well drained
Taxonomy : Fine, montmorillonitic isomegathermic very deep Typic Haplusterts
Typifying pedon : Adhanur - clay - cultivated

Profile description:

Horizon	Depth (cm)	Description:
Ap	0-16	Dark greyish brown (10 YR 4/2 M); clay; strong, medium to coarse, subangular blocky; firm, sticky and plastic; many fine and very few medium and very fine roots; few medium and common fine pores, slight effervescence; moderately slow permeability; clear smooth boundary; pH 8.2.
B_1	16-48	Dark greyish brown (10 YR 4/2 M); clay; strong, coarse, subangular blocky; very firm, sticky and very plastic; few fine and very few fine roots; few fine and many fine pores, slight effervescence; slow permeability; clear smooth boundary; pH 8.0.
Bss	48-75	Dark greyish brown (10 YR 4/2 M); clay; paralleloped structure; firm, sticky and plastic; distinct slickensides and prominent pressure faces very few very fine roots; many very fine and few fine pores; slow permeability; clear smooth boundary; pH 7.8.
IIB_2	75-95	Dark grey (10 YR 4/1 D) and yellowish brown (10 YR 5/6 M); sandy loam; weak to moderate, medium to coarse, subangular blocky; friable, sticky and slightly plastic; few fine to medium, distinct; very dark brown to black (10 YR 2/1) mottlings; very few irregular quartz gravels upto 2cm size; very few, very fine roots; very few, medium many fine and very fine pores; slight effervescence; moderately slow permeability; clear smooth boundary; pH 8.0.
II B_2	95-118	Strong brown (7.5 YR 5/6 M); sandy clay loam; moderate medium, subangular blocky; slightly hard, slightly firm, slightly sticky and slightly plastic; few fine to medium, distinct very dark brown to black (10 YR 2/1) mottlings; very few, small irregular quartz gravels; many fine and very fine pores; clear smooth boundary; pH 7.7.
III B_3	118-135+	Dark brown (7.5 YR 4/4 M); sandy clay loam; moderate medium to coarse subangular blocky; slightly hard, slightly firm, sticky and plastic; few fine to medium distinct, very dark brown to black (10 YR 2/1) mottlings; slight effervescence; pH 8.0.

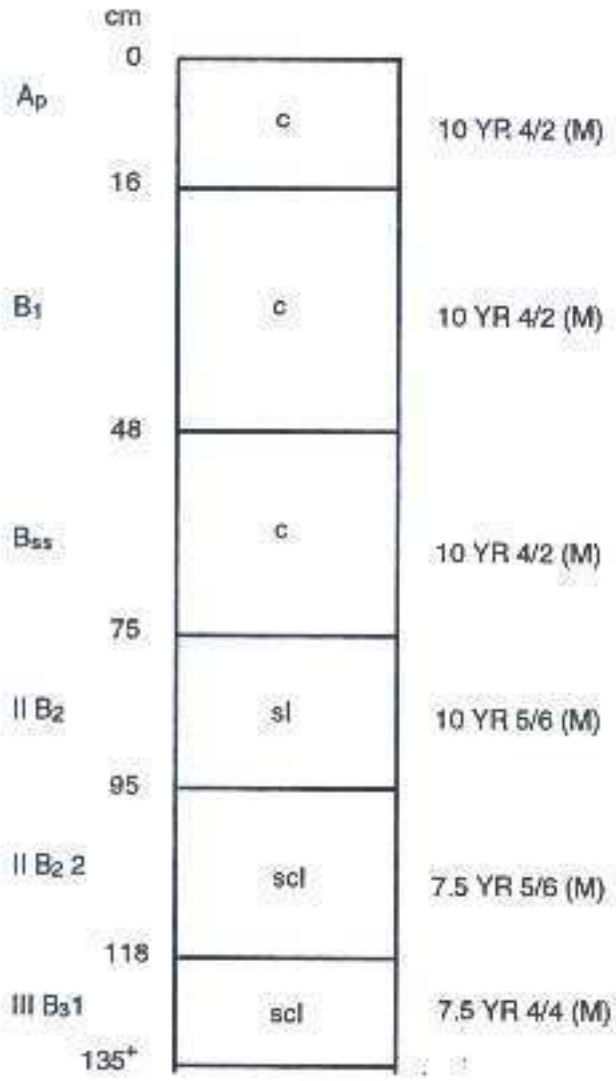
Potentials

- Very deep fine textured
- Level to nearly level
- High Water Holding capacity and organic matter
- Medium to high CEC
- Fine from salinity

Limitations

- Moderately slow permeability
- Mild to moderately alkaline
- Calcareousness

ADHANUR (Adn) SERIES



ALATHUR (Alt) SERIES

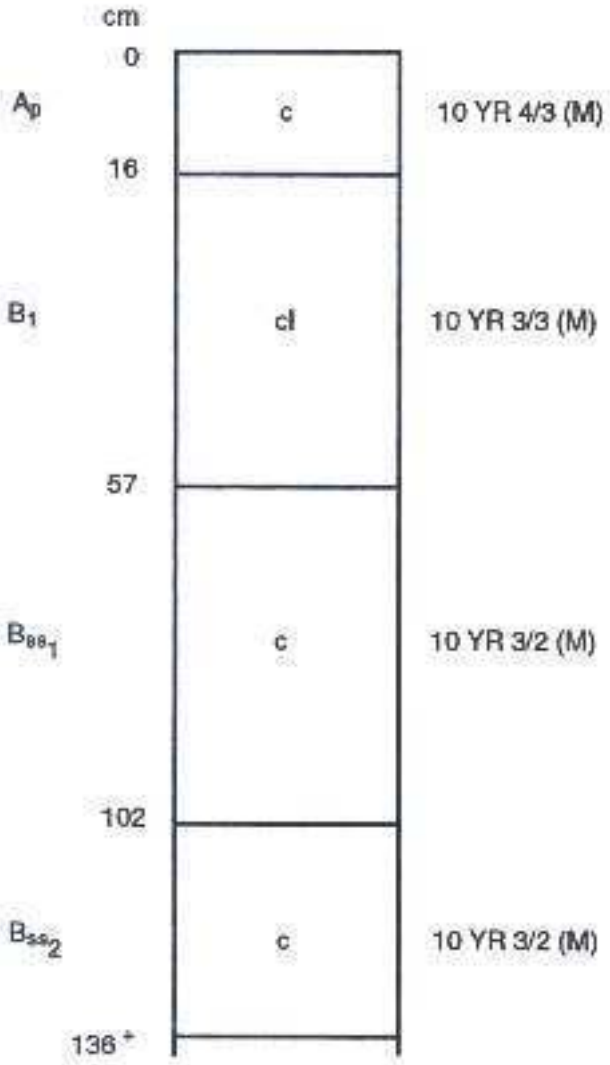
Brief description	:	Dark brown to very dark greyish brown, very deep, calcareous, neutral to moderately alkaline soils.
Physiography	:	Tamil Nadu plain - lowlying tank fed.
Drainage	:	Imperfectly drained
Taxonomy	:	Fine montmorillionitic, isomegathermic very deep, Vertic Ustropepts.
Typifying pedon	:	Alathur - clay - fallow.

Profile description

Horizon	Depth (cm)	Description:
Ap	0-16	Dark brown (10 YR 4/3 M); clay, weak, medium crumb and moderate medium, subangular blocky; firm, sticky and plastic; few fine to medium distinct dark reddish brown (5 YR 3/4) mottlings; very few, small round to irregular ferro manganese concretions many fine and few coarse roots; common fine and very fine pores; violent effervescence; moderate permeability; clear smooth boundary; pH 7.2.
B_1	16-57	Dark brown (10 YR 3/3 M); clay loam; massive; very firm, sticky and plastic very few small round to irregular conca; few small round to irregular ferro manganese concretions; very few medium and few fine roots; very few medium, few fine and very fine pores violent effervescence, moderately slow permeability clear smooth boundary; pH 8.9.
Bss_1	57-102	Very dark greyish brown (10 YR 3/2 M); clay; strong, medium to coarse, subangular blocky to angular blocky; firm, sticky and plastic; few faint to medium faint to strong brown (7.5 YR 5/6) mottlings, few small to round to irregular conca, very few small round to irregular ferromanganese concretions; distinct pressure faces and indistinct slicknsides; few fine and very fine roots; few fine and very fine pores; slow permeability; abrupt smooth boundary; pH 8.4.
Bss_2	102-136+	Very dark greyish brown (10 YR 3/2 M); clay, medium coarse parallelo piped structure; firm, sticky and plastic; common medium, distinct strong, brown (7.5 YR 5/8) mottlings; few small round to irregular ferromanganese concretions; prominent intersecting slickensides; few fine and very fine roots; common fine and very fine pores; violent effervescence; slow permeability; pH 8.2.

Potentials	***Limitations***
- Very deep	- Silty clay to clay in sub-surface
- Clay loam to sandy clay	- moderately slow permeability
- Very gentle sloping	- Imperfectly drained
- High CEC	- Low organic matter
- Neutral reaction	- Moderately alkaline
	- Critical to injurious EC in subsoil
	- Calcareousness
	- Slight Erosion

ALATHUR (Alt) SERIES



GOVINDAPURAM (Gpm) SERIES

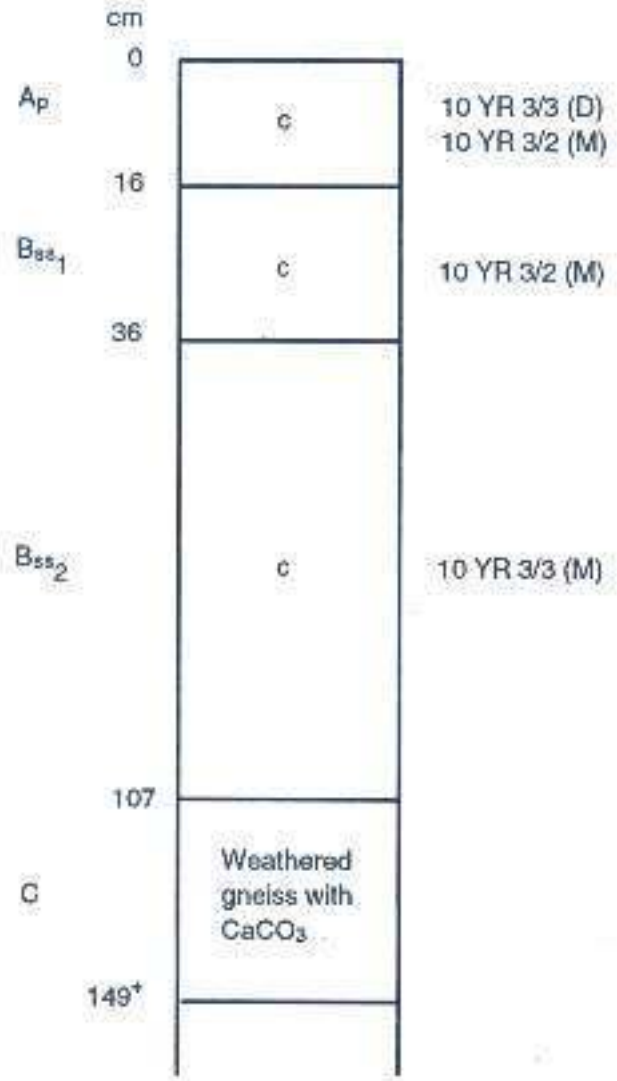
Brief description	:	This series consists of deep to very deep, calcareous moderately well drained medium to heavy textured black soil
Physiography	:	Tamil Nadu uplands Gently sloping land
Drainage	:	Moderately well drained
Taxonomy	:	Fine montmorillionitic, isomegathermic calcareous, very deep; Typic Haplusterts
Typifying pedon	:	Govindapuram - clay - cultivated

Profile description

Horizon	Depth (cm)	Description:
Ap	0 - 16	Dark brown (10 YR 3/3 D) to very dark greyish brown (10 YR 3/2 M) and clay; moderate, coarse sub angular blocky; firm, very hard, sticky and slightly plastic; frequent fine round to irregular hard conca; indistinct pressure faces; few coarse and fine roots; slow permeability abrupt smooth boundary pH 8.0.
Bss_1	16-36	Very dark greyish brown (10 YR 3/2 M) clay, moderate, coarse, subangular blocky breaking to weak medium angular blocky; firm, sticky and plastic; frequent fine round to irregular hard conca; prominent thick intersecting slicken sides; few fine roots; slow permeability; abrupt smooth boundary; pH 8.0
Bss_2	36-107	Dark brown (10 YR 3/3 M); clay; moderate, coarse subangular blocky; very firm, sticky and plastic; frequent few fine round to irregular hard conca; prominent, thick intersecting, slickensides; common very fine roots; very slow permeability; clear smooth boundary; pH 7.9.
C	107-149+	Weathered gneiss with calcium carbonate. A few bits of feldspar are also mixed with gneiss

Potentials		***Limitations***
- Deep to very deep	-	Slow permeability
- Clay to clay loam texture	-	Moderately well drained
- Gentle sloping	-	Low organic matter
- High water holding capacity, CEC	-	Slightly alkaline
- Neutral reaction	-	Calcareous
- Free from salinity		
- No erosion hazard		

GOVINDAPURAM (Gpm) SERIES



IRUGUR (Igr) SERIES

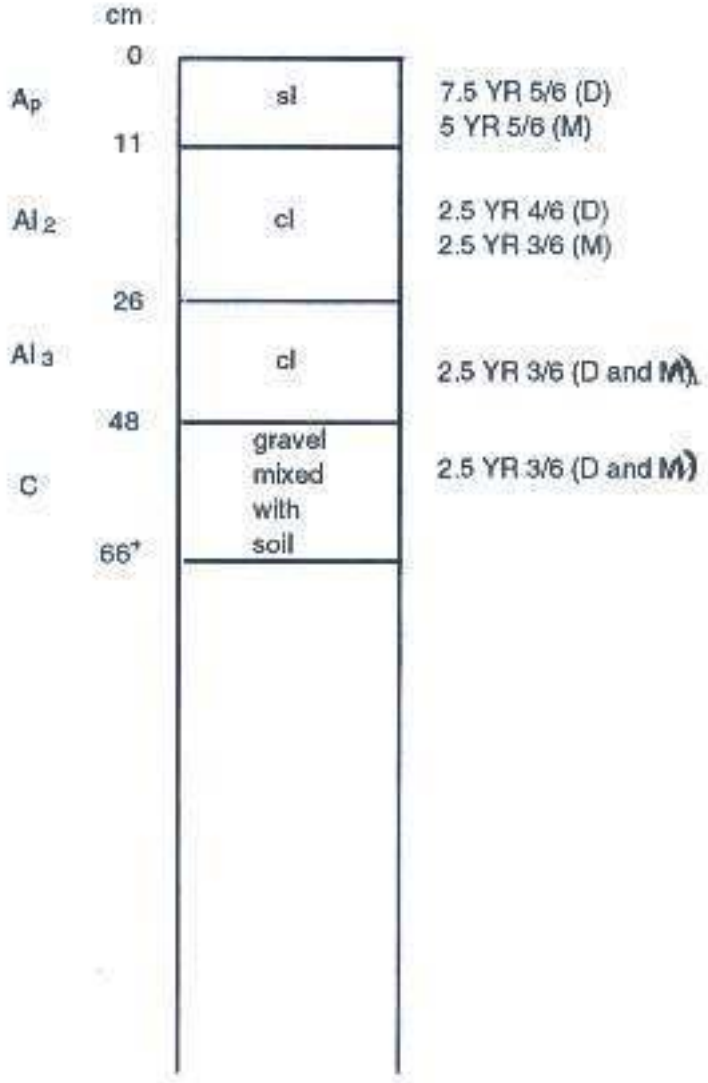
Brief description	:	These are red to dark red, deep, fine loamy, non-calcareous, slightly acid to neutral soils
Physiography	:	Tamil Nadu uplands very gentle slopes of undulating topography
Drainage	:	Well drained
Taxonomy	:	Fine loamy; Kaolinitic, isomegathermic deep, Typic Ustorthents
Typifying pedon	:	Irugur - sandy loam - cultivated

Profile description

Horizon	Depth(cm)	Description
Ap	0-11	Strong brown (7.5 YR 5/6 D) to yellowish red (5 YR 5/6 M); and sandy loam; weak medium sub angular blocky to granular; slightly hard friable; common, fine and very fine, very few medium pores; very few medium and fine roots; rapid permeability; clear smooth boundary; pH 7.2.
$A1_2$	11-26	Red (2.5 YR 4/6 D) to dark red (2.5 YR 3/6 M); clay loam; moderate medium subangular blocky; slightly firm and hard; sticky and plastic; few irregular quartz gravels upto 3cm diameter; very few coarse, few medium and common fine pores; very few, fine and very fine roots; moderately rapid permeability; clear smooth boundary pH 6.7.
$A1_3$	26-48	Dark red (2.5 YR 3/6 D&M) clay loam; moderate medium subangular blocky; slightly firm, slightly hard, very frequent small and large quartz gravels; few coarse and medium pores; few fine and very fine roots; moderately rapid permeability; gradual wavy boundary; pH 6.5.
C	$48-66^+$	Gravel mixed with soil.

Potentials	*Limitations*
- Moderately deep to deep	- Sandy clay to clay sub-surface
- Fine loamy texture	- Well drained
- Gentle sloping	- Low water holding capacity, organic matter
- Moderately rapid permeability	- Slightly acid
- High CEC	- Moderate sheet erosion
- Neutral reaction	
- Free from salinity	
- Non-calcareous	

IRUGUR (Igr) SERIES



KALLAKKUDI (Klk) SERIES

Brief description : Kallakkudi series are dark grey to very dark brown very deep, fine textured calcareous neutral to alkaline soils.

Phy: graphy : Tamil Nadu plain - gently sloping upland

Draina: e : Moderately well drained

Taxonomy : Fine, montmorillionitic isomegathermic calcareous, very deep Typic Calciusterts

Typifying pedon : Kallakkudi - clay - cultivated fallow

Profile description

Horizon	Depth (cm)	Description:
Ap	0-11	Dark greyish brown (10 YR 4/2 M) clay; weak moderate subangular blocky; firm, sticky and plastic; few small hard lime concretions; few fine and very few coarse roots; common fine and medium few coarse pores; violent effervescence; moderately rapid permeability; clear smooth boundary; pH 8.4
B_1	11-54	Very dark greyish brown (10 YR 3/2 M) clay; medium coarse subangular blocky; firm, sticky and plastic; few small irregular lime concretions few fine and coarse roots; common very fine and few fine pores; indistinct pressure faces; violent effervescence; slow permeability; diffused wavy boundary; pH 8.3
B_{ss1}	54-95	Very dark greyish brown (10 YR 3/5 M) clay; coarse strong sub angular blocky; firm, sticky and plastic few small hard irregular lime concretions; few very fine and fine roots; common very fine and fine pores; distinct presure faces and indistinct slickensides; violent effervescence; slow permeability gradual smooth boundary; pH 8.1
B_{ss2}	95-120	Very dark grey to very dark greyish brown (10 YR 3/1.5 M) clay; coarse strong angular blocky; firm, very sticky and plastic; few small hard lime concretions; few very fine roots; common very fine pores; slickensides; distinct pressure face; violent effervescence; slow permeability; gradual smooth boundary pH 8.0
B_3	120-142+	Dark greyish brown to very dark greyish brown (10 YR 3/2 M) clay loam; medium strong subangular blocky; firm, very sticky and plastic; common medium prominent yellowish brown (10 YR 5/4) mottlings; small hard irregular lime concretions; few very fine roots; common very fine pores; distinct pressure face; violent effervescence; slow permeability; pH 8.4

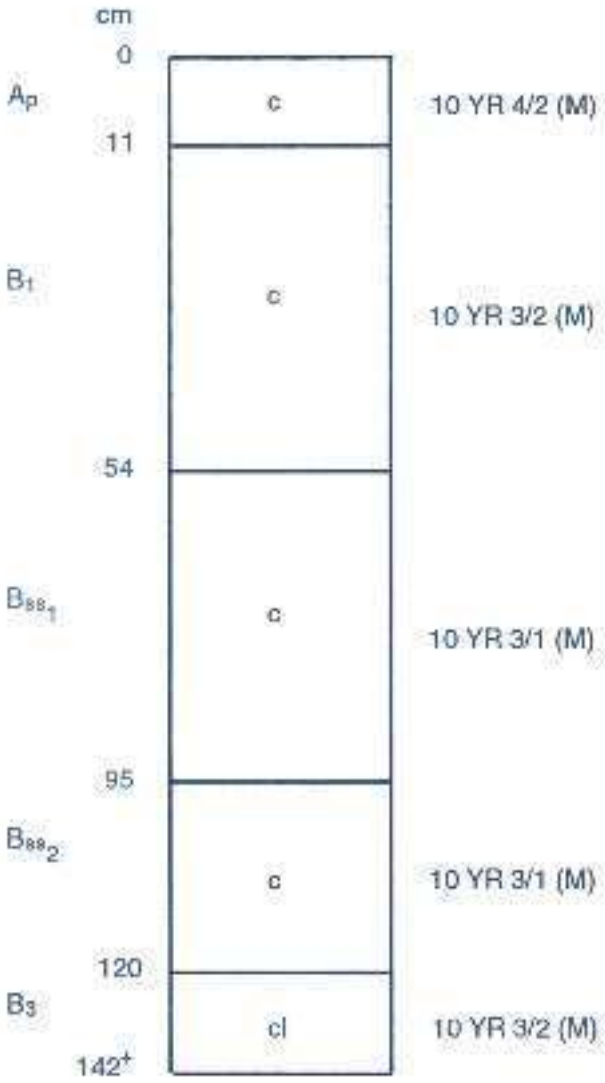
Potentials

- Very deep
- Fine textured
- Very gentle slope
- High water holding capacity, CEC
- Free from salinity

Limitations

- Moderately slow permeability
- Well drained
- Low organic matter
- Mild to moderately alkaline
- Calcareousness
- Slight sheet erosion

KALLAKUDI (KIk) SERIES



KALLANPATTI (Kpt) SERIES

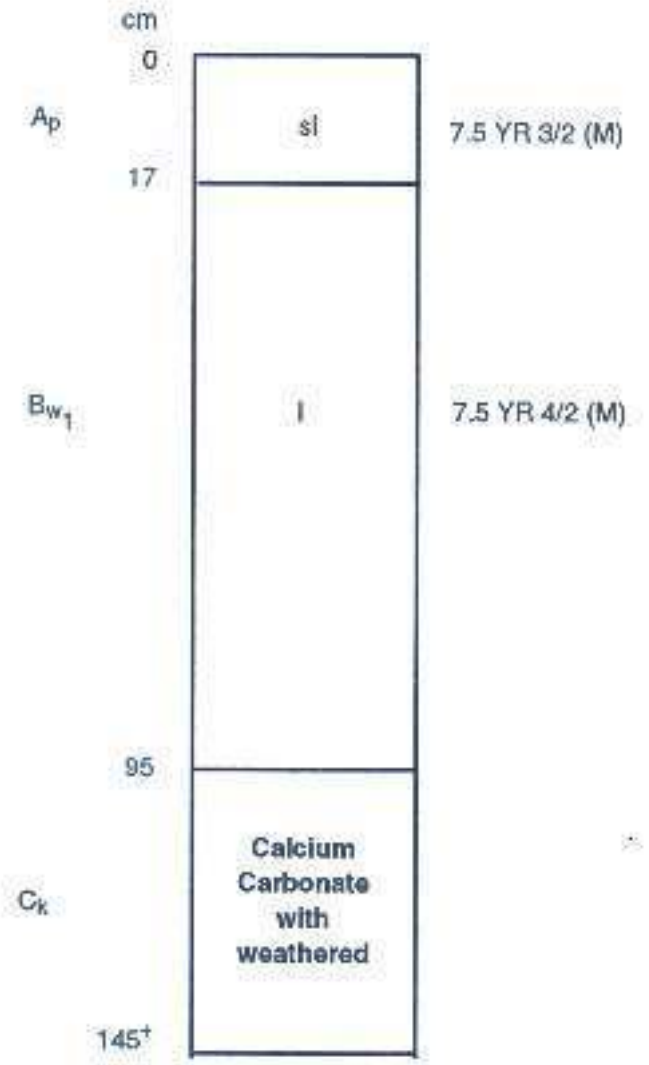
Brief description	:	Reddish brown to dark brown, coarse loamy, moderately deep to very deep, moderately well drained neutral to alkaline calcareous soils.
Physiography	:	Tamil Nadu uplands - convex slope of the undulating topography
Drainage	:	Moderately well drained
Taxonomy	:	Coarse loamy, mixed, isomegathermic calcareous, deep, Typic Ustropepts.
Typifying pedon	:	Kallanpatti - sandy loam - cultivated

Profile description

Horizon	Depth (cm)	Description:
Ap	0-17	Dark brown (7.5 YR 3/2 M) sandy loam; moderate medium subangular blocky; friable, loose, slightly sticky and slightly plastic; many medium roots, few fine pores; moderately slow permeability strong effervescence; clear smooth boundary; pH 8.7.
Bw_1	17-95	Dark brown (7.5 YR 4/2 M) loam; weak medium subangular blocky; slightly firm, slightly sticky and slightly plastic; calcium carbonate nodules 80 to 90%; few very fine roots; many coarse pores; violent effervescence; slow permeability; clear smooth boundary; pH 8.6.
Ck	95-145+	Calcium carbonate weathered gneiss.

Potentials		***Limitations***
- Very deep	-	Moderately deep
- Clay to sandy clay loam	-	Gravelly
- Well drained	-	Slow to rapid permeability
- High water holding capacity	-	Low CEC, organic matter
- Neutral reaction	-	Strongly alkaline
- Free from salinity	-	Calcareousness
- No erosion hazard.		

KALLANPATTI (Kpt) SERIES



KALATHUR (Klt) SERIES

Brief description	:	Brown to dark, greyish brown, very deep, fine, calcareous, moderately well drained, alkaline alluvial soils
Physiography	:	Tamil Nadu plain - riverine land form of deltaic plain
Drainage	:	Moderately drained
Taxonomy	:	Fine montmorillonitic, isomegathermic, calcareous, very deep, Typic Haplusterts
Typifying pedon	:	Kalathur - clay - cultivated

Profile description

Horizon	Depth (cm)	Description
A_{11}	0-17	Dark greyish brown (10 YR 4/2 M); clay; strong medium subangular blocky; very hard, firm, sticky and plastic; common fine roots; calcareous with strong effervescence; moderately rapid permeability; clear smooth boundary; pH 6.4.
A_{12}	17-40	Very dark greyish brown (10 YR 3/2 M); silty clay, strong medium to coarse subangular blocky; very hard firm, sticky and plastic; very few very fine roots; distinct pressure faces, distinct intersecting slickensides; calcareous with strong effervescence; moderately slow permeability; clear smooth boundary; pH 6.7
B_1	40-120	Dark brown (10 YR 3/3 M), silty clay loam; strong medium angular blocky; very hard, very firm, very sticky and plastic; very few very fine roots; distinct pressure faces; distinct intersecting slickensides; calcareous with strong effervescence; moderately slow permeability; clear smooth boundary; pH 6.6
Bss	120-155+	Dark brown (10 YR 3/3 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.

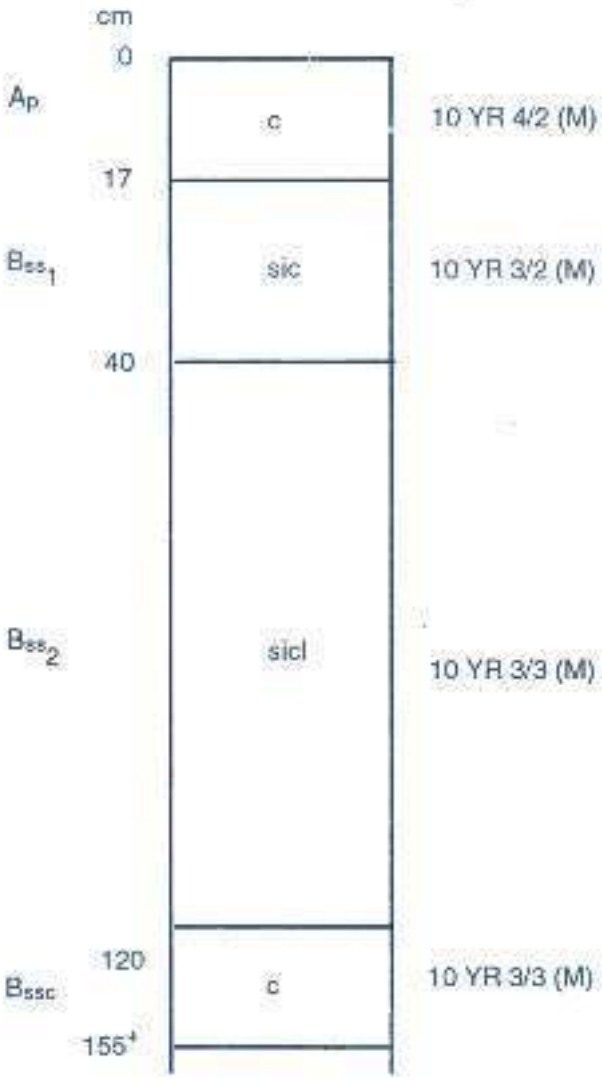
Potentials

- very deep
- Loamy textured
- Very gentle sloping
- High water holding capacity, CEC Organic matter
- Slight erosion

Limitations

- Slow permeability
- Mild to strong alkaline
- Critical EC in sub - soil
- Calcareousness

KALATHUR (KIt) SERIES



KALLAGAM (Kgm) SERIES

Brief description	:	Red to dark reddish brown, very deep, fine loamy, non calcareous, soils developed on sandy stone
Physiography	:	Tamil Nadu plain - very gentle slope of undulating topography
Drainage	:	Moderately Well drained
Taxonomy	:	Fine loamy, kaolinitic, isomegathermic 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; firm, hard, slightly sticky and plastic; common fine to medium, distinct dark reddish brown (5 YR 3/2) mottling; very few fine and few very fine pores; few coarse and common fine roots; moderately rapid permeability; clear smooth boundary pH 4.5.
B_1	15-34	Red (2.5 YR 4/8 M); sandy clay loam; moderate, coarse, subangular blocky; slightly firm, slightly sticky and slightly plastic; few fine to medium, dark (5 YR 2/1) mottlings; patchy clay films on pores; very few medium and few fine roots; moderate permeability; clear smooth boundary; pH 4.5.
Bt_1	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_2	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; very few very fine roots; many medium common fine and very fine pores; thin clay cutans; moderately slow permeability; clear smooth boundary; pH 5.8
Bt_3	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; thin clay cutans; moderately slow permeability; pH 6.4.

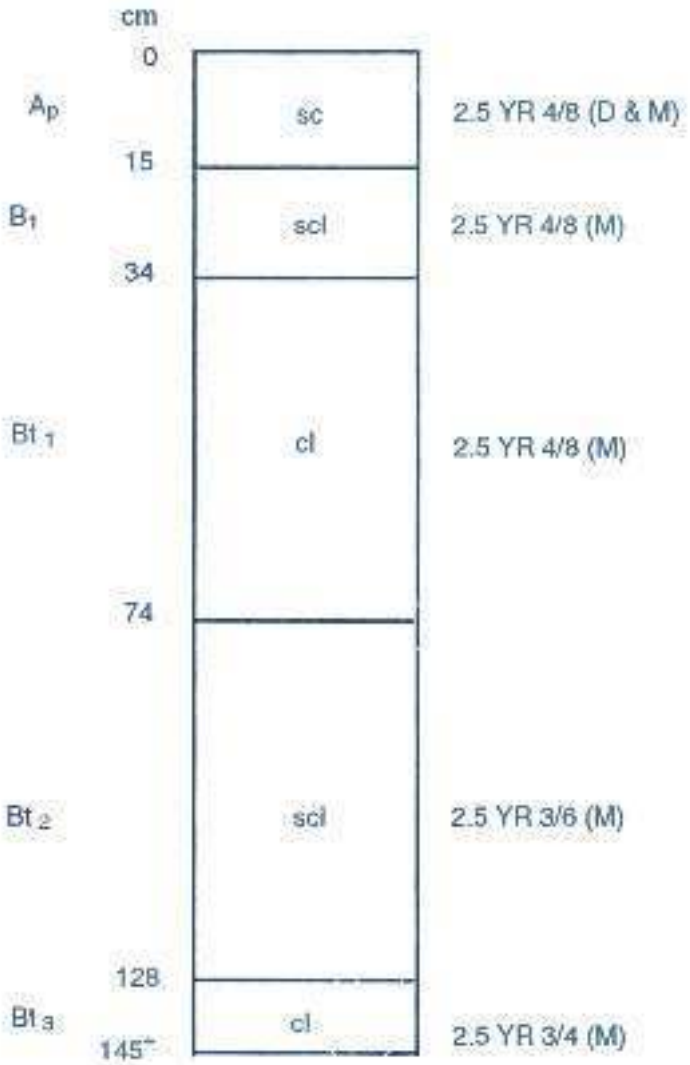
Potentials

- Very deep; Fine loamy
- Very gentle sloping
- Moderate permeability and well drained
- High water holding capacity
- Medium CEC
- Neutral reaction
- Free from salinity
- Non - Calcareous

Limitations

- Low CEC
- Slightly acidic
- Moderate sheet erosion

KALLAGAM (Kgm) SERIES



MADUKKUR (Mdk) SERIES

Brief description	:	Yellowish brown, very deep fine loamy, moderately well drained soil
Physiography	:	Tamil Nadu Plain - Laterite land form
Drainage	:	Well drained
Taxonomy	:	Fine loamy, kaolinitic isomegathermic very deep, Udic Haplustalfs
Typifying pedon	:	Madukkur sandy loam - cultivated

Profile description

Horizon	Depth (cm)	Description:
Ap	0-15	Yellowish brown (10 YR 5/8 M); sandy loam; weak medium subangular blocky; hard, firm, slightly sticky and slightly plastic; common fine to medium roots; common fine pores moderately rapid permeability; clear smooth boundary; pH 6.2.
B_1	15-41	Yellowish brown (10 YR 5/6 M) sandy loam; weak, medium subangular blocky; hard, firm, slightly sticky and slightly plastic; very few very fine roots common fine pores few fine to medium iron concretions; common prominent reddish brown (10 YR 4/4) and very dark greyish brown mottlings; moderately rapid permeability; diffused boundary; pH 7.4.
Bt_1	41-101	Yellowish brown (10 YR 5/4 M) sandy clay loam; very weak medium subangular blocky breaking to granules; hard, firm, slightly sticky and slightly plastic; few medium to coarse iron concretions; common prominent reddish brown (5 YR 4/4) and very dark greyish brown mottlings; thin patchy clay films on ped faces; very few very fine roots; moderately rapid permeability; clear smooth boundary; pH 7.4.
Bt_2	101-150+	Strong brown (7.5 YR 5/6 M); sandy clay loam; very weak medium subangular blocky breaking to granules; slightly hard, firm, slightly sticky and slightly plastic; few medium to coarse iron concretions; common prominent reddish brown (5 YR 4/4) and very dark greyish brown (5 YR 3/1) mottlings; thin patchy clay films on ped faces; very few very fine roots; moderately rapid permeability; pH 7.3.

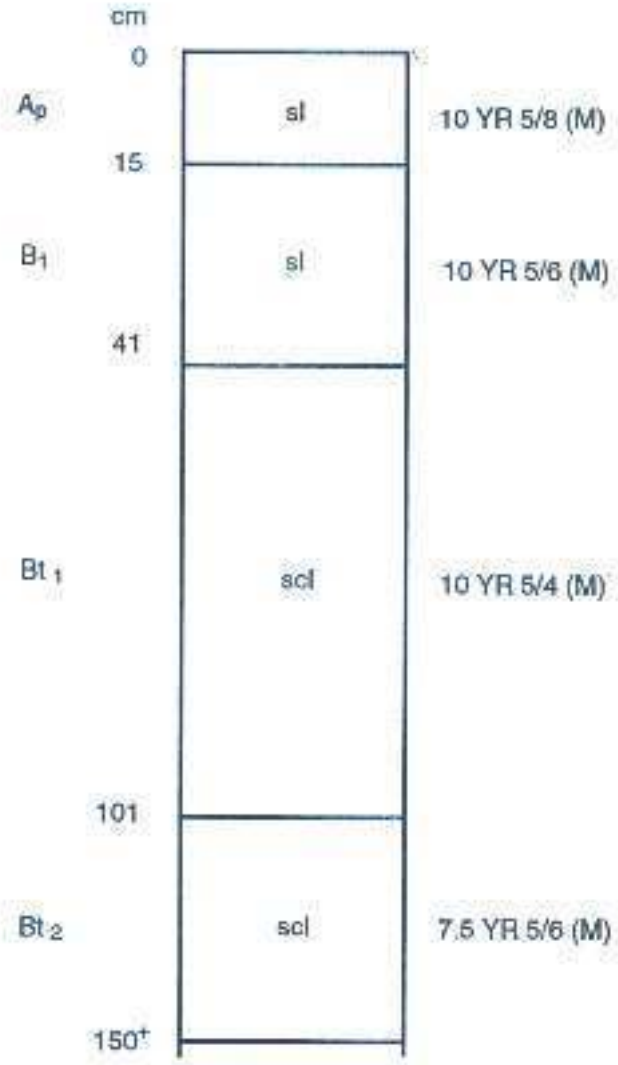
Potentials

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

Limitations

- Clay in sub-surface
- Moderately well drained
- Low CEC, organic matter
- Moderately alkaline
- Moderate erosion

MADUKKUR (Mdk) SERIES



MANGARAIPATTI (Mgp) SERIES

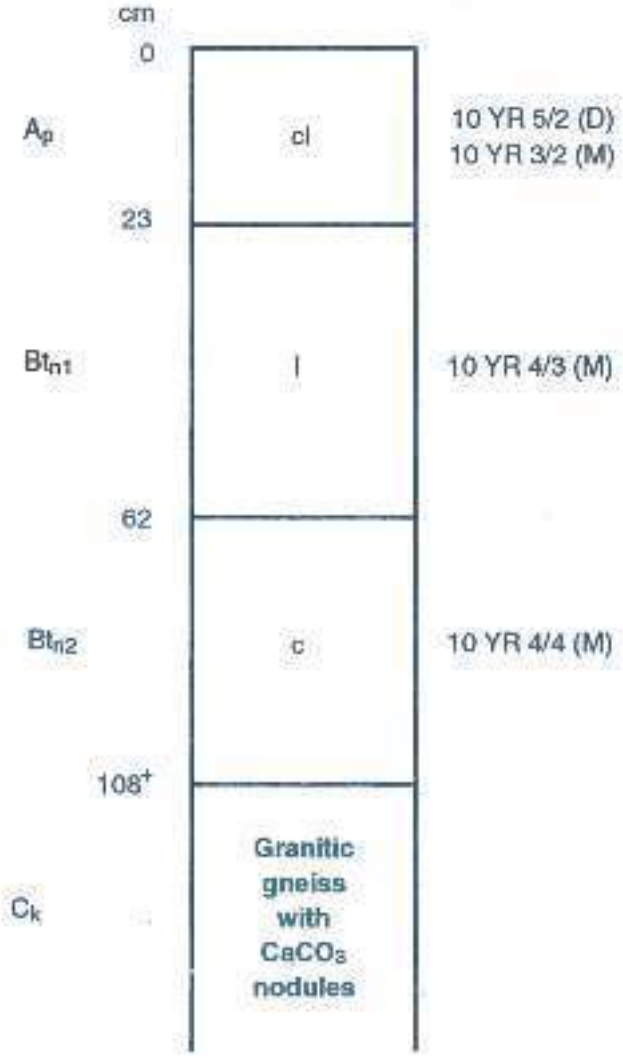
Brief Description	:	It consists of grey moderately deep to very deep calcareous, fine clayey soils.
Physiography	:	Tamil Nadu uplands - Low lying lands
Drainage	:	Moderately well drained
Taxonomy	:	Fine loamy, mixed, isomegathermic, calcareous, very deep Typic Natrustalfs
Typifying pedon	:	Mangaraipatti - clay loam - cultivated

Profile description:

Horizon	Depth(cm)	Description:
Ap	0-23	Greyish brown (10 YR 5/2 D) to very dark greyish brown (10 YR 3/2 M), clay loam; moderately coarse, subangular blocky; very hard, firm, sticky and plastic; many pores; many coarse roots; slow permeability; violent effervescence; clear smooth boundary; pH 9.0.
Bt_{n1}	23-62	Brown (10 YR 4/3 M); loam; moderately fine to medium subangular blocky; friable, sticky and plastic; clay films on ped faces; many pores; presence of few quartz gravels many fine roots; thin clay films; artifacts such as pieces of mud pots; violent effervescence; moderately rapid permeability; clear smooth boundary; pH 9.0.
Bt_{n2}	62-108	Dark yellowish brown (10 YR 4/4 M); clay; moderate to medium subangular blocky breaking into crumbs; friable, sticky; few pores; many fine roots; thin clay cutans; artifacts of mud pots; violent effervescence; moderately slow permeability; clear smooth boundary; pH 8.0.
Ck	108+	Granitic gneiss with $CaCO_3$ nodules.

Potentials		***Limitations***
- Deep very deep soil	-	Moderately deep and slow permeability
- Loamy textured	-	Low water holding capacity, organic matter
- Moderately well drained	-	Strongly alkaline
- No salinity	-	Calcareousness

MANGARAIPATTI (Mgp) SERIES



MANMALAI (Mmi) SERIES

Brief description	:	Manmalai series are reddish brown, moderately deep to deep, medium textured, neutral to alkaline calcareous soils.
Physiography	:	Tamil Nadu plain - basins of upper slopes
Drainage	:	Well drained
Taxonomy	:	Fine loamy, mixed iomegathermic, clacareous deep Typic Haplustalfs.
Typifying pedon	:	Manmalai - sandy clay loam - cultivated

Profile description:

Horizon	Depth (cm)	Description:
Ap	0-11	Yellowish red (5 YR 5/8 D) to Yellow red (5 YR 4/8 M) and sandy clay loam; weak medium subangular blocky breaking to crumbs; slightly firm, hard, sticky and slightly plastic; many fine and few medium pores; frequent, fine to medium round to irregular, soft calcium carbonate nodules; fine to coarse roots; rapid permeability abrupt wavy boundary; pH 8.6
B_1	11-34	Reddish brown (5 YR 4/4 D) to Dark reddish brown (5 YR 3/4 M) and sandy clay loam; weak medium subangular blocky; sticky and plastic; friable, slightly hard few fine pores; few fine round to irregular, soft calcium carbonate concretions; few fine to coarse roots; moderately rapid permeability; thin patchy clay films on ped faces; abrupt wavy boundary pH 8.3.
Bt	34-51	Dark reddish brown (5 YR 3/4 D&M) sandy clay; moderate, coarse, subangular blocky breaking to weak, medium subangular blocky breaking to weak, medium, subangular blocky slightly sticky, slightly hard, few fine pores; few fine round to irregular soft calcium carbonate concretions; very fine to fine roots; moderately rapid permeability; patchy, thin clay films on ped faces; clear smooth boundary; pH 8.0.
B_3	51-99+	Dark reddish brown (5 YR 3/3 D&M); gravelly clay loam; weak, medium, subangular blocky; firm, sticky and highly plastic; slightly land; few very fine fine pores; moderately rapid permeability; fine to very fine roots; weathered gneiss mixed with calcium carbonate and farro manganesse concretions; pH 8.0

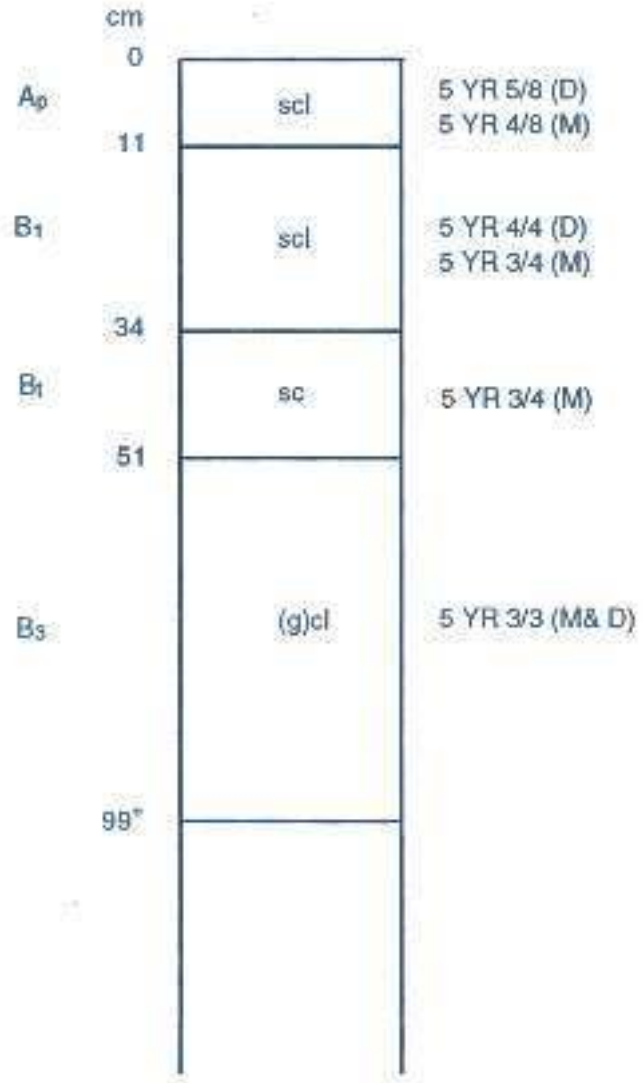
Potentials

- Deep soil
- Loamy textured
- Moderate to rapid permeability
- Well drained
- Medium to High CEC
- Neutral reaction
- Free from salinity

Limitations

- Moderately deep soil
- Low water holding capacity and organic matter
- Slightly alkaline
- Calcareous
- Severe sheet erosion

MANMALAI (Mmi) SERIES



OMANDUR (Omd) SERIES

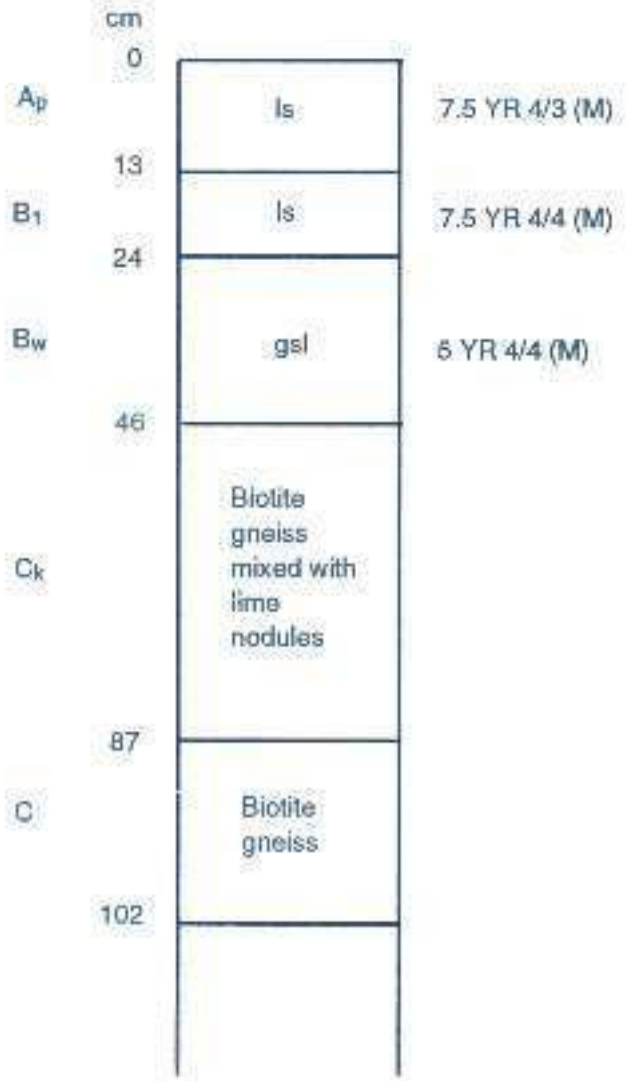
Brief description	:	Dark brown to reddish brown, moderately deep to deep coarse loamy, calcareous soil
Physiography	:	Tamil Nadu plain - Gently sloping land of undulating terrain
Drainage	:	Well drained
Taxonomy	:	Coarse loamy, mixed, isomegathermic calcareous, moderately deep Typic Ustropepts
Typifying pedon	:	Omandur - loamy sand - cultivated fallow

Profile description:

Horizon	Depth(cm)	Description:
Ap	0-13	Dark brown (7.5 YR 4/3 M); loamy sand; weak, fine, subangular blocky breaking into granules; slightly hard, friable, non sticky non plastic; few coarse and fine roots; few fine and very fine pores; few small irregular lime concretions; violent effervescence, clear smooth boundary; pH 7.6
B_1	13-24	Dark brown (7.5 YR 4/4 M); loamy sand; weak, fine subangualr blocky breaking to granules; loose, non sticky non plastic; very frequent large irregular lime concretions; very few coarse common fine and many very fine roots; very few coarse and common fine and very fine pores; moderately rapid permeability; violent effervescence gradual wavy boundary; pH 7.5.
Bw	24-46	Reddish brown (5 YR 4/4 M); gravelly sandy loam; weak fine subangular blocky breaking into granules; very slightly sticky; very frequent large irregular lime concretions; many fine and common fine roots; few coarse and common fine and very fine pores; moderately rapid permeability; clear wavy boundary; pH 7.7.
Ck	46-87	Biotite gneiss mixed with lime nodules.
C	87-102	Biotite gneiss

Potentials		***Limitations***
- Moderately deep to deep	-	Moderately deep
- Loamy textured	-	Low water holding capacity, CEC and organic matter
- Gentle sloping	-	Mildly alkaline
- Moderately rapid permeability	-	Calcareous
- Well drained	-	Moderate to severe sheet erosion
- Neutral reaction		
- Free from salinity		

OMANDUR (Omd) SERIES



PALAVIDUTHI (Pvd) SERIES

Brief description : These are red to dark reddish brown, very deep, fine loamy, slightly acid to neutral

Physiography : Tamil Nadu plain - Gently sloping uplands

Drainage : Well drained.

Taxonomy : Fine loamy, kaolinitic, isomegathermic very deep, Typic Rhodustalfs

Typifying pedon : Palaviduthi - loamy sand - cultivated

Profile description:

Horizon	Depth (Cm)	Description:
Ap	0-20	Reddish brown (5 YR 4/4 M) and dark brown (7.5 YR 4/4 D); loamy sand; weak, medium, granular, friable, loose; many medium and coarse pores; many coarse roots; moderately rapid permeability; clear smooth boundary; pH 6.1.
Bt_1	20-39	Dark reddish brown (2.5 YR 3/4 M) and reddish brown (2.5 YR 4/4 D); sandy clay loam moderate medium sub angular blocky; hard, slightly firm sticky and slightly plastic; many medium pores, thin patchy cutans; many medium roots; rapid permeability; clear smooth boundary; pH 6.1.
Bt_2	39-83	Dark reddish brown (2.5 YR 3/4 M); sandy clay loam; strong coarse subangular blocky; slightly firm, slightly sticky and slightly plastic; very few small iron concretions; thin patchy cutans; many medium pores; few fine roots; moderately rapid permeability; clear smooth boundary; pH 6.3.
B_3	83 - 102^+	Dark reddish brown (2.5 YR 3/4 M); sandy clay loam; moderate medium sub angular blocky; slightly firm, slightly sticky and slightly plastic; few round iron concretions; many medium and few fine roots; moderately rapid permeability; pH 6.3.

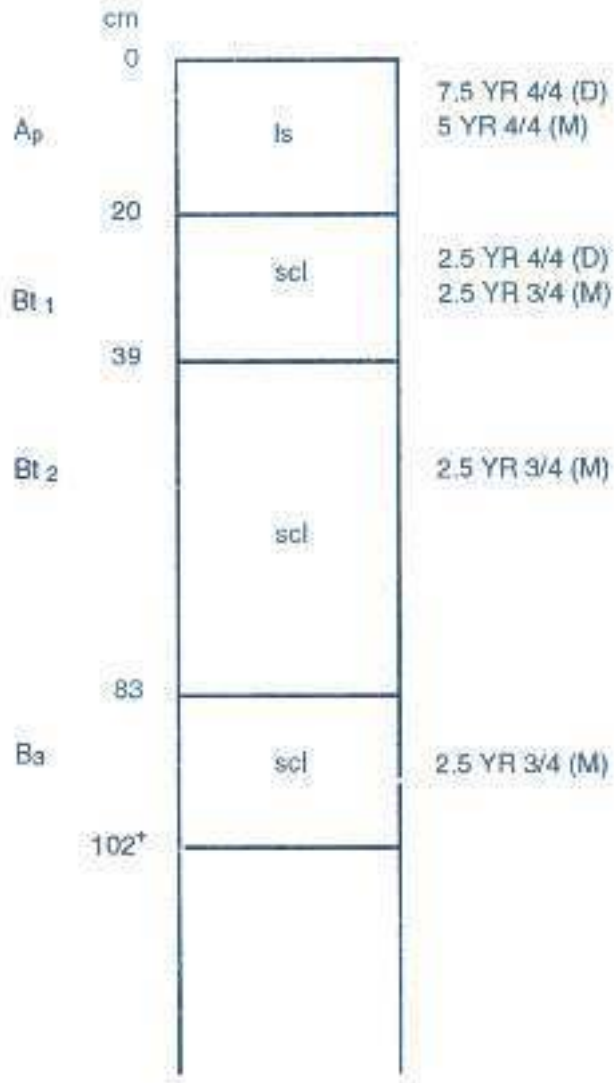
Potentials

- Very deep
- Clay loam to clay in sub-surface
- Very gentle slope
- Moderate permeability
- High CEC
- Medium water holding capacity
- Neutral reaction
- Free from salinity

Limitations

- Sandy loam to sandy clay loam in surface
- Moderately well drained
- Low organic matter
- Slightly acidic
- Calcareousness
- Moderate to severe to sheet erosion

PALAVIDUTHI (Pvd) SERIES



PERIYANAYAKKAN PALAYAM (Pyk) SERIES

Brief description	:	Dark greyish brown to very dark grey, very deep, fine, moderately well drained, calcareous, mild to moderately alkaline soil.
Physiography	:	Tamil Nadu Plain - slightly undulating uplands.
Drainage	:	Moderately well drained
Taxonomy	:	Fine, Montmorillonitic, isomegathermic, calcareous, very deep Typic Calciusterts
Typifying pedon	:	Periyanayakkanpalayam - silty loam - fallow.

Profile description :

Horizon	Depth(cm)	Description:
Ap	0-14	Grey (10 YR 5/1 D) dark greyish brown (10 YR 4/2 M); silty loam; weak fine to medium crumb; medium to coarse subangular blocky, slightly firm, hard, sticky and plastic; few small round to irregular lime concretions; few coarse and fine pores; very few common and few fine roots; violent effervescence; moderately rapid permeability; clear smooth boundary; pH 8.0.
B_1	14-83	Very dark grey (10 YR 4/1 M); clay; loam; moderate medium to coarse, subangular blocky; firm, sticky and plastic; very few small round to irregular lime concretions; common fine and very fine and few medium pores; very few fine and very fine roots; violent effervescence; moderate to moderately slow permeability; clear wavy boundary; pH 8.9.
Bss_1	83-113	Very dark grey (10 YR 3/1 M); clay; moderate medium to coarse, angular blocky; very firm, sticky and plastic; very few small round to irregular and powdered lime and iron concretions, few fine and very few fine pores; indistinct intersecting slickensides; violent effervescence; clear wavy boundary; pH 8.9.
Bss_2	113-132	Very dark grey (10 YR 3/1 M) clay; moderate medium to coarse sub angular blocky; very firm, sticky and plastic; few small and powdered like concretions; very few coarse and very fine pores; very few very fine roots; distinct intersecting slickensides; violent effervescence; moderately slow permeability; abrupt smooth boundary; pH 8.8.
Bss_3	132-141+	Dark grey (10 YR 5/1 M); clay; weak medium subangular blocky; firm, sticky and plastic; frequent small and large lime concretions; few iron concretions very few fine and few very fine pores; distinct intersecting slickensides; violent effervescence; moderate permeability; PH 8.4.

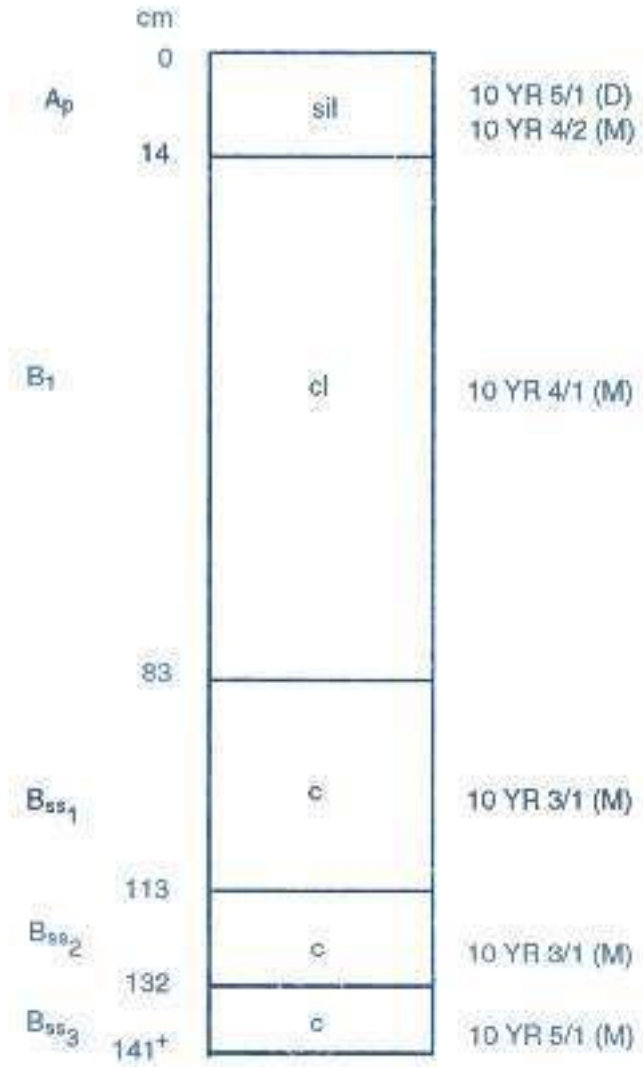
Potentials

- Very deep soil
- Loamy textured soil
- Nearly flat to very gentle slope
- Moderately well drained
- High CEC, water holding capacity
- Free from salinity

Limitations

- Moderately slow permeability
- Low organic matter
- Moderately alkaline
- Calcareousness
- Slight to moderate sheet erosion

PERIYANAYAKKANPALAYAM (Pyk) SERIES



PALATHURAI (Pth) SERIES

Brief description	:	Dark red to dark brown, moderately deep to deep, fine loamy, neutral to mildly alkaline, soils
Physiography	:	Tamil Nadu Plain - very gently sloping lands
Drainage	:	moderately well drained
Taxonomy	:	Coarse loamy, kaolinitic isomegathermic calcareous Typic Haplustalfs
Typifying Pedon	:	Palathurai - loamy sand - cultivated

Profile description

Horizon	Depth(cm)	Description :
Ap	0-7	Dark red (2.5 YR 3/6 M); loamy sand; moderate medium, granular; friable, loose, non sticky and non plastic; common medium pores; very few, medium roots; slight effervescence; moderately rapid permeability; clear smooth boundary; pH 7.9.
B_1	7-22	Dark red (2.5 YR 3/6 M); sandy loamy; moderate, medium subangular blocky; friable, slightly sticky and non plastic; common coarse pores; very few, very fine roots; slight effervescence; moderately rapid permeability; clear smooth boundary; pH 7.7.
Bt_1	22-35	Dark red (2.5 YR 3/6M); sandy loam; moderate, medium subangular blocky; slightly friable, slightly sticky and non plastic; many coarse pores; very few; very fine roots; thin patchy clay cutans; slight effervescence; moderately rapid permeability; clear smooth boundary; pH 7.9.
Bt_2	35-65	Dark reddish brown (2.5 YR 3/4 M); sandy clay; moderate, medium subangular blocky; firm, sticky and slightly plastic; few round to irregular conca; violent effervescence; common coarse pores; very few very fine roots; thin patchy clay cutans; moderate permeability; clear wavy boundary; pH 8.0.
Ck	65+	Kankar with gneiss.

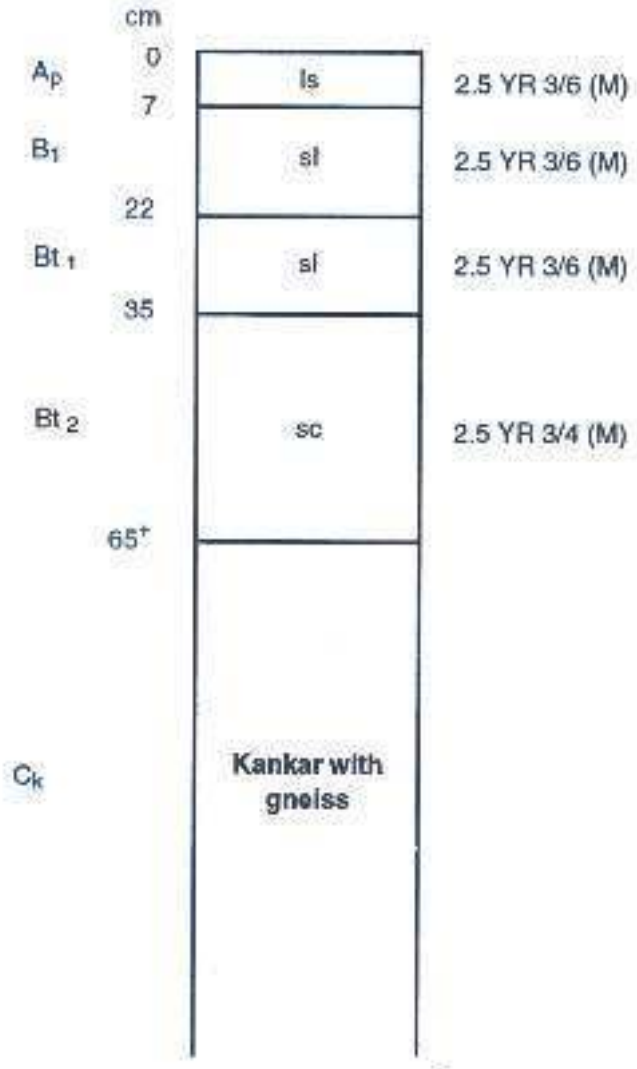
Potentials

- Deep
- Loamy textured
- Gentle sloping
- Medium CEC
- Neutral reaction

Limitations

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

PALATHURAI (Pth) SERIES



PILAMEDU (Plm) SERIES

Brief description : Dark brown to very dark greyish brown, deep to very deep, fine calcareous, moderately well drained moderately alkaline soils.
Physiography : Tamil Nadu uplands - Flat to very gently sloping land
Drainage : Moderately well drained
Taxonomy : Fine, montmorillonitic, isomegathermic, calcareous, very deep Typic Calciusterts
Typifying pedon : Pilamedu - Clay - fallow cultivated.

Profile description:

Horizon	Depth (cm)	Description:
Ap	0-13	Very dark grey (10 YR 3/1 M) clay; moderate coarse subangular blocky; firm sticky and plastic; small hard irregular lime concretions, very few medium and few fine few roots; fine and common very fine pores; violent effervescence; moderate permeability; clear smooth boundary; pH 8.2.
B_1	13-32	Dark grey (10 YR 3/1 M) clay; strong coarse subangular blocky; firm sticky and plastic; small hard irregular concretions; few very fine common fine few roots; medium common fine pores; violent effervescence; moderately slow permeability; clear smooth boundary; pH 8.2.
Bss_1	32-54	Very dark grey (10 YR 3/1 M) clay; strong coarse subangular blocky; firm sticky and plastic; small irregular hard lime concretions; common very fine and fine roots; intersecting slickensides; common very fine and fine pores; distinct pressure faces and indistinct violent effervescence; slow permeability; clear smooth boundary; pH 8.3.
Bss_2	54-105	Very dark grey (10 YR 3/1 M) clay; moderate coarse angular blocky; firm sticky and plastic; small irregular hard irregular lime concretions; common very fine and fine roots; common fine pores, violent effervescence dominant pressure faces; distinct intersecting slicken sides; slow permeability; clear smooth boundary; pH 8.2.
B_3	105-112	Very dark grey (10 YR 3/1 M) clay; moderate coarse subangular blocky; firm, sticky and plastic; large hard lime concretions; few very fine roots; few fine and very fine pores; moderately slow permeability; abrupt irregular boundary pH 8.2.
Ck	112+	Gneiss mixed lime.

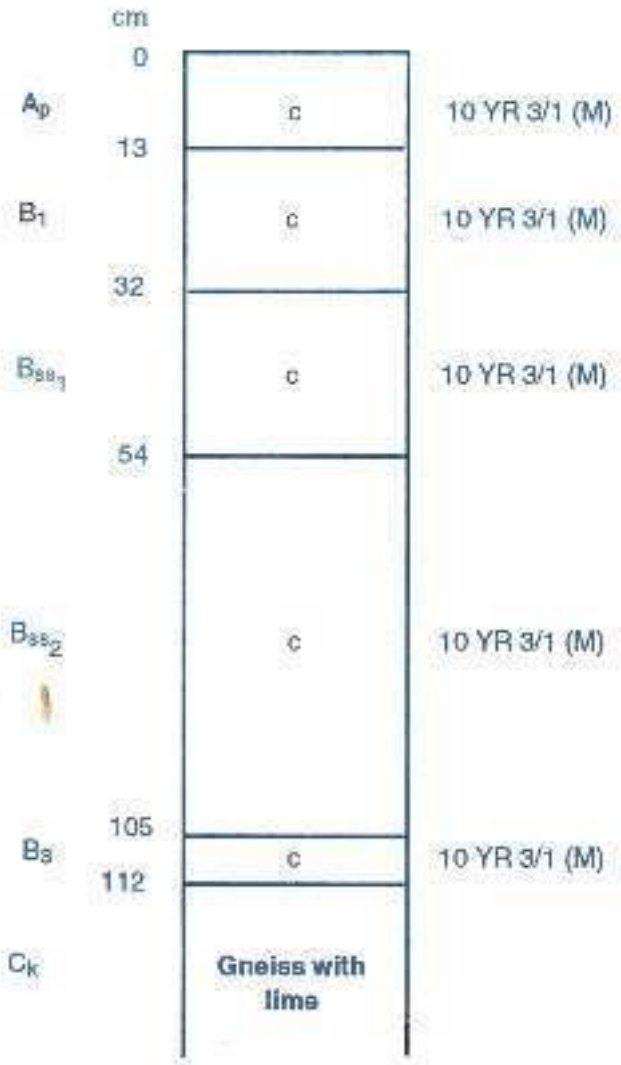
Potentials

- Very deep
- Clay loam to clay
- Very gentle sloping
- High water holding capacity, CEC, organic matter;
- Free from salinity

Limitations

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

PILAMEDU (Plm) SERIES



PUVALUR (Plr) SERIES

Brief description	:	Dark greyish brown to very dark grey, very deep fine textured, calcareous; moderately well drained neutral to moderately alkaline soils.
Physiography	:	Tamil Nadu plain - Low lying alluvial soil
Drainage	:	Moderately well drained.
Taxonomy	:	Fine montmorillonitic, isomegathermic, calcareous, very deep Typic Haplusterts
Typifying pedon	:	Puvalur - silty clay - cultivated

Profile description

Horizon	Depth (cm)	Description :
Ap	0-10	Dark brown (10 YR 3/3 D) very dark greyish brown (10 YR 3/2 M); siltly clay; moderate coarse subangular blocky; hard, very firm, sticky and plastic; common fine distinct yellowish red (10 YR 5/8) mottlings by root hair, common fine to medium roots; common very fine to medium pores strong effervescence; moderately rapid permeability; abrupt rapid permeability; abrupt smooth boundary; pH 8.4.
B_1	10-38	Dark brown (10 YR 3/2 M); clay; massive; extremely hard, very firm, sticky and plastic; common fine to medium roots; common very fine pores; strong effervescence; moderately slow permeability gradual smooth boundary. pH 8.1
Bss_1	38-63	Dark brown (10 YR 3/2M); clay; massive; very firm, sticky and plastic; common fine to medium roots; many very fine to fine pores; strong effervescence; distinct intersecting slickensides slow permeability ; gradual smooth boundary; pH 8.1.
Bss_2	63-146	Dark brown (10 YR 3.5/3 M); clay moderate medium angular blocky; very firm, sticky and plastic; few small irregular lime concretions; common medium roots, many fine to fine pores, prominent intersecting slickensides; strong effervescence, slow permeability; diffused broken boundary; pH 8.1.
Bss_3	146-184+	Dark brown (10 YR 3/2 M); clay; moderate, medium angular blocky; firm, sticky and plastic; few small irregular lime concretions; distinct intersecting slickensides; few fine to medium roots; very fine to fine pores; strong effervescence; slow permeability; pH 8.0.

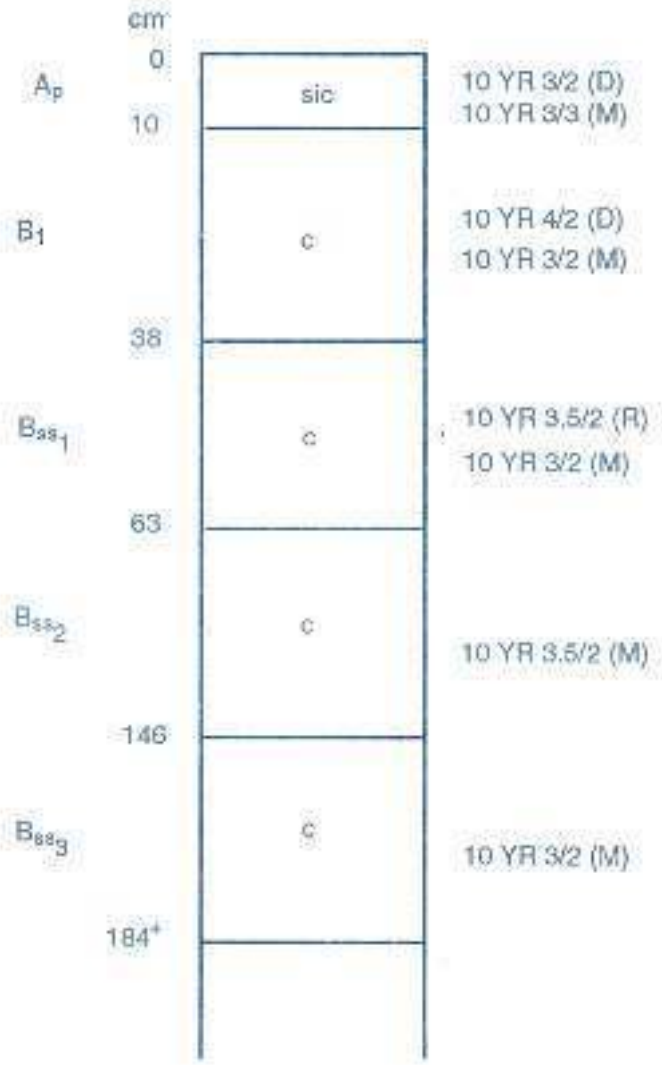
Potentials

- Very deep
- Loamy textured
- Moderately well drained
- High water holding capacity, CEC
- Neutral reaction
- Free from salinity
- No erosion hazard.

Limitations

- Clay in sub - surface
- Moderately rapid permeability
- Low organic matter
- Moderately alkaline
- Calcareousness

PUVALUR (PIr) SERIES



PATTUKKOTTAI (Pkt) SRIES

Brief descriptions : Yellowish brown to reddish brown deep to very deep fine loamy to fine slightly acidic, well drained soils

Physiography : Tamil Nadu upland - Gently sloping land of laterite land form

Drainage : Well drained

Taxonomy : Fine loamy, kaolinitic isomegathermic, very deep, Ultic Haplustalfs

Typifying pedon : Pattukkottai - sandy loam - cultivated

Profile description

Horizon	Depth (cm)	Description:
Ap	0-13	Brown moist (7.5 YR 5/4); sandy loam; very weak medium subangualr blocky breaking to crumb; slightly hard, firm, slightly sticky and slightly plastic; very fine to medium common roots; common fine pores; moderately rapid permeability; clear smooth boundary pH 5.5.
B_1	13-39	Yellowish red (5 YR 5/8 M) sandy clay loam; weak medium subangular blocky breaking to granules; slightly hard, firm, slightly sticky and slightly plastic; very few coarse roots; rapid permeability, diffused boundary; pH 5.2.
Bt_1	39-127	Yellowish red (5 YR 5/8 M); sandy clay loam; weak medium subangular blocky breaking to granules, loose, 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.
Bt_2	127-145+	Yellowish red (5YR 5/8 M); sandy clay loam; loose, firm, slightly sticky and slightly plastic; very fine iron concretions; very few fine roots; thin patchy clay cutans; rapid permeability; pH 4.3.

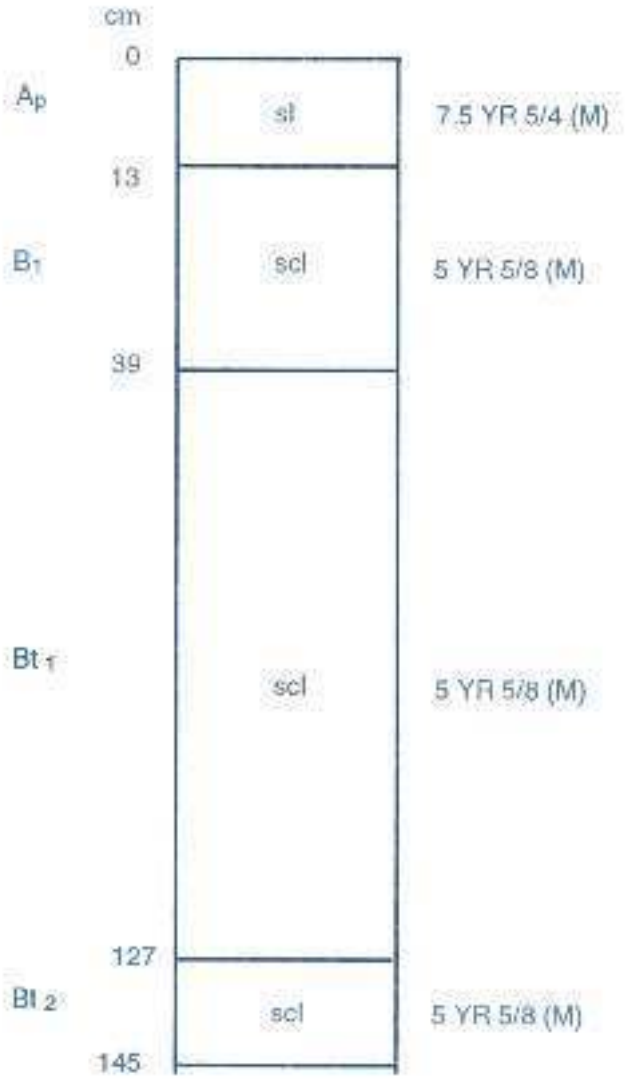
Potentials

- Very deep
- Loamy sub- surface
- Level to gentle sloping
- Rapid to moderately rapid permeability
- Neutral reaction
- Free from salinity
- Non - calcareousness

Limitations

- Heavy sand in surface
- Well drained
- Low Water holding capacity, CEC and organic matter
- Acidic
- Slight sheet erosion

PATTUKKOTTAI (Pkt) SERIES



SOLAMPATTI (Sbt) SERIES

Brief Description	:	Dark yellowish brown to dark grey, very deep, calcareous, moderately well drained fine loamy soils.
Physiogrphy	:	Tamil Nadu uplands - low lying tank fed.
Drainage	:	Moderately well drained
Taxonomy	:	Fine loamy, mixed isomegathermic, calcareous, very deep. Typic Calciusterts
Typifying pedon	:	Solampatti - clay loam - cultivated

Profile description:

Horizon	Depth (cm)	Description:
Ap	0-12	Dark greyish brown (10 YR 4/2 M); clay loam; coarse subangular blocky; very hard, very firm, sticky and plastic; presence of 2-5 mm $CaCO_3$ nodules; many fine roots; few fine pores; violent effervescence; moderately rapid permeability; clear smooth boundary; pH 8.3.
B_1	12-55	Very dark greyish brown (10 YR 3/2 M); clay loam; coarse subangular blocky breaking to crumbs hard, firm, sticky and plastic; presence of 1-2mm sized $CaCO_3$ nodule; few fine pores; strong effervescence; distinct pressure face; moderately rapid permeability; clear smooth boundary pH 8.4.
Bss	55-120	Very dark greyish brown (10 YR 3/2 M) clay; coarse subangular blocky hard, firm, sticky and plastic; presence of clay films on ped faces; presence of distinct intersecting slickensides; strong effervescence; moderately slow permeability; clear smooth boundary; pH 8.5.
Ck	120-147	Calcium carbonate nodules mixed with granite

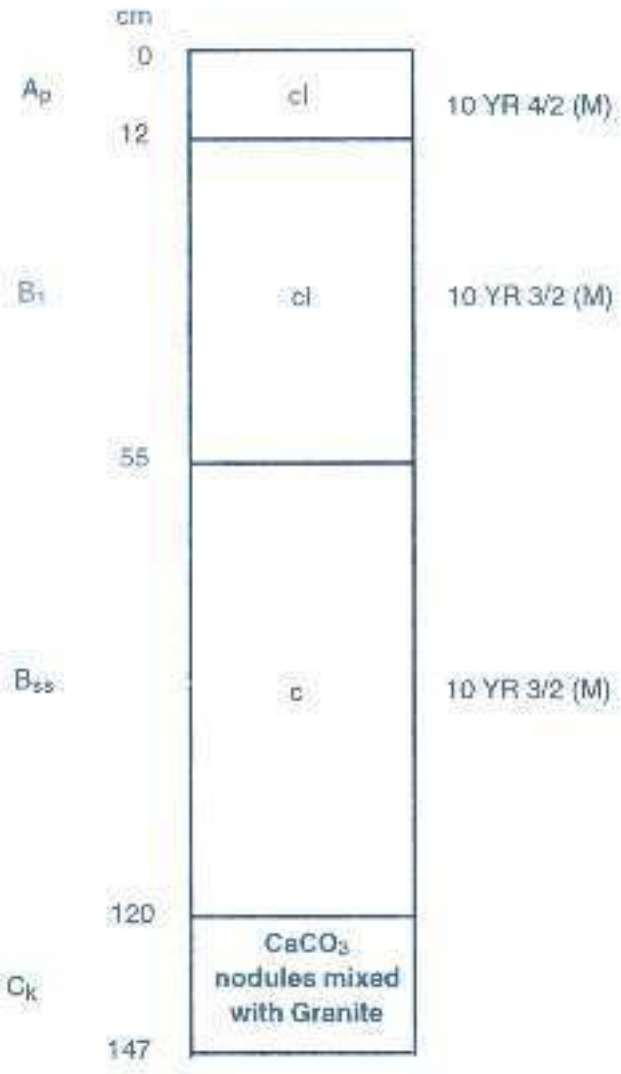
Potentials

- Very deep
- Loamy textured
- Moderately rapid permeability and well drained
- Moderate water holding capacity
- Medium CEC
- Free from salinity

Limitations

- Low organic matter
- Strongly alkaline
- Calcareousness

SOLAMPATTI (Sbt) SERIES



THOLURPATTI (Tpt) SERIES

Brief description : Reddish brown deep to very deep coarse loamy, neutral to moderately alkaline soil.

Physiography : Tamil Nadu uplands - Gently sloping uplands

Drainage : Well drained.

Taxonomy : Coarse loamy, mixed, isomegathermic deep, Typic Ustorthents.

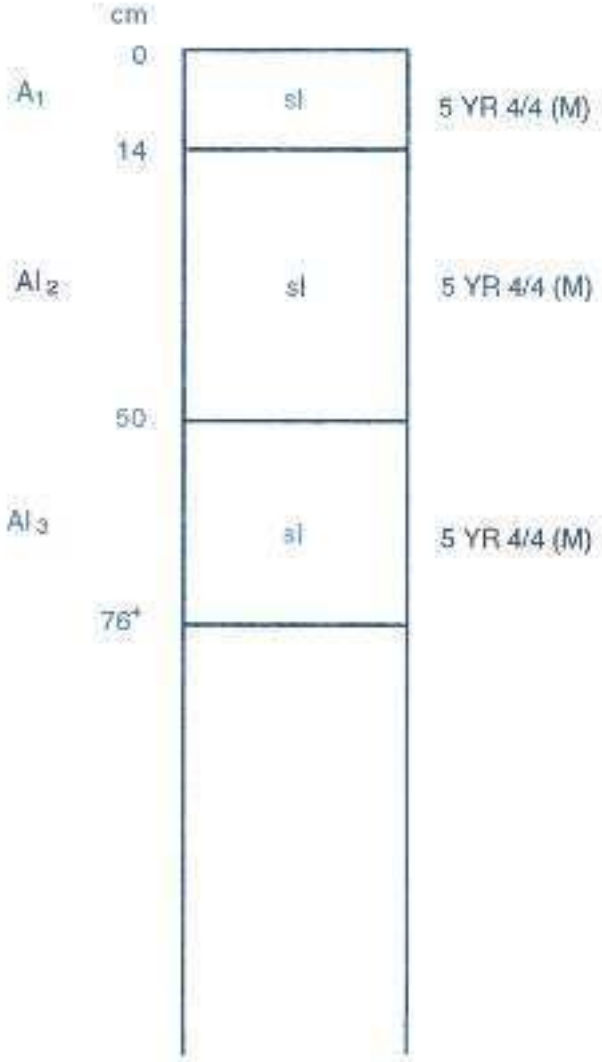
Typifying pedon : Tholurpatti - sandy loam - cultivated

Profile description:

Horizon	Depth(cm)	Description:
A_1	0-14	Reddish brown (7.5 YR 4/4 M) sandy loam; fine moderate subangular blocky; friable, non sticky and non plastic; many medium and coarse roots; moderately rapid permeability; clear smooth boundary pH 8.0.
$A1_2$	14-50	Reddish brown (5 YR 4/4 M) sandy loam, fine moderate sub-angular blocky; friable, slightly sticky and non plastic; few fine roots; common fine pores; moderately rapid permeability; clear smooth boundary; pH7.7.
$A1_3$	50-76+	Dark reddish brown (5 YR 4/4 M) sandy loam; medium moderate subangular blocky; friable, sticky and non plastic; few fine roots; many fine pores; rapid permeability pH 7.7.

Potentials		***Limitations***
- Deep to very deep	-	Gravelly textured
- Gently sloping	-	Moderately rapid permeability
- Neutral reaction	-	Well drained
- Non - calcareous	-	Low water holding capacity, CEC and organic matter
- Free from salinity	-	Moderately alkaline
- No erosion hazard		

THOLURPATTI (Tpt) SERIES



THINNAKONAM (Tkm) SERIES

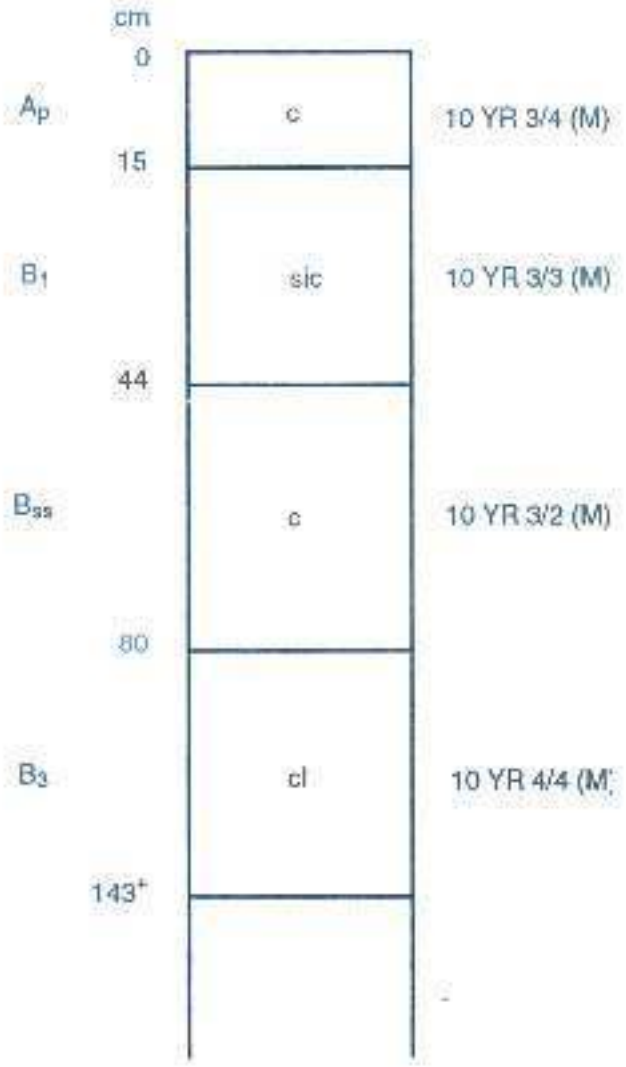
Brief description	:	Greyish brown to very dark greyish brown, very deep calcareous fine soil.
Physiography	:	Tamil Nadu plain - Flood plain
Drainage	:	Moderately well drained
Taxonomy	:	Fine, mixed, isomegathermic calcareous very deep Typic Calciusterts
Typifying pedon	:	Thinnakonam - clay - cultivated

Profile description :

Harizon	Depth (cm)	Description:
Ap	0-15	Dark yellowish brown (10 YR 3/4 M) clay; medium coarse subangular blocky; medium coarse subangular blocky; firm, sticky and plastic; many fine roots; many fine pores; violent effervescence moderately slow permeability; clear smooth boundary; pH 7.6.
B_1	15-44	Brown (10 YR 3/3 M) sitly clay; medium coarse subangular blocky; firm, sticky and plastic; shells present; many fine roots; few fine pores; violent effervescence; clear smooth boundary; pH 7.6.
Bss	44-80	Dark greyish brown (10 YR 3/2 M) clay; medium coarse sub-angular blocky; firm, sticky and plastic; small hard iron concretions; few fine roots; few fine pores; distinct intersecting slickensides violent effervescence; slow permeability; clear wavy bounday pH 7.7.
B_3	80-143+	Dark yellowish brown (10 YR 4/4 M) clay loam; medium moderate subangular blocky; firm, sticky and plastic; small hard iron concretions; few fine roots; few fine pores; violent effervescence; moderately rapid permeability; pH 7.8.

Potentials	***Limitations***
- Very deep, loamy textured	- Moderately well drained
- Moderately rapid permeability	- Low organic matter
- Well drained	- Moderately alkaline
- High water holding capacity and CEC	- Calcareousness
- Neutral reaction	
- No salinity	
- No erosion hazard	

THINNAKKONAM (Tkm) SERIES



THONDIPATTI (Tdp) SERIES

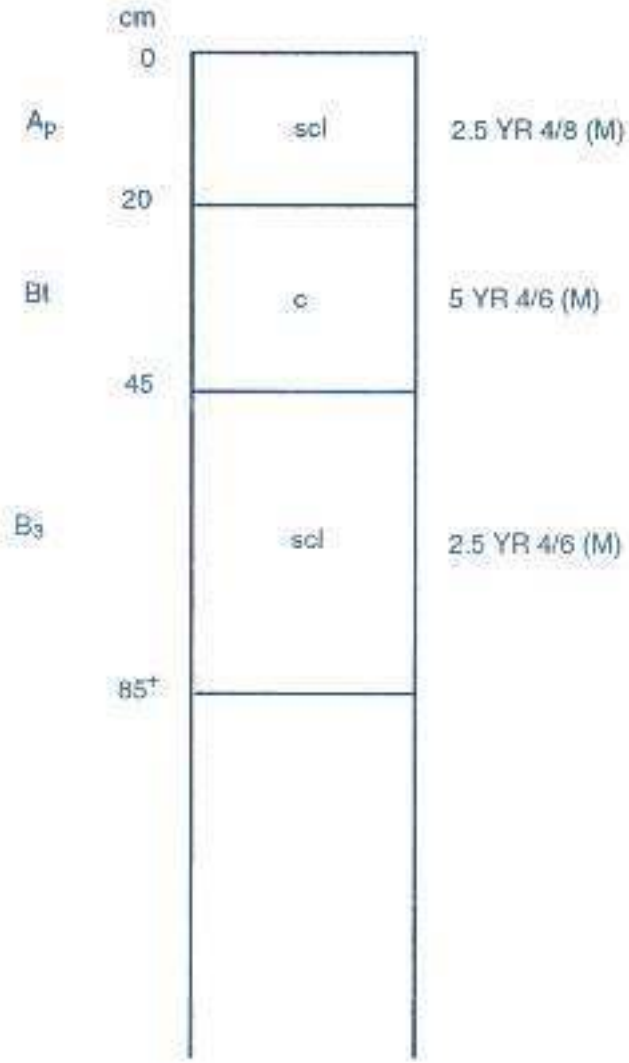
Brief description	:	Dark red, moderately deep to very deep, calcareous mild to moderately alkaline fine loamy soil
Physigraphy	:	Tamil Nadu uplands - Gently sloping level lands.
Drainage	:	Well drained.
Taxonomy	:	Fine loamy, mixed, isomegathermic Calcareous, deep, Typic Haplustalfs.
Typifying pedon	:	Thondipatti - sandy clay loam - cultivated.

Profile description:

Horizon	Depth(cm)	Description:
Ap	0-20	Red (2.5 YR 4/8 M); sandy clay loam; moderate medium subangular blocky; slightly hard, very friable, slightly sticky and plastic; many coarse roots; many medium pores; rapid permeability; strong effervescence; clear smooth boundary; pH 7.5.
Bt	20-45	Yellowish red (5 YR 4/6 M); clay; moderate medium subangular blocky; firm, sticky and plastic; many fine roots; few medium pores; thin patchy cutans; rapid permeability; strong effervescence; clear smooth boundary; pH 7.7.
B_3	45-85+	Red (2.5 YR 4/6 M); sandy clay loam moderate medium subangular blocky; friable, slightly sticky and slightly plastic; few fine roots; few fine to medium pores; moderately rapid permeability; strong effervescence; pH 7.7.

Potentials		*Limitations*
- Very deep	-	Moderately deep
- Loamy textured	-	Gravelly loam
- Gentle sloping	-	Moderately slow permeability
- Well drained	-	Low water holding capacity, CEC and organic matter
- Free from salinity	-	Moderately alkaline
- No erosion hazard	-	Calcareousness

THONDIPATTI (Tdp) SERIES



TULUKKANUR (Tlk) SERIES

Brief description : They include reddish brown to dark greyish brown moderately deep to very deep fine loamy, Calcareous soils.

Physiography : Tamil Nadu Plain. Gently sloping lands of undulating topography.

Drainage : Well drained.

Taxonomy : Fine loamy, mixed, isomegathermic calcareous, deep, Typic Haplustalfs

Typifying pedon : Tulukkanur - Sandy loam - cultivated

Profile description :

Horizon	Depth (cm)	Description:
Ap	0-29	Dark brown (7.5 YR 4/4 D&M); sandy loam; moderate coarse granular; friable very hard; few lime concretions; violent effervescence; many, medium and fine roots; clear smooth boundary; pH 7.6.
Bt	29-56	Reddish (5 YR 4/4 D&M) sandy clay loam; moderate medium sub-angular blocky; hard friable, sticky and slightly plastic; thin patchy cutans; strong effervescence; moderate permeability; smooth wavy boundary; pH 7.7.
Ck	56 +	Felspathic gneiss with $CaCO_3$.

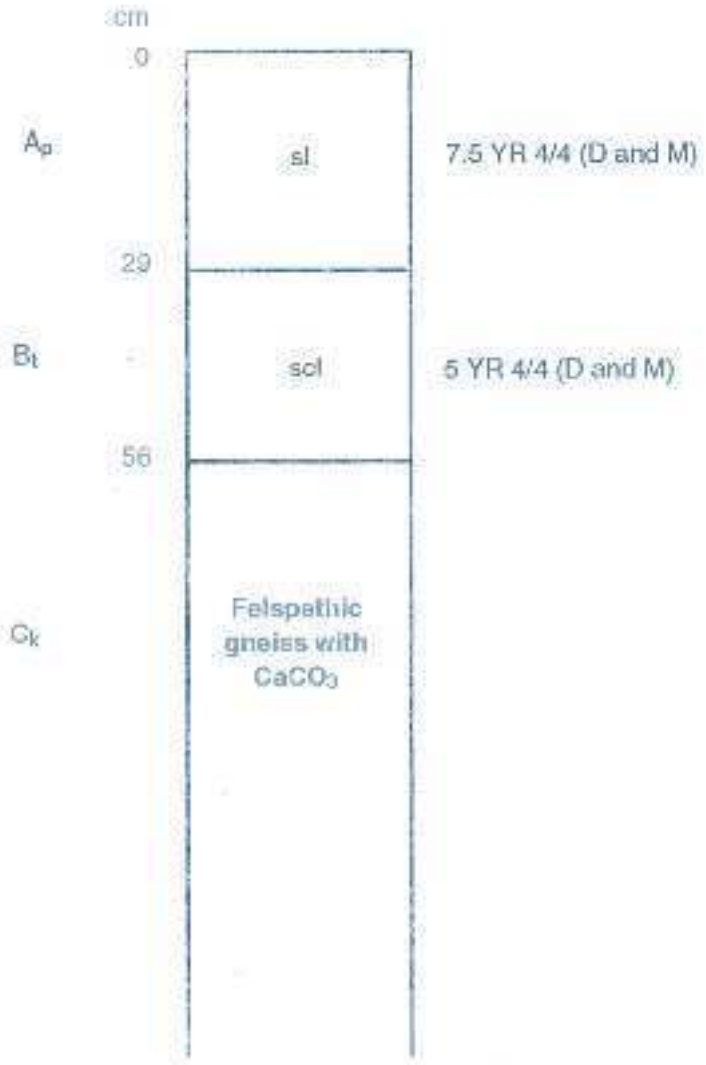
Potentials

- Deep to very deep
- Fine textured
- Gentle sloping
- High water holding capacity, organic matter
- Moderately rapid permeability
- Medium CEC
- Neutral reaction
- Free from salinity

Limitations

- Well drained
- Moderately alkaline
- Calcareousness
- Moderate to severe erosion

TULUKKANUR (Tlk) SERIES



THURAIYUR (Tyr) SERIES

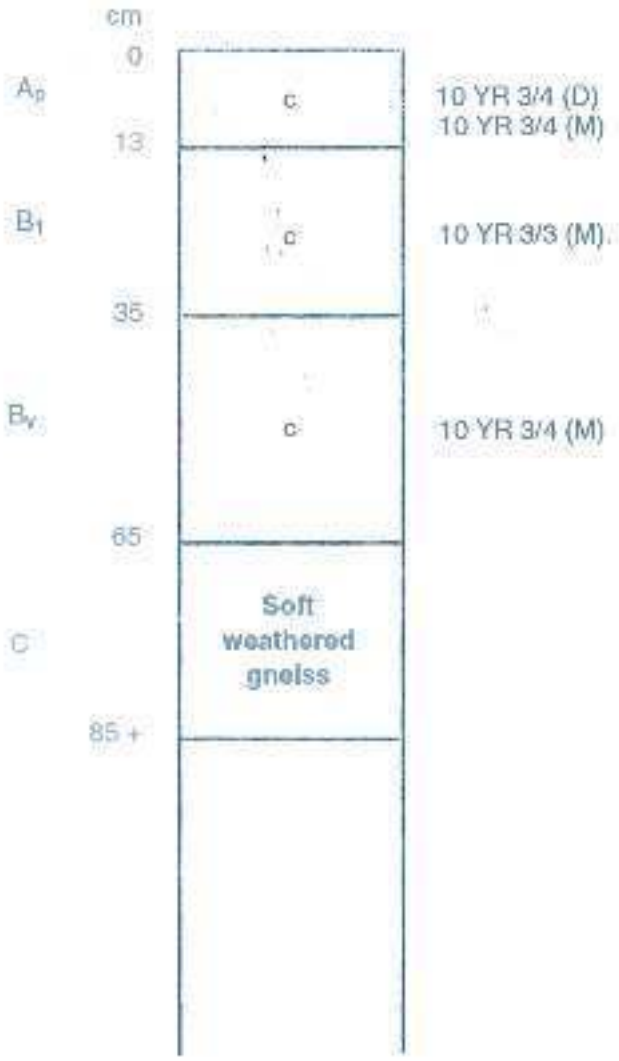
Brief description	:	This series consists of shallow to moderately deep calcareous fine clayey, well developed soils
Physiography	:	Tamil Nadu uplands - Gently sloping land
Drainage	:	Moderately well drained
Taxonomy	:	Fine montmorillonitic isomegathermic calcareous, deep Typic Haplusterts
Typifying pedon	:	Thuraiyur - clay - cultivated

Profile description:

Horizon	Depth (cm)	Description:
Ap	0-13	Dark yellowish brown (10 YR 3/4 M) and yellowish brown (10 YR 3/4 D) clay; strong, coarse subangular blocky breaking to weak, medium subangular blocky; friable, slightly hard, slightly sticky and slightly plastic; slight effervescence; many fine pores; moderately slow permeability; few coarse and abundant fine roots; clear smooth boundary; pH 7.0.
B_1	13-35	Dark brown (10 YR 3/3 M); clay; moderate medium subangular blocky breaking to weak medium angular blocky; firm, sticky and plastic; common coarse and few fine pores; slight effervescence slow permeability; distinct intersecting slickensides; few very fine, abundant fine and plentiful coarse roots; abrupt smooth boundary; pH 7.0.
Bv	35-65	Dark yellowish brown (10 YR 3/4 M); clay; medium, coarse subangular blocky breaking to weak, medium angular blocky; firm, sticky and plastic; few very fine to fine pores; slow permeability; thick prominent inter secting slickensides; few very fine and few fine roots; clear smooth boundary; pH 7.1.
C	65-85+	Soft weathered gneiss.

Potentials		***Limitations***
- Heavy textured	-	Moderately deep
- Plains to gentle sloping	-	Gravelly in sub - surface
- High water holding capacity, CEC	-	Moderately rapid permeability, well drained
- Free from salinity	-	Low organic matter
- No erosion hazard	-	Slightly alkaline
- Neutral in reaction	-	Calcareousness

THURAIYUR (Tyr) SERIES



UPPILIYAPURAM (Upm) SERIES

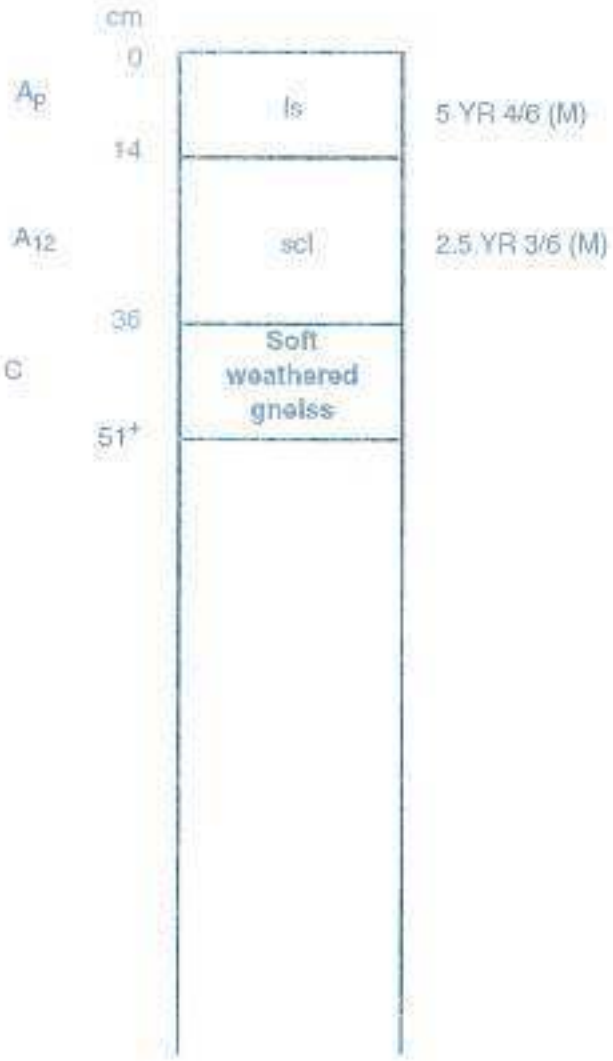
Brief descriptions	:	Shallow to moderately deep well drained coarse loamy red soils
Physiography	:	Tamil Nadu uplands - gently sloping lands
Drainage	:	Well drained
Taxonomy	:	Coarse loamy, kaolinitic, isomegathermic, moderately deep, Paralithic Ustorthents
Typifying pedon	:	Uppiliyapuram - loamy sand - cultivated

Profile description:

Horizon	Depth(cm)	Description:
Ap	0-14	Yellowish red (5 YR 4/6 M); loamy sand; weak, medium subangular blocky breaking to crumbs, loose, friable, non sticky non plastic; few coarse and abundant fine roots; many fine pores; non-calcarousness clear smooth boundary; pH 7.2.
$A1_2$	14-36	Dark red (2.5 YR 3/6 D&M) sandy clay loam; weak medium subangular blocky breaking to crumbs; slightly hard, friable, slightly sticky and slightly plastic; very fine roots, many fine pores; clear smooth boundary; pH 7.4.
C	36-51+	Soft weathered gneiss.

Potentials		***Limitations***
- Loamy textured	-	Shallow to moderately deep
- Rapid permeability	-	Low water holding capacity CEC, organic matter
- Well drained	-	Slightly acidic
- Neutral reaction	-	Calcareous
- Free from salinity	-	Sheet and gully erosion

UPPILIYAPURAM (Upm) SERIES



VAYALOGAM (Vyg) SERIES

Brief description : Yellowish red to red, moderately deep to deep, fine loamy to fine, non-calcareous, with quartz mixed iron gravel present

Physiography : Tamil Nadu Plain - Gently sloping lands

Drainage : Well drained

Taxonomy : Fine loamy, kaolinitic isomegathermic deep, Typic Rhodustalfs

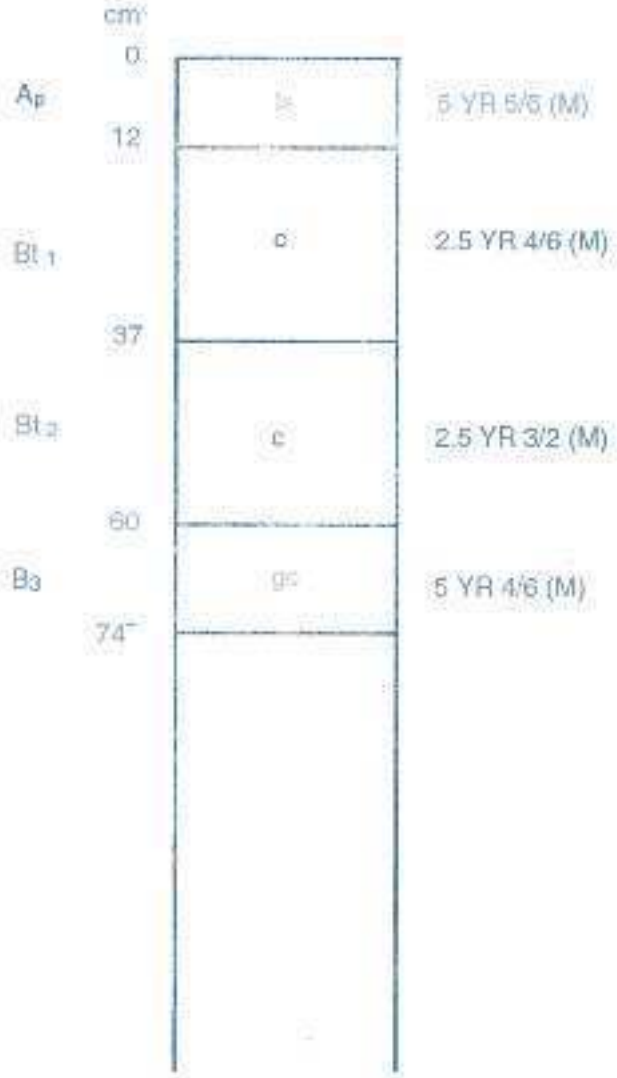
Typifying pedon : Vayalogam - loamy sand - cultivated fallow.

Profile description:

Horizon	Depth(cm)	Description
Ap	0-12	Yellowish red (5 YR 5/6 M); loamy sand; weak medium granular; friable; few fine and very fine pores; rapid permeability clear; smooth boundary; pH 5.8.
Bt_1	12-37	Red (2.5 YR 4/6 M); clay; weak to moderate medium subangular blocky; firm, sticky and plastic; common fine and very fine pores; thin patchy cutans; very few quartz gravels; moderate permeability; abrupt smooth boundary; pH6.1.
Bt_2	37-60	Dusky red (2.5 YR 3/2 M); clay; moderate, medium sub-angular blocky; very firm, sticky and very plastic; very few quartz and iron gravels; few fine and very fine pores; very few coarse and very fine roots; thin patchy cutans; moderately slow permeability; pH 6.1.
B_3	60-74+	Yellowish red (5 YR 4/6 M) (gravelly) clay; weak medium subangular blocky to granular; friable, slightly sticky; dominant quartz + Iron gravels; very few, very fine and fine pores; moderately slow permeability; pH 6.5.

Potentials	***Limitations***
- Deep	- Loamy sand in surface
- Sandy clay loam in sub-surface	- Moderately rapid permeability
- Gentle sloping	- Well drained
- Medium CEC	- Low organic matter
- Free from salinity	- Moderate to slightly acidic
- Non-calcareousness	- Moderate sheet erosion

VAYALOGAM (Vyg) SERIES



LAND CAPABILITY CLASSIFICATION

THIRUCHIRAPPALLI 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 use. 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-class (limitations) like soils(s), wetness (w), climate (c) and erosion (e) are shown by suffixing small letters to 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 be controlled and a soil with cropping potential is developed.

In Thiruchirappalli district, out of the total extent of 4,40,412 hectares, the soil series are having severe limitations which cover 2,09,919 hectares (46.5%)

LAND CAPABILITY CLASSIFICATION:

Sl. No.	Class and Sub-class	Soil series	Extent (ha)	Percent to total
1.	IIe - Erosion and runoff - Lands that have moderate limitations for sustained use under agriculture	Palaviduthi, Palathurai, Tholurpatti, Thondipatti and Uppiliyapuram	62,118	14.11
	IIs - Soil limitations - Lands that have moderate limitations for sustained use under agriculture	Kalathur, Madukkur, Manmalai, Solampatti and mixed alluvium	46,121	10.47
	IIes - Erosion and soil limitations - Lands that have moderate limitations for sustained use under agriculture	Omandur and Thinnakonam	9,037	2.05
2	IIIe - Erosion and runoff - Lands that have severe limitations for sustained use under agriculture	Kallagam and Pattukkottai	3,443	0.79
	IIIs - Soil limitations - Lands that have severe limitations for sustained use under agriculture	Adhanur, Alathur, Govindapuram, Kallanpatti, Mangaripatti, Thuraiyur, Perinayakkanpalayam and Puvalur	76,507	17.37
	IIIes - Erosion and runoff and soil limitations - Lands that have severe limitations for sustained use under agriculture	Irugur, Kallakkudi, Pilamedu, Tulukkanur and Vayalogam	1,25,009	28.38
		Others	76,502	17.37
		Forest	41,675	9.46
		Total	4,40,412	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.

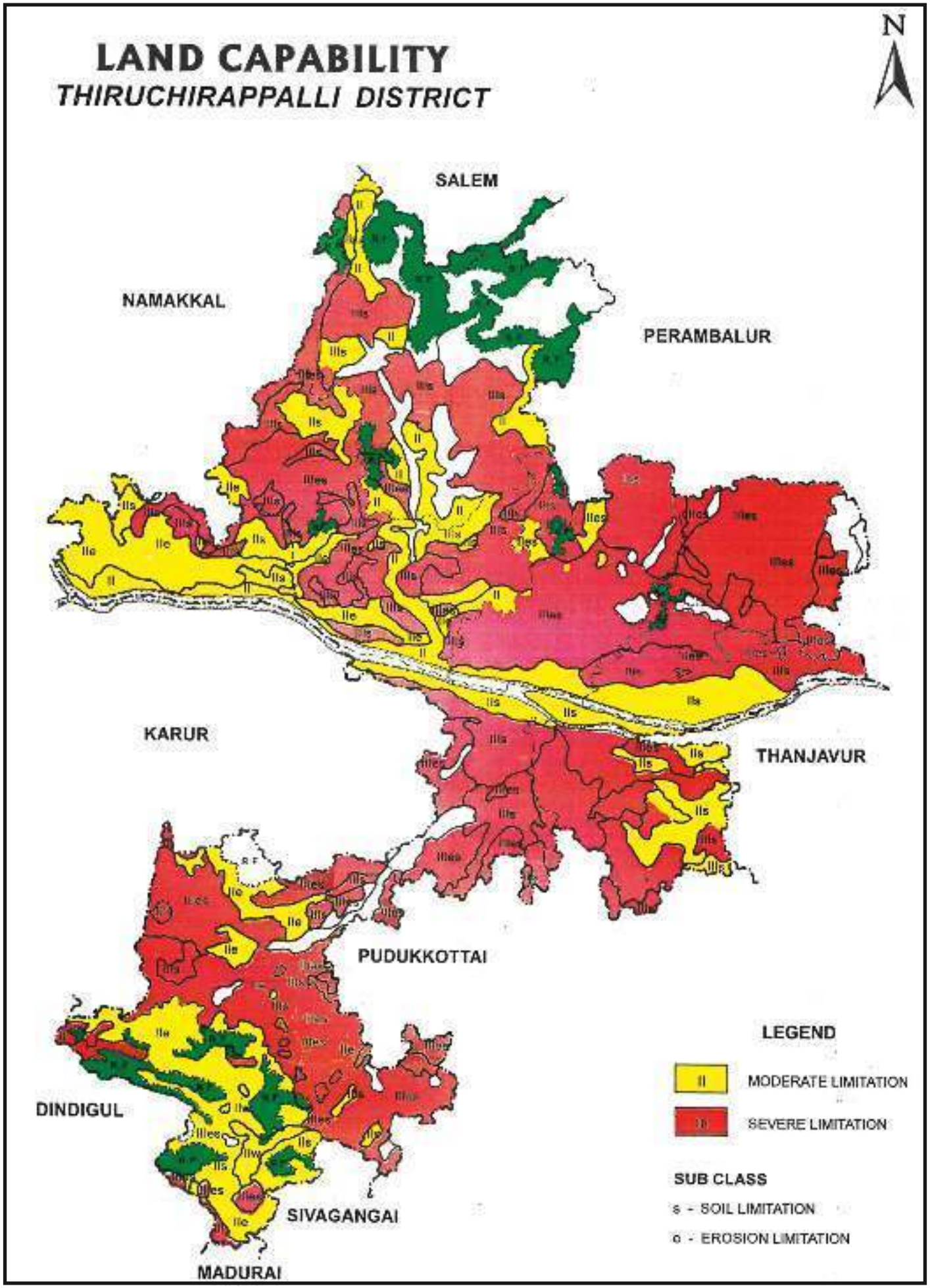
Sub-class

e - erosion and run off

w - excess water / wetness

s - soil limitation

LAND CAPABILITY
THIRUCHIRAPPALLI DISTRICT



LAND IRRIGABILITY CLASSIFICATION

THIRUCHIRAPPALLI DISTRICT

Water is like a double edged knife. If used judiciously, large benefits can be derived. If not, brings in 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, storage and drainage of water and land characteristics that determine topographic feasibility of water transport and predevelopment operations. Thus this classification is the 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 to indicate relative suitability of land for 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 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 6. Limitations are increasing with progressive advancement of numbers.

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

In this district, a total of 15 soil series have severe irrigable limitations, covering an extent of 2,04,959 hectares (46.54%).

In addition to soil suitability, quality and quantity of irrigation water and drainage should be improved to overcome the severe irrigable limitations.

LAND IRRIGABILITY CLASSIFICATION

Sl. No.	Land irrigability classification class, sub-class	Soil series	Extent (ha)	Percent to total
1.	2d - Drainage problem - Lands that have moderate limitations for sustained use under irrigation	Solampatti and mixed Alluvium	31,364	7.12
	2s - Soil limitations - Lands that have moderate limitations for sustained use under irrigation	Madukkur and Manmalai	11,950	2.72
	2t - Topography limitations - Lands that have moderate limitations for sustained use under irrigation	Palaviduthi, Palathurai, Tholurpatti and Thondipatti	50,038	11.36
	2sd - Soil and drainage limitations - Lands that have moderate limitationsfor sustained use under irrigation	Tinnakonam and Kalathur	10,232	2.32
	2st - Soil and topography limitations - Lands that have moderate limitations for sustained use under irrigation	Uppiliyapurm and Omandur	13,692	3.11
	3s - Soil limitation - Lands that have severe soil limitations for sustained use under irrigation	Kallanpatti and Periyanayakkanpalayam	9,986	2.27
	3t - Topography limitations - Lands that have severe soil limitations for sustained use under irrigation	Kallagam and Pattukkottai	3,443	0.78
	3sd - Soil and drainage limitations-Lands that have severe soil limitations for sustained use under irrigation	Kallakudi, Govindapuram, Thuraiyur, Alathur, Pilamedu, Puvalur, Mangaraipatti and Adhanur	80,851	18.36
	3st - Soil and topography limitations - Lands that have severe soil limitation for sustained use under irrigation	Irugur, Vayologam and Tulukkanur	1,10,679	25.13
		Others	76,502	17.37
		Forest	41,675	9.46
		Total	4,40,412	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

Sub - class

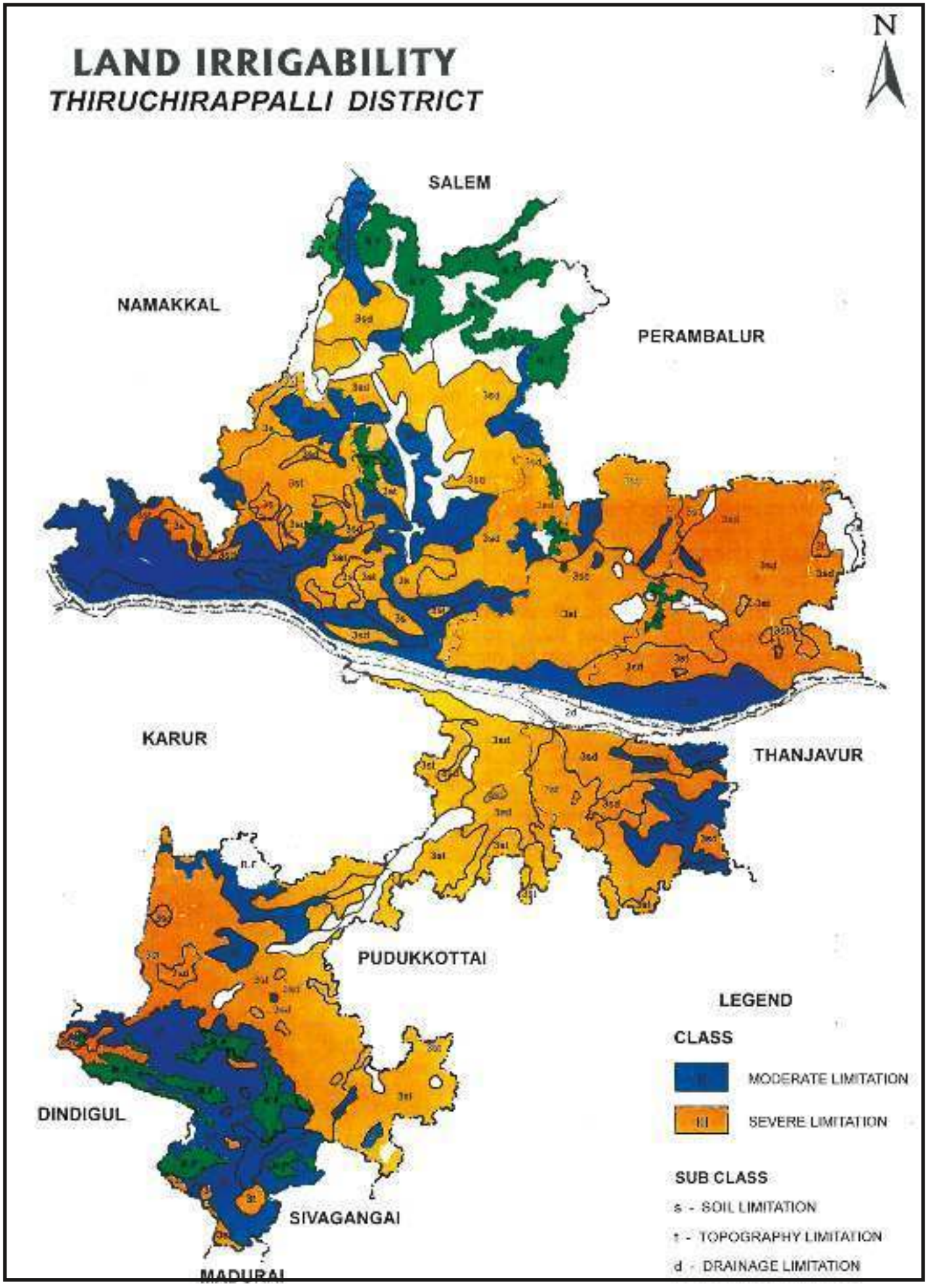
d - Drainage

s - soil

t - topography

LAND IRRIGABILITY

THIRUCHIRAPPALLI DISTRICT



SOIL PRODUCTIVITY

THIRUCHIRAPPALLI 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 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).

Productivity is poor in seven soil series of this district covering an extent of 1,46,171 (33.19%) hectares Productivity is good in 12 soil series and in mixed alluvium which occupies 1,17,692 hectares (26.72%) of soil. The details of productivity classes are given below.

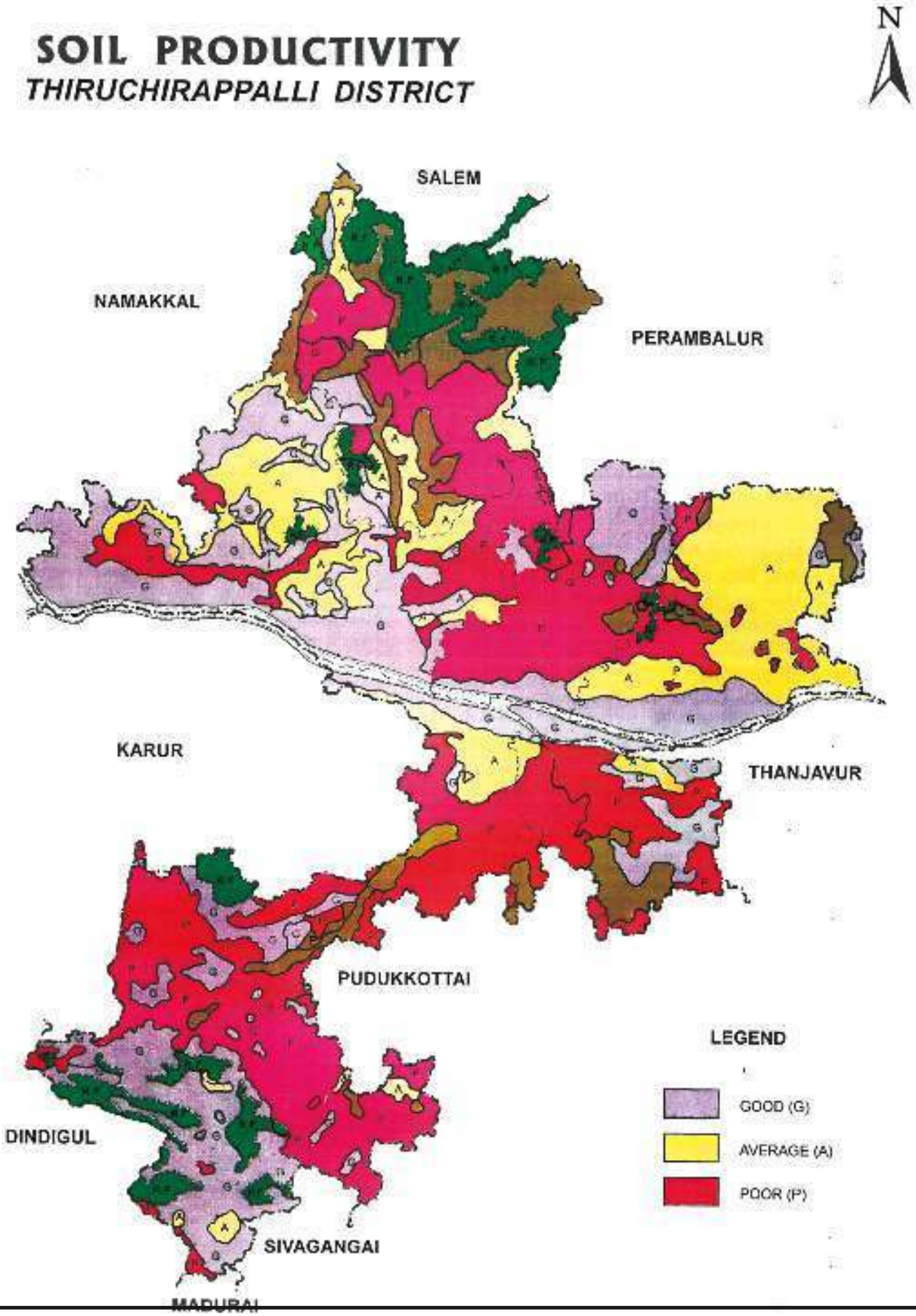
The following productivity classification of soils would pin point the magnitude of attention required to improve their productivity from the present level. From this Productivity classes poor soils can be improved to average, Average productivity soils to good and good productivity soils to excellent.

PRODUCTIVITY CLASSIFICATION

Sl. No.	Productivity classes		Soil series	Extent (ha)	Percent to total
	Ratings	Groupings			
1.	8 - 19	Poor (P)	Vayalogam, Irugur, Govindapuram, Thuraiyur, Alathur, Omandur and Tholurpatti	1,46,171	33.19
2.	20-34	Average (A)	Kallakkudi, Tulukkanur, Uppiliyapuram, Puvalur, Adhanur, Pattukkottai and Palathurai	58,372	13.26
3.	35-64	Good (G)	Mixed Alluvium, Palaviduthi, Pilamedu, Kallanpatti, Madukkur, Thondipatti, Thinnakonam, Solampatti, Kalathur, Manmalai, Kallagam, Periyanayakkanpalayam and Mangaraipatti	1,17,692	26.72
			Other	76,502	17.37
			Forest	41,675	9.46
			Total	4,40,412	100.00

SOIL PRODUCTIVITY

THIRUCHIRAPPALLI DISTRICT



CROPS GROWN

THIRUCHIRAPPALLI DISTRICT

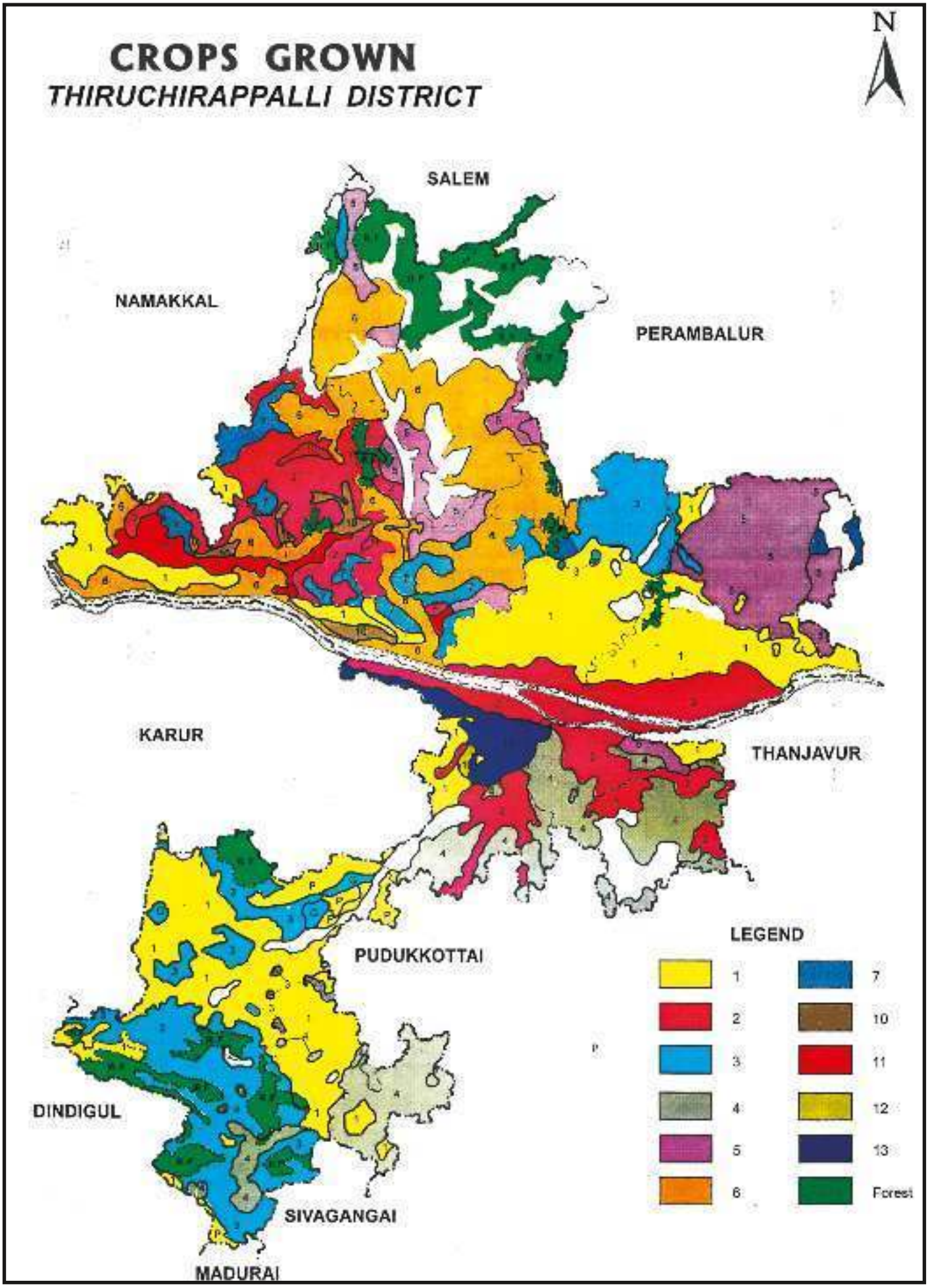
In this district, rice is the major crop grown under irrigated conditions. In Alathur soil series rice followed by banana and sugarcane are grown. In soils of Adhanur and mixed Alluvium, Rice followed by banana are the major crops. Also sugarcane, cotton, betelvines and pulses are cultivated.

In Madukkur series Rice is grown under irrigated condition and pulses are cultivated in rice fallows. cumbu, cholam and groundnut are grown in Irugur soil series. Under irrigated condition, Rice, banana and sugarcane are cultivated in Kalathur soil series.

Sl. No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Rice, Sugarcane and Banana	Millets, Groundnut and Pulses	1	Irugur, Thondipatty, Puvalur, Kalathur
2.	Vegetables, Rice, Flowers and Banana	Millets and Pulses	2	Tulukkanur, Alathur, Mixed alluvium
3.	Sugacane, Tapioca, Onion, Groundnut and Rice	Chillies, Millets, Groundnut, Gingelly, Coriander, Cotton and Redgram	3	Pilamedu, Palaviduthi, Kallagam, Omandur
4.	Rice, Millets, Groundnut and Cotton	Groundnut, Millets, Gingelly and Redgram	4	Madukkur, Pattukkottai, Vayalogam
5.	Rice and Chillies	Rice, Chillies, Millets and Groundnut	5	Kallakkudi, Uppiliyapuram
6.	Rice, Sugarcane Banana, Chillies, Groundnut, Onion and Cotton	Millets, Groundnut, Chilles, Redgram, Castor and Sunflower	6	Thuraiyur, Govindapuram, Solampatti, Thinnakonam
7.	Rice, Millets, Redgram and Chillies	Cumbu, Gingelly and Castor	7	Palathurai, Kallanpatti, Manmalai
8.	Groundnut and Millets	Cashew, Mango, Groundnut, Ragi Guava	10	Mangaraipatti
9.	Groundnut and Topioca	Groundnut, Tapioca, Castor and Cholam	11	Tholurpatti
10.	Rice, Vegetables and Chillies	—	12	Periyanayakkanpalayam
11.	Rice, Banana, Sugarcane and Betelvine	Bhendi and Gingelly	13	Adhanur

CROPS GROWN

THIRUCHIRAPPALLI DISTRICT



SOIL COLOUR

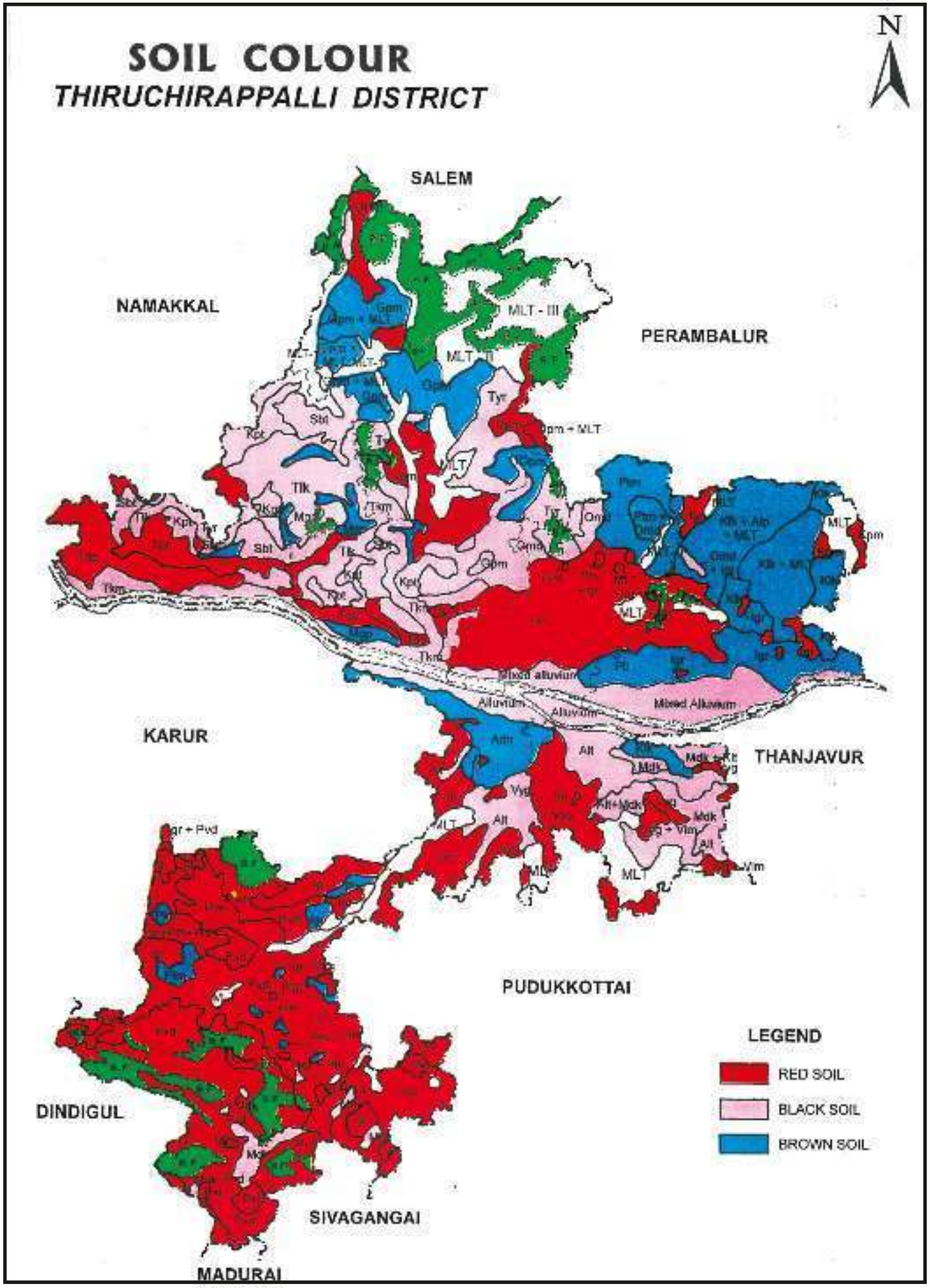
THIRUCHIRAPPALLI DISTRICT

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. If it is considered with the 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 and important characteristics for soil identification, especially when combined with soil structures.

Colour of a soil may be inherited from its parent material (mineral matter). Red soils are 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 this district, Irugur, Pattukkottai and six other series have red coloured soils which cover an extent of 1,53,658 hectares (34.89%). Brown coloured soils, occupy an extent of 1,16,133 hectars (26.37%)

Sl. No.	Soil colour	Soil series	Extent (ha)	Percent to total
1.	Red soil	Irugur, Kallagam, Pattukkottai, Palaviduthi, Thondipatti, Tholurpatti, Uppiliyapuram and Vayalogam	1,53,658	34.89
2.	Brown soil	Alathur, Kalathur, Kallanpatti Manmalai, Madukkur, Omandur, Palathurai, Solampatti, Thinnakonam, Tulukkanur, Thuraiyur and Mixed Alluvium	1,16,133	26.37
3.	Grey soil	Adhanur, Govindapuram, Kallakkudi, Mangaraipatti, Puvalur, Periyanayakkanpalayam and Pilamedu	52,444	11.91
		Others	76,502	17.37
		Forest	41,675	9.46
		Total	4,40,412	100.00


SOIL COLOUR
THIRUCHIRAPPALLI DISTRICT
N
SALEM
NAMAKKAL
PERAMBALUR
KARUR
THANJAVUR
PUDUKKOTTAI
DINDIGUL
SIVAGANGAI
MADURAI
LEGEND
RED SOIL
BLACK SOIL
BROWN SOIL

EFFECTIVE SOIL DEPTH

THIRUCHIRAPPALLI DISTRICT

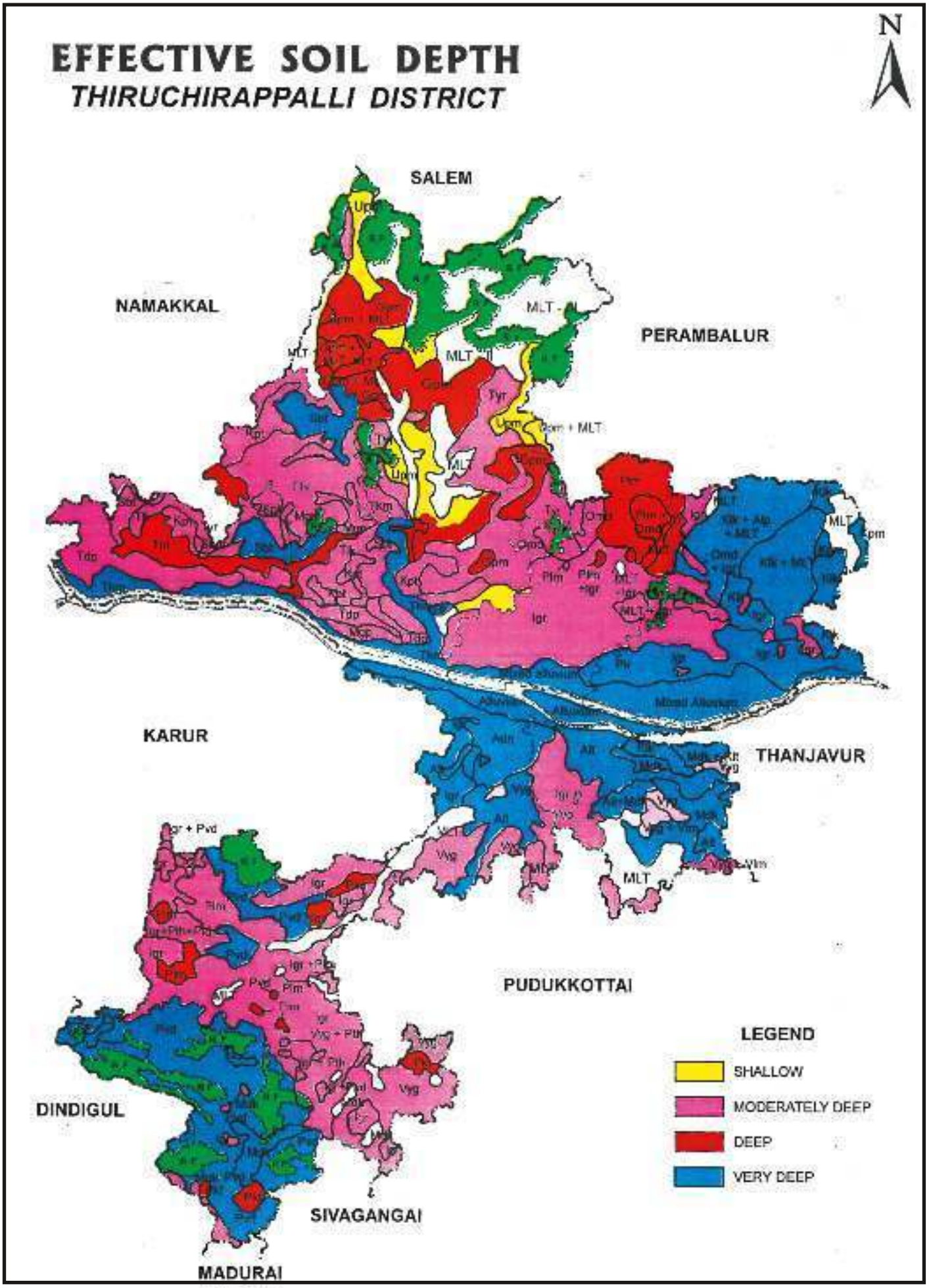
Effective soil depth refers to the depth of solum. The depth of solum is restricted by parent material and hard pans, water table, erosion, salinity, alkalinity etc., Eroded soils have poor depth. Plant growth is generally influenced by the depth of the soil. Root penetration, type of cultivar or plant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

Soils of Adhanur, Alathur, mixed Alluvium, Madukkur, Thinnakonam, Kallagam, Kallakkudi, Puvalur, Periyanayakkan palayam, Palaviduthi and Solampatti have very deep soils covering an extent of 1,14,615 hectares (26.03%) out of the total extent of 4,40,412 hectares, which are highly suited for deep rooted crops.

Sl. No.	Effective soil depth	Soil series	Extent (ha)	Percent to total
1.	Shallow (10 - 25 cm)	Uppiliyapuram -	12,080	2.74
2.	Moderately deep (25 - 50 cm)	Irugur, Kallanpatti, Omandur, Manmalai, Mangaraipatti, Palathurai, Tulukkanur, Thondipatti, Thuraiyur and Vayalogam	1,54,436	35.07
3.	Deep (50 - 100 cm)	Govindapuram, Kalathur, Pilamedu, Pattukkottai and Tholurpatti	41,104	9.33
4.	Very deep (above 100cm)	Adhanur, Alathur, Kallagam, Kallakkudi, Madukkur, Puvalur, Periyanayakkanpalayam, Palaviduthi, Solanpatti, Thinnakonam and mixed Alluvium	1,14,615	26.03
		Others	76,502	17.37
		Forest	41,675	9.46
		Total	4,40,412	100.00

EFFECTIVE SOIL DEPTH

THIRUCHIRAPPALLI DISTRICT



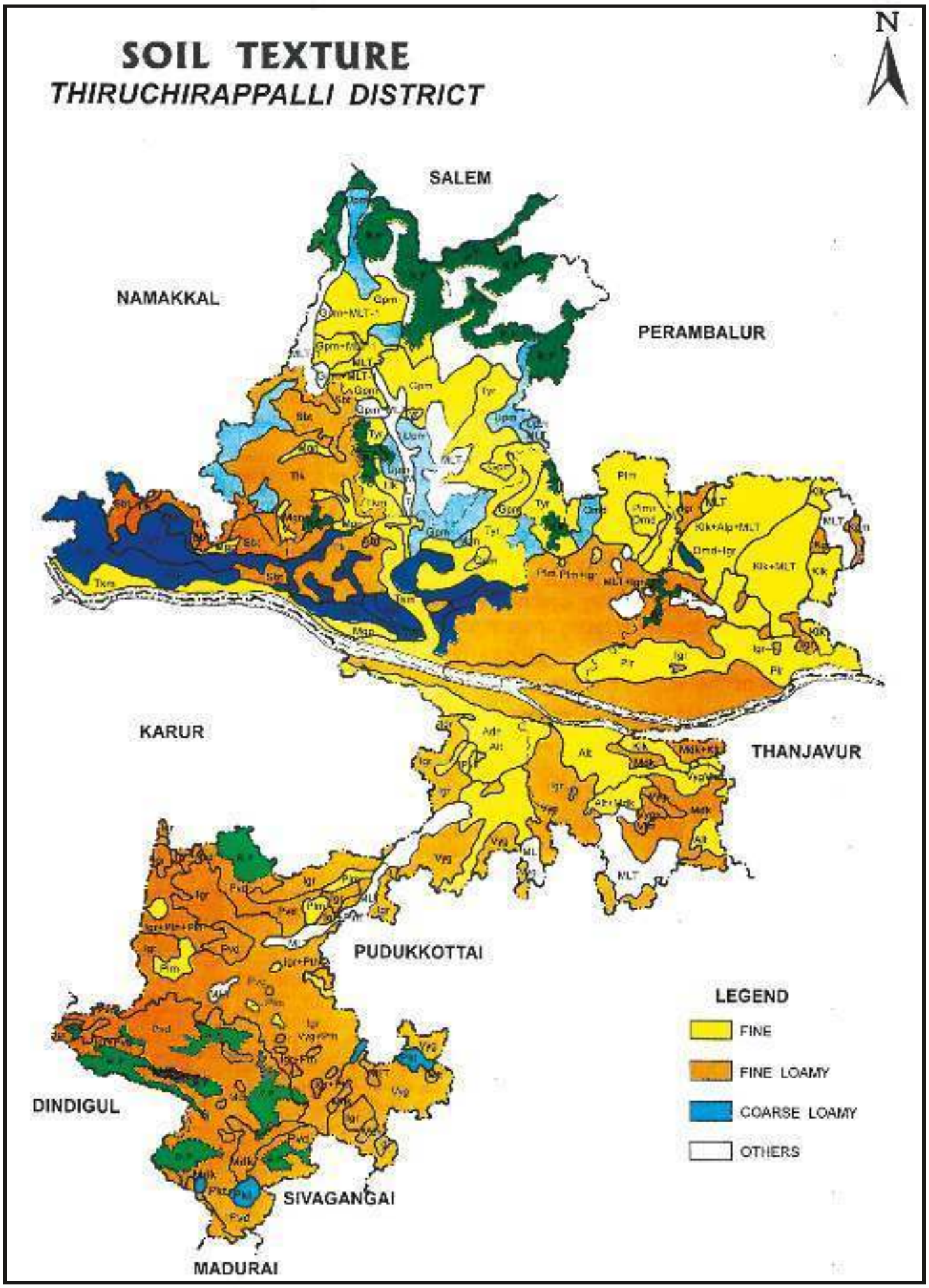
SOIL TEXTURE

THIRUCHIRAPPALLI 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 a 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.

In fine textured soils like Adhanur, Alathur, Kalathur, Govindapuram, Kallakkudi, Mangaraipatti, Pilamedu, Puvalur, Periyanayakkan palayam, Thinnakonam and Thuraiyur soil series, due to soil compaction, root proliferation is restricted. Out of the total geographical extent of 4,40,412 hectares of this district the above soil series occupy 91, 470 hectares (20 77%)

Sl. No.	Textural class	Soil series	Extent (ha)	Percent to total
1.	Fine (soils with high clay content)	Adhanur, Alathur, Govindapuram, Kallakudi, Kalathur, Mangaraipatti, Pilamedu, Puvalur, Periyanayakkanpalayam, Thinnakonam and Thuraiyur	91,470	20.77
2.	Fine loamy	Kallagam, Palaviduthi, Solampatti, Tulukkanur, Vayalogam, Madukkur and Mixed Alluvium	1,14,178	25.93
3.	Coarse loamy	Irugur, Kallanpatti, Manmalai, Omandur, Palathurai, Pattukkottai, Thondipatti, Tholurpatti and Uppiliyapuram	1,16,587	26.47
		Others	76,502	17.37
		Forest	41,675	9.46
		Total	4,40,412	100.00


SOIL TEXTURE
THIRUCHIRAPPALLI DISTRICT
N
SALEM
NAMAKKAL
PERAMBALUR
KARUR
THANJAVUR
PUDUKKOTTAI
DINDIGUL
SIVAGANGAI
MADURAI
LEGEND
FINE
FINE LOAMY
COARSE LOAMY
OTHERS

PERMEABILITY

THIRUCHIRAPPALLI DISTRICT

The characteristics of a soil that enables water or air or plant roots to move through, is 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 inturn increase the productivity of the soil. Very fine particles (less than 2 microns) have slow permeability, which block air movement.

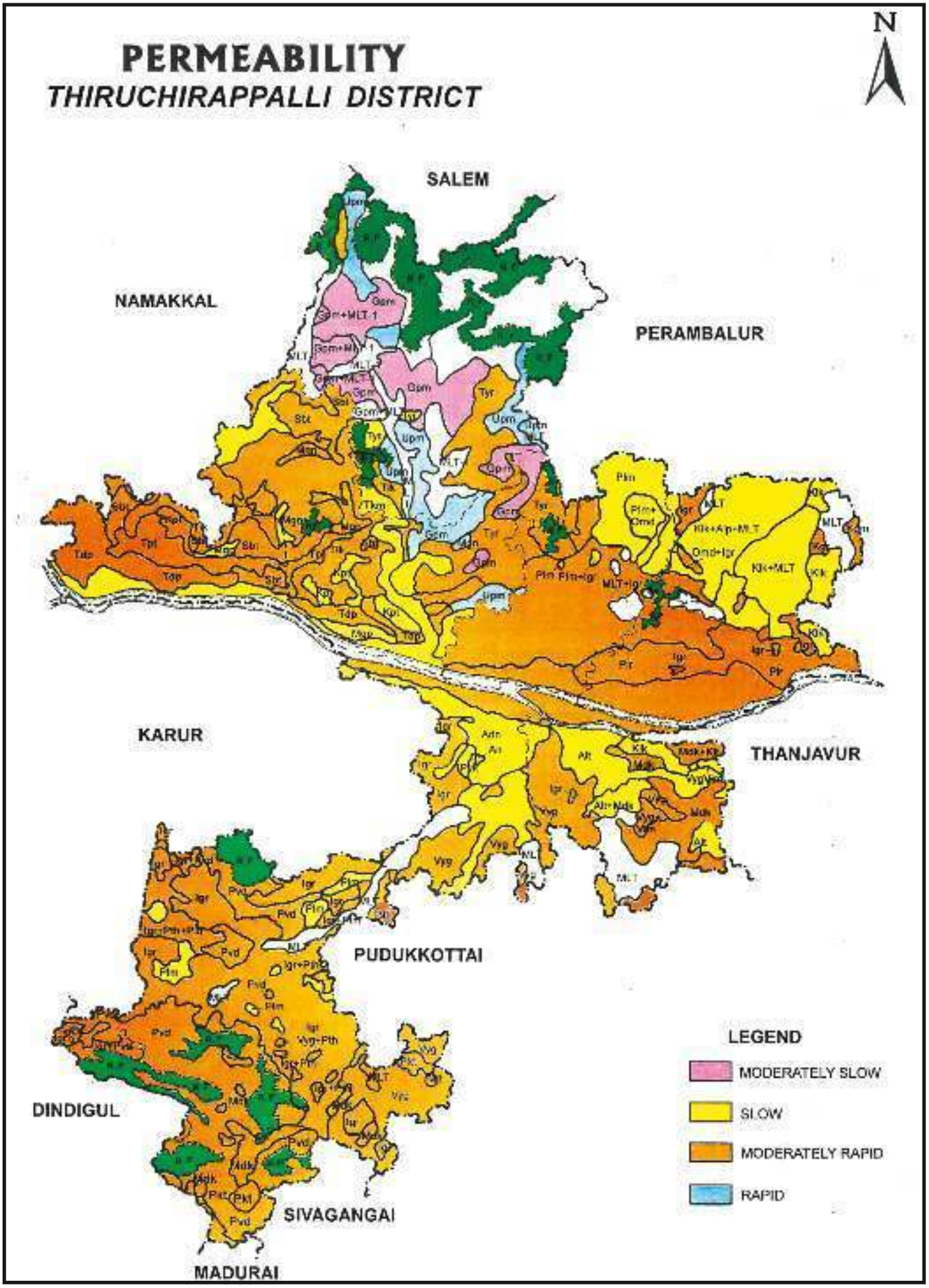
In sands and strongly aggregated soils, permeability is rapid. The degrees of permeability vary with soil series, range of rate of intake for determining the various permeability classes of different soil series are indicated below.

Slow permeability was observed in soils of Govindapuram and Kalathur series which have a total extent of 21,521 hectares (4.90%) out of the total geographical extent of 4,40,412 hecters. Irugur, mixed Alluvium, Madukkur and 13 other soil series have, moderately rapid permeability which is spreading over in 2,37,399 hectares. Rapid permeability was found in Uppiliyapuram soils (12,080)ha.

Sl. No.	Rate of in take per hour in cms.	Class	Symbol	Soil series	Extent (ha)	Percent to total
1.	0.13 to 0.5	Slow	S	Govindapuram and Kalathur	21,521	4.90
2.	0.5 to 2.0	Moderately slow	MS	Adhanur, Alathur, Kallakkudi, Kallanpatti, Mangaraipatti, Pilamedu, Periyanayakanpalayam and Thinnakonam	51,235	11.63
3.	5.0 to 13.0	Moderately rapid	MR	Irugur, Kallagam, Manmalai, Madukkur, Omandur, Puvalur, Palathurai, Pattukkottai, Palaviduthi, Solampatti, Thondipatti, Tulukkanur, Tholurpatti, Thuraiyur, Vayalogam and Mixed Alluvium	2,37,399	53.90
4.	13.0 to 25.0	Rapid	R	Uppiliyapuram	12,080	2.74
				Others	76,502	17.37
				Forest	41,675	9.46
				Total	4,40,412	100.00

PERMEABILITY

THIRUCHIRAPPALLI DISTRICT



WATER HOLDING CAPACITY (WHC)

THIRUCHIRAPPALLI DISTRICT

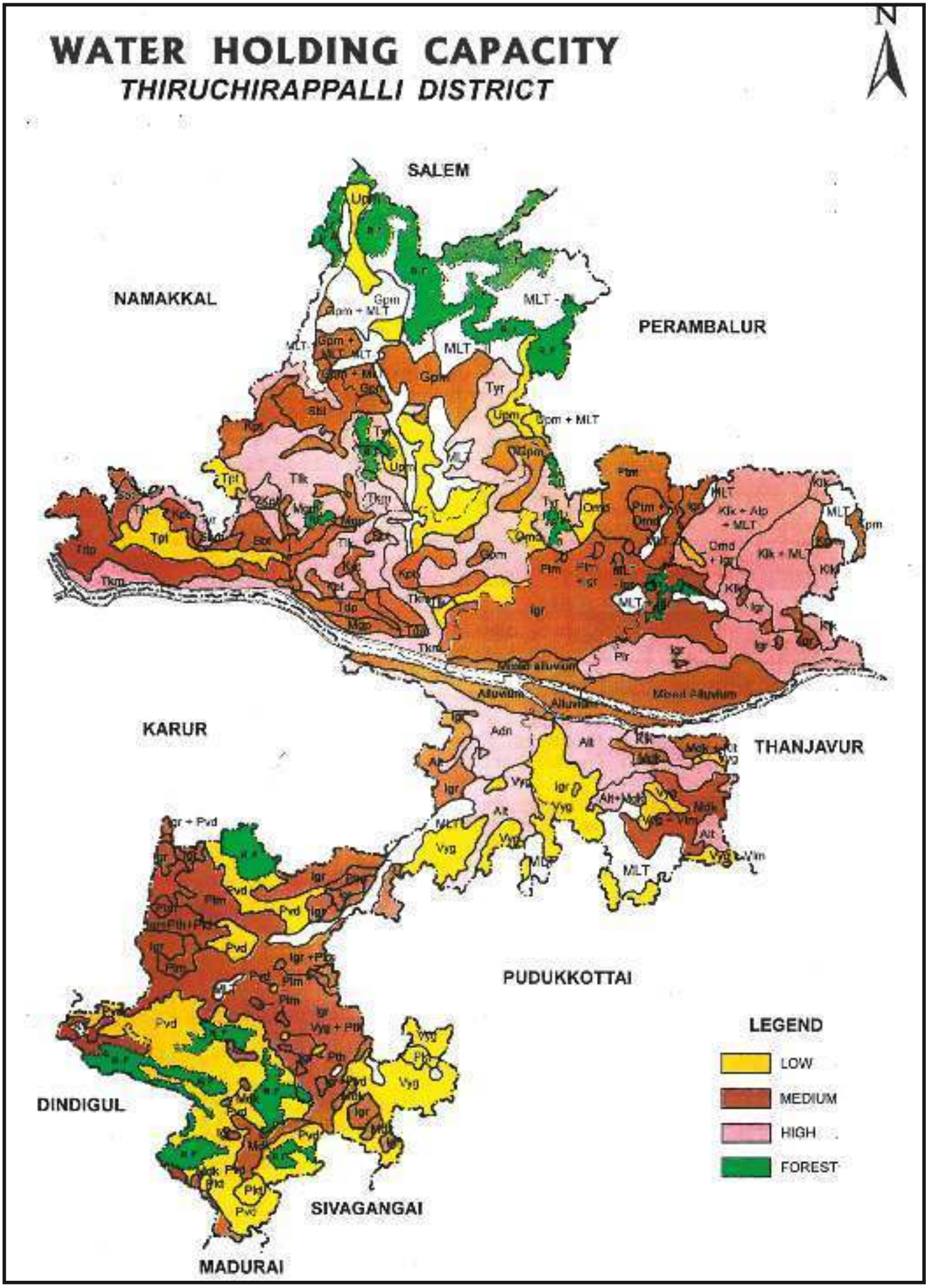
Water holding capacity is required for the determination of depth and frequency of irrigation required. It indirectly shows the potential rooting depth of soil. It depends upon texture, permeability, drainage, capillary rise, soil temperature etc., Clayey soils have high water holding capacity as against the sandy type of soil with low water holding capacity.

Adhanur, Alathur, Kalathur, Kallakkudi, Puvalur, Periyanayakanpalayam, Thinnakonam, Tulukkanur and Thuraiyur soils are having high water holding capacity, covering an extent of 82,540 hectares (18.74%). Govindapuram, Irugur, Kallanpatti, Kallagam mixed Alluvium and six other soil series are with medium water holding capacity, which spread over in 1,65,250 hectares (37.53%).

Sl. No.	WHC Category	Soil series	Extent (ha)	Percent to total
1.	Low (upto 20%)	Omandur, Pattukkottai, Palaviduthi, Tholurpatti, Uppiliyapuram and Vayalogam	74,445	16.90
2.	Medium (21 to 50%)	Govindapuram, Irugur, Kallanpatti, Kallagam, Manmalai, Madukkur, Mangaraipatti, Pilamedu, Palathurai, Solampatti, Thondipatti and Mixed Alluvium	1,65,250	37.53
3.	High (Above 50%)	Kalathur, Alathur, Adhanur, Kallakkudi, Puvalur, Periyanayakkanpalayam, Thinnakkonam, Tulukkanur and Thuraiyur	82,540	18.74
		Others	76,502	17.37
		Forest	41,675	9.46
		Total	4,40,412	100.00

WATER HOLDING CAPACITY

THIRUCHIRAPPALLI DISTRICT

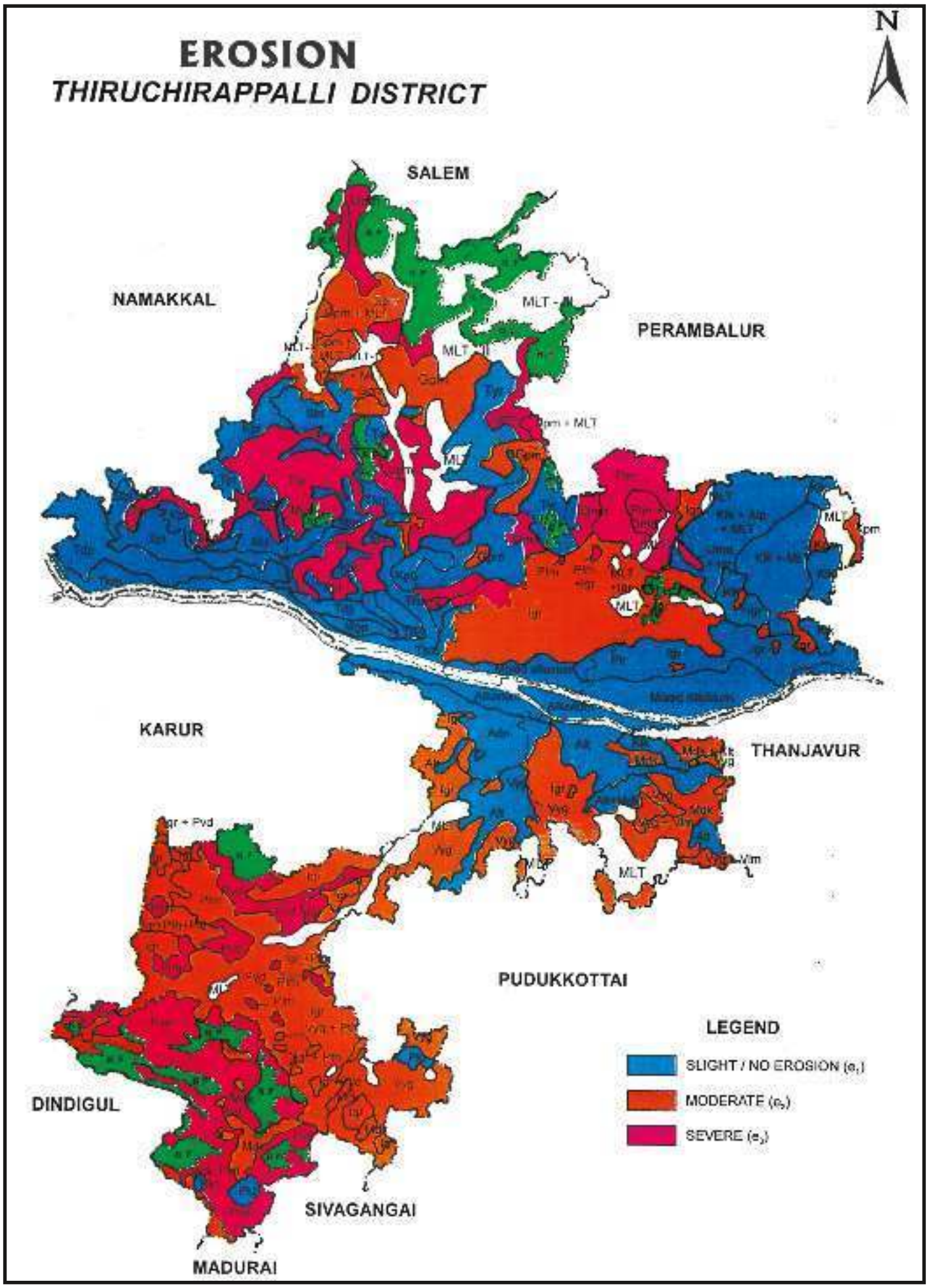


EROSION

THIRUCHIRAPPALLI 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 form 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.

Sl. No.	Type of Erosion	Soil series	Extent (ha)	Percent to total
1.	Slight / No Erosion (e_1)	Kalathur, Alathur, Adhanur, Kallakkudi, Kallanpatti, Mangaraipatti, Puvalur, Pattukkottai, Solampatti, Thinnakkonam, Tholurpatti, Thondipatti, Thuraiyur and Mixed Alluvium	1,24,732	28.31
2.	Moderate (e_2)	Govindapuram, Irugur, Kallagam, Madukkur, Periyanayakkanpalayam, Palathurai and Vayalogam	1,19,415	27.12
3.	Severe (e_3)	Manmalai, Omandur, Pilamedu, Palaviduthi, Tulukkanur and Uppiliyapuram	78,088	17.74
		Others	76,502	17.37
		Forest	41,675	9.46
		Total	4,40,412	100.00


EROSION
THIRUCHIRAPPALLI DISTRICT
N
SALEM
NAMAKKAL
PERAMBALUR
KARUR
THANJAVUR
PUDUKKOTTAI
DINDIGUL
SIVAGANGAI
MADURAI
LEGEND
SLIGHT / NO EROSION (e1)
MODERATE (e2)
SEVERE (e3)

CALCAREOUSNESS

THIRUCHIRAPPALLI 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 powdery. beds etc.,

The nutritional problems caused by calcareousness are:

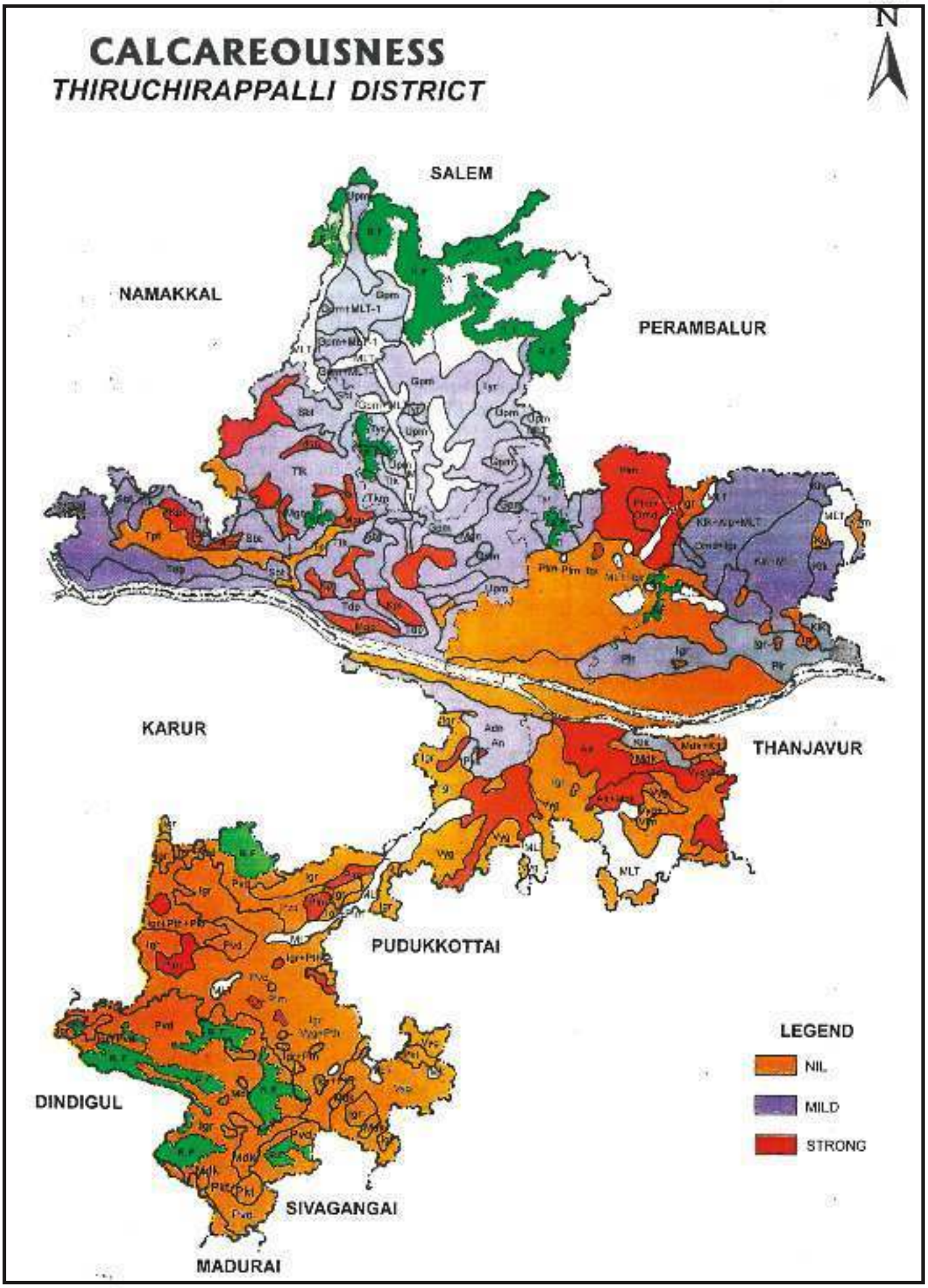
- Volatalisation loss of nitrogen
- Mineralisation and denitrification of nitrogen.
- Phosphorus fixation
- Potassium and Magnesium antagonism
- Micronutrient deficiency especially zinc, iron, manganese and boron.
- Moderate alkalinity in surface or sub-surface or both
- Quick decomposition of organic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

In this district, non-calcareous soils are found in 1,64,142 hectares (37.26%). Strong calcareousness was observed in 33,211 hectares (7.55%)

Sl. No.	Calcareousness class	Soil series	Extent (ha)	Percent to total
1.	Non-calcareous	Irugur, Kallagam, Madukkur, Pattukkottai, Tholurpatti, Vayalogam, Palaviduthi and Mixed Alluvium	1,64,142	37.26
2.	Mild	Adhanur, Govindapuram, Kallakkudi, Kalathur, Manmalai, Omandur, Puvalur, Periyanayakkanpalayam, Palathurai, Solampatti, Thinnakkonam, Tulukkanur, Thondipatti, Thuraiyur and Uppiliyapuram	1,24,882	28.36
3.	Strong	Alathur, Kallanpatti, Mangaraipatti and Pilamedu	33,221	7.55
		Others	76,502	17.37
		Forest	41,675	9.46
		Total	4,40,412	100.00

CALCAREOUSNESS

THIRUCHIRAPPALLI DISTRICT



SALINITY

THIRUCHIRAPPALLI DISTRICT

All soils contain some amount of soluble salts, but when their concentration increase 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^2) 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, and water supply is limited. leave the salt in the root zone. Saline soils may be of two kinds. 1) soil in which soluble salts contain calcium and magnesium 2) soils in which soluble salts or chiefly sodium.

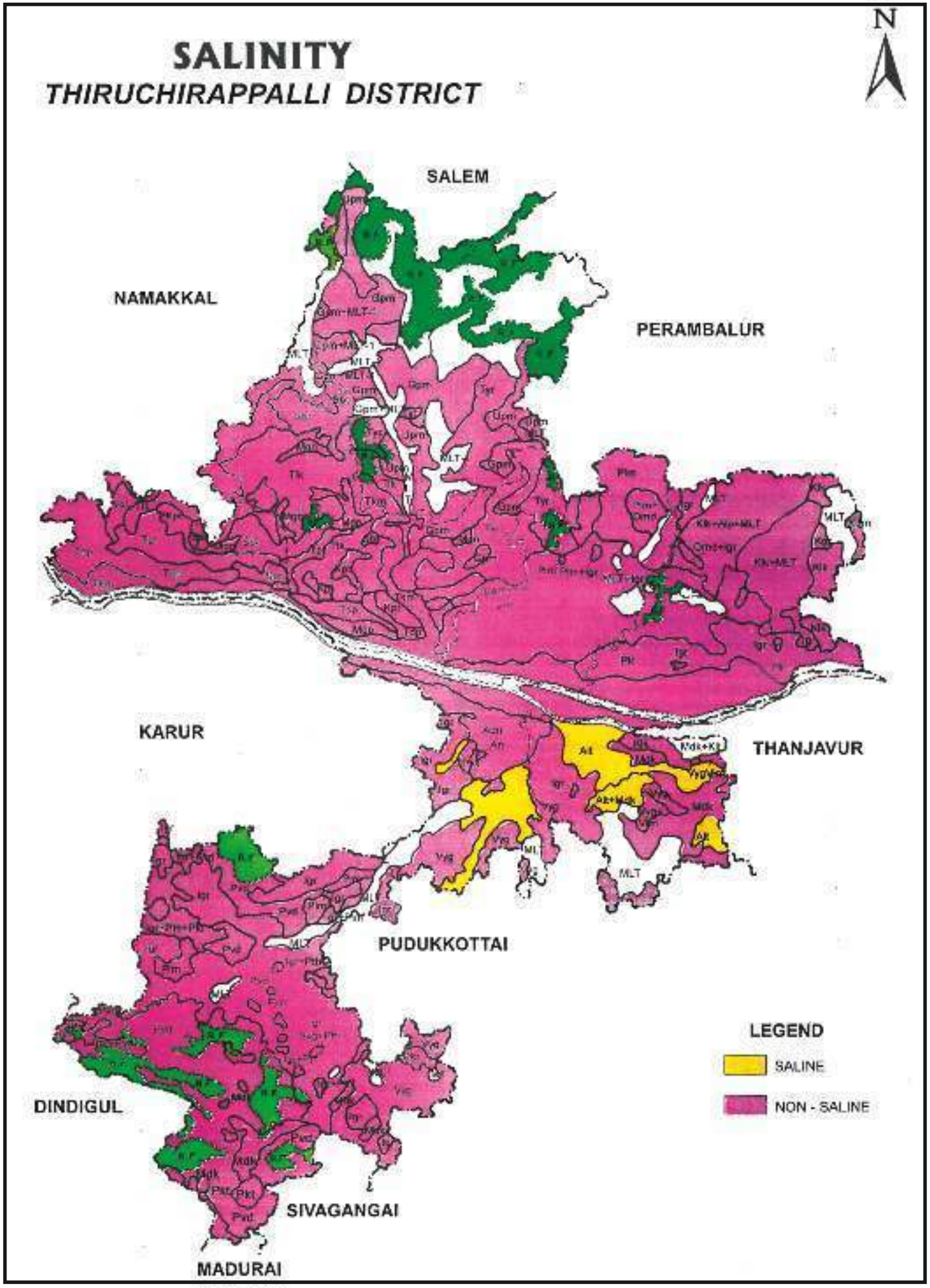
Adverse effects : 1) Excess salts hinder crop growth not only by toxicity but also by reducing water availability through reverse Osmosis.

2) Nutrient up take will become unbalanced and alter harmonal imbalance in plant system

3) Yield of crop decreases linearly with increase of salinity.

In this district Adhanur, Irugur, mixed alluvium and 24 other soil series are non - saline, covering an extent of 3,07,995 hectares (69.94%) as against the saline soil of 14,240 (3.23%) hectares.

Sl. No.	Salinity category	Soil series	Extent (ha)	Percent to total
1.	Saline	Alathur and Kalathur	14,240	3.23
2.	Non-saline	Adhanur, Govindapuram, Irugur, Kallakkudi, Kallanpatti, Kallagam, Manmalai, Madukkur, Mangaraipatti, Omandur, Pilamedu, Puvalur, Periyanayakkanpalayam, Palathurai, Pattukkottai, Palaviduthi, Solampatti, Thinnakonam, Tulukkanur, Thondipatti, Tholurpatti, Thuraiyur, Uppiliyapuram, Vayalogam and Mixed Alluvium	3,07,995	69.94
		Others	76,502	17.37
		Forest	41,675	9.46
		Total	4,40,412	100.00


SALINITY
THIRUCHIRAPPALLI DISTRICT
N
SALEM
NAMAKKAL
PERAMBALUR
KARUR
THANJAVUR
PUDUKKOTTAI
DINDIGUL
SIVAGANGAI
MADURAI
LEGEND
SALINE
NON - SALINE

SOIL REACTION (pH)

THIRUCHIRAPPALLI DISTRICT

Soil reaction is an important chemical characteristics influencing many physical and chemical properties. Microbial activity and plant nutrients availability and uptake and its chose relationship to other soil constituer.ts depend upon soil reaction (Acidic, neutral or alkaline). The intensity of acidity or alkalinity is expressed in pH. Neutral soil, having pH of 7.0, lower values indicate acidity; and higher values show alkalinity. Acid soils are high in exchangeable hydrogen and alkaline soils, high in exchangeable bases. Soils rich in clay or in organic matter have greater reserves of acidity or alkalinity than sandy soils or those low in organic matter. Soils having pH values higher than 8.5, always contain significant mounts of exchangeable sodium. Plants are parlty responsible for difference in soil pH. 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 ironphyrites for amending the soil.

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

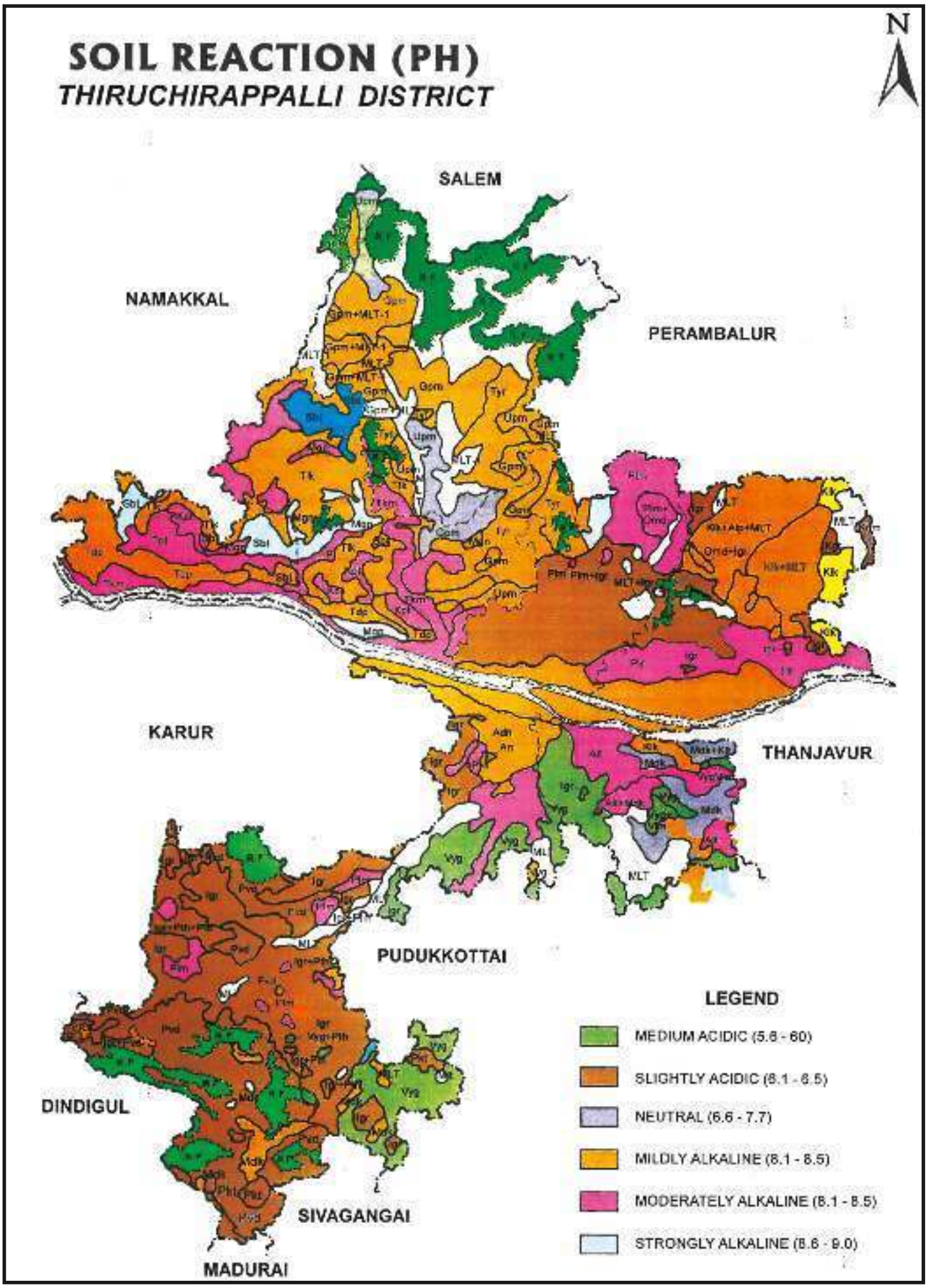
Vayalogam soil series are in medium acidic, covering an extent of 18,009 hectares (410%).

Strongly alkaline soils of Mangaraipatti and Solampatti occupy an extent of 13,138 (2.98%) hectares, which needs gypsum for amending the soils.

Sl. No.	Category	Soil series	Extent (ha)	Percent to total
1.	Medum Acidic (pH 5.6 - 6.0)	Vayalogam	18,009	4.10
2.	Slightly Acidic (pH 6.1 - 6.5)	Irugur, Kallagam, Pattukkottai and Palaviduthi	1,06,013	24.07
3.	Neutral (pH 6.6 - 7.3)	Uppiliyapuram and Madukkur	22,162	5.03
4.	Mildly alkaline (pH 7.4 - 7.8)	Adhanur, Govindapuram, Kallakkudi, Kalathur, Manmalai, Omandhur, Periyanayakkanpalayam, Palathurai, Tulukkanur, Thondipatti, Thuraiyur and Mixed Alluvium	1,06,467	24.17
5.	Moderately Alkaline (pH 7.9 - 8.4)	Alathur, Kallanpatti, Pilamedu, Puvalur, Thinnakonam and Tholurpatti	56,446	12.82
6.	Strongly Alkaline (pH 8.5 - 9.0)	Mangaraipatti and Solampatti	13,138	2.98
		Others	76,502	17.37
		Forest	41,675	9.46
		Total	4,40,412	100.00

SOIL REACTION (PH)

THIRUCHIRAPPALLI DISTRICT



CATION EXCHANGE CAPACITY (CEC)

THIRUCHIRAPPALLI DISTRICT

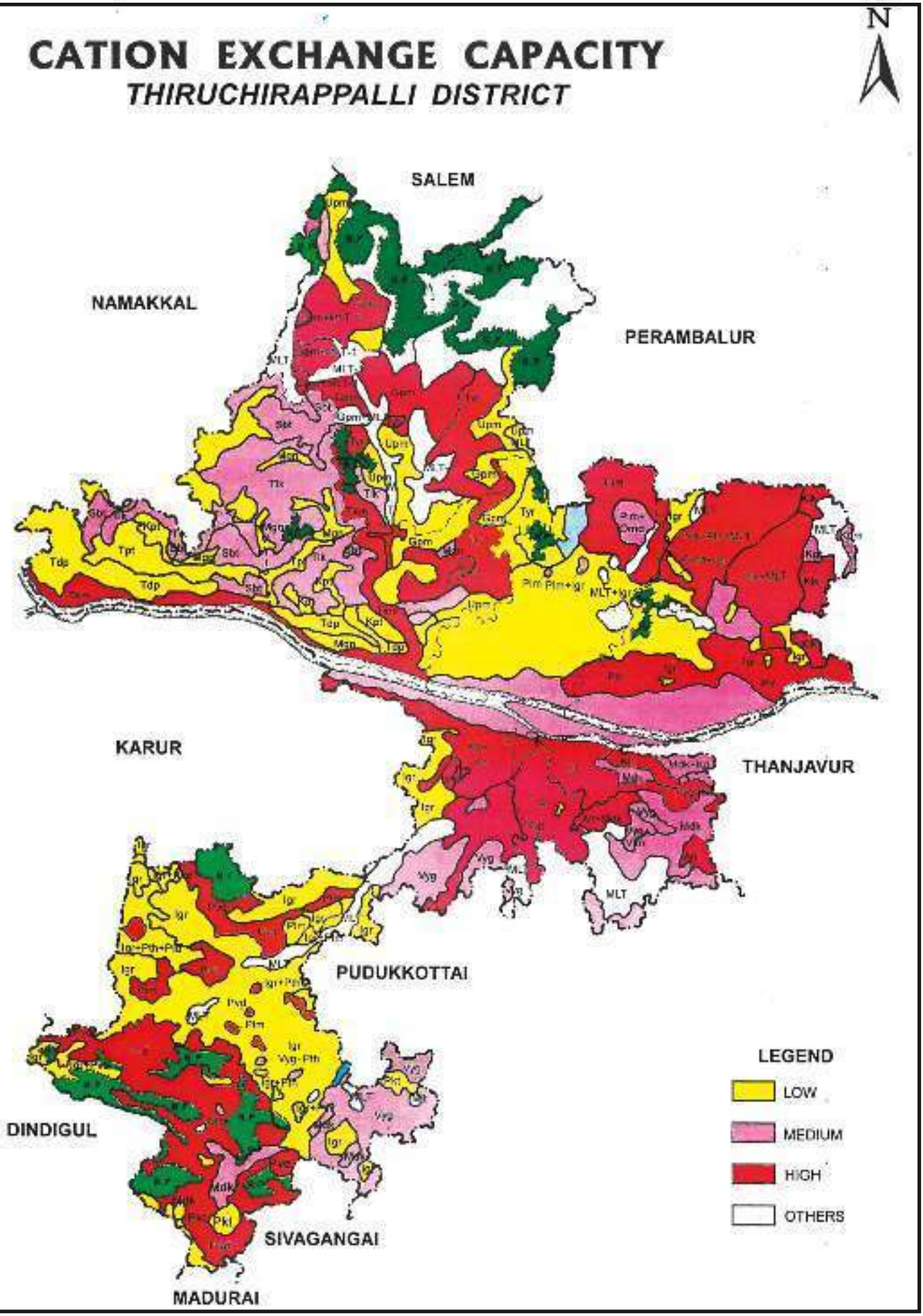
Cation exchange capacity measurements are commonly made as a part of overall assesment of the potential fertility of a soil and possible response to fertilizer application. The clay and organic matter content and mineralogical make up of soils are generally responsible for the overall nutrient retention capacity. Low or poor retention capacity reduces the fertilizer use efficiency especially of Nitrogen and potassuim. 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 process occurring in the soil. Any soluble nutrients which is not retained in the soil or clay complex will bet leached out due to high internal drainage. Soil with low CEC and poor in organic matter suffers from this set back.

Low CEC was observed in Irugur, Kallanpatti, Mangaraipatti, Omandur and 4 other series, occupying an extent of 1,17,577 (26.70%) hectares.

Sl. No.	Category	Soil series	Extent (ha)	Percent to total
1.	Low Lessthan 10m.eq/100g	Irugur, Kallanpatti, Mangaraipatti, Omandur, Pattukkottai, Thondipatti, Tholurpatti and Uppiliyapuram	1,17,577	26.70
2.	Medium 11—25m.eq/100g	Kallagam, Manmalai, Madukkur, Palathurai, Solampatti, Tulukkanur, Vayalogam and Mixed Alluvium	84,802	19.26
3.	High Above 25 m.eq/100g	Adhanur, Alathur, Govindapuram, Kallakkudi, Kalathur, Pilamedu, Puvalur, Periyanayakanpalayam, Palaviduthi, Thinnakonam and Thuraiyur.	1,19,856	27.21
		Others	76,502	17.37
		Forest	41,675	9.46
		Total	4,40,412	100.00

CATION EXCHANGE CAPACITY

THIRUCHIRAPPALLI DISTRICT

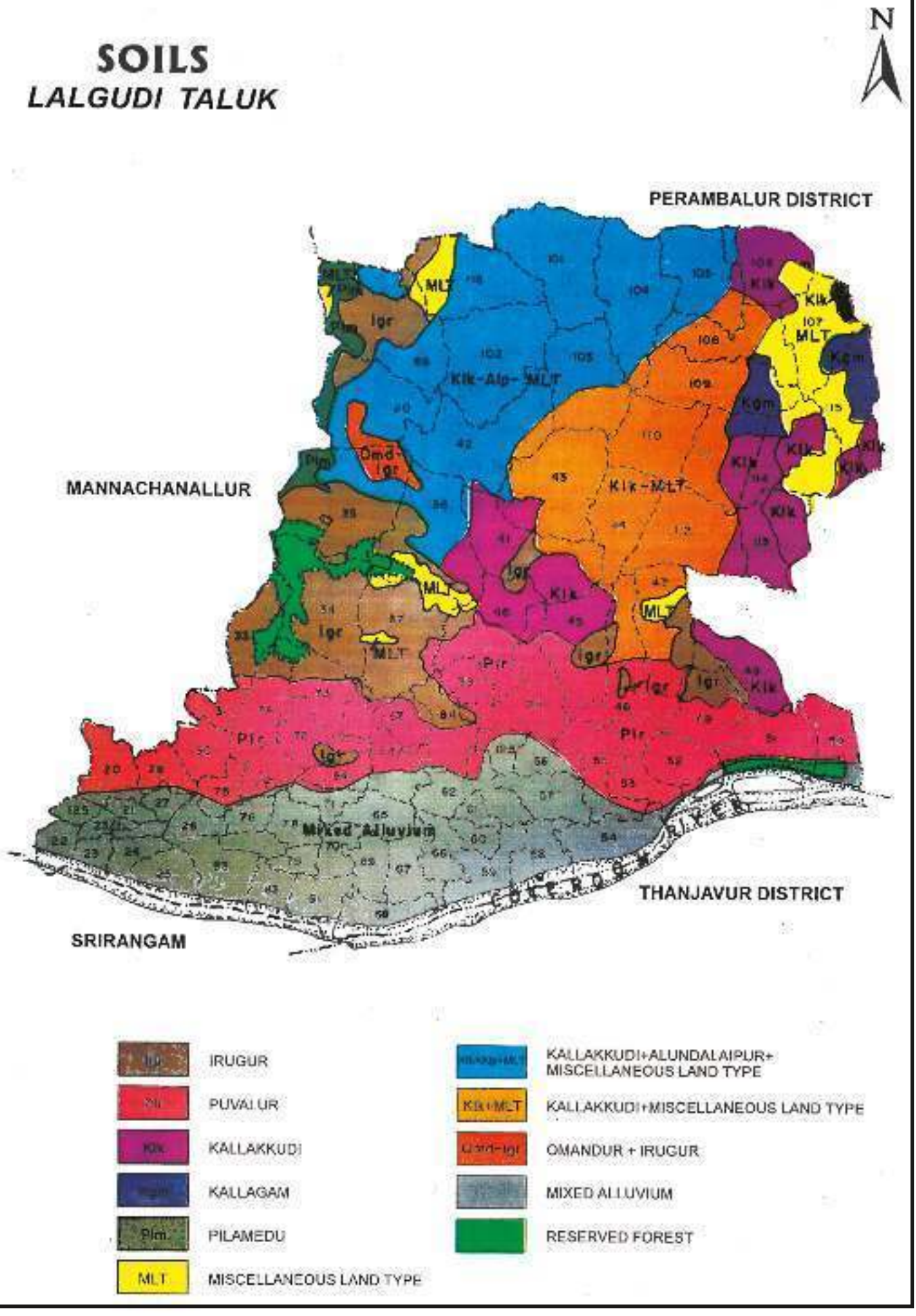


DISTRIBUTION OF SOIL SERIES

LALGUDI TALUK

S.No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Irugur	Igr	10,032	16.86
2.	Puvalur	Plr	9,909	16.65
3.	Mixed Alluvium	MA	9,746	16.38
4.	Kallakkudi	Klk	5,628	9.46
5.	Kallagam	Kgm	897	1.51
6.	Pilamedu	Plm	816	1.37
7.	Kallakkudi + Alunthalaipur + Miscellaneous Land Type	Klk + Alp + MLT	9,298	15.63
8.	Kallakkudi + Miscellaneous Land Type	Klk + MLT	7,626	12.82
9.	Omandur + Irugur	Omd + Igr	449	0.75
	Miscellaneous Land Type	MLT	3,466	5.83
	Others	—	577	0.97
	Reserve Forest	RF	1,054	1.77
		Total	**59,498**	**100.00**

SOILS
LALGUDI TALUK



VILLAGE WISE DISTRIBUTION OF SOIL SERIES AND FERTILITY INDICES

LALGUDI TALUK

Sl. No.	Revenue village	Village No.	Distribution of Soil series in Percentage	Fertility Indices (kg/ac)		
				Nitrogen	Phosphorus	Potassium
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Alambadi	50	Plr 70, MA 30	—	—	—
2.	Alampakkam	48	Plr 60, Igr 40	151	42	300
3.	Alangudimahajanam	53	Plr 95, MA 5	82	45	242
4.	Ankarai	78	MA 100	83	11	153
5.	Appathurai	23	MA 100	50	40	260
6.	Ariyur	54	MA 95, Plr 5	—	—	—
7.	Aathikkudi	66	MA 100	119	16	173
8.	Edaiyathumangalam	81	MA 100	90	65	469
9.	Edakkimangalam	84	Plr 50, Igr 45, MA 5	77	9	488
10.	Esnakorai	24	MA 100	89	30	225
11.	Kallagam	115	Kgm 45, MLT 40, Klk 15	71	—	212
12.	Kallakkudi	112	Klk-MLT 80, Klk 20	52	—	210
13.	Kanakkiniyanallur	43	Klk-MLT 80 , Klk 20	69	—	253
14.	Kannakudi	36	Klk-Alp-MLT 60, Igr 15	65	—	270
15.	Karudamangalam North	104/1	Klk-AlpMLT 90	—	—	—
16.	Karudamangalam South	104/2	Klk-Alp-MLT 90	—	—	—
17.	Keelarasoor	114	Klk 35 , MLT 30, Klk 30	50	20	202
18.	Keeramangalam	125	MA 100	—	—	—
19.	Keezhanbil	58	MA 100	62	29	460
20.	Keezhaperunkavur	75	Plr 75 , MA 25	152	20	176
21.	Komakkudi	128	MA 70 , Plr 30	116	29	58
22.	Kookur	68	MA 100	52	38	210

(1)	(2)	(3)	(4)	(5)	(6)	(7)
23.	Kovandakurichi	47	Klk-MLT 40, Plr 20, Igr 20, MLT 20	50	29	198
24.	Kumulur	37	Igr 70, MLT 20, Plr 10	66	—	268
25.	L. Abishegapuram	70	MA 100	—	—	—
26.	M. Kannanur	106	Klt 65, MLT 25	50	—	280
27.	Madakkudi	20	Plr 85, MA 15	88	9	287
28.	Magizhambadi	33	Igr 95, Plr 5	90	31	373
29.	Malvoi	109	Klk-MLT 70, Kgm 20	70	—	473
30.	Manakkal East	65/2	MA 100	49	41	295
31.	Manakkal West	65/1	MA 100	49	41	295
32.	Mangammalpuram	59	MA 100	49	54	286
33.	Maruthur	30	Plr 100	85	9	275
34.	Melarasoor	111	Klt-MLT 50, Klk 40	82	—	177
35.	Mettupatti	61	MA 100	81	80	395
36.	Muduvattur	113	Klt 65, Klk 30	—	—	—
37.	Mummudi Cholamangalam	69	MA 100	—	—	—
38.	Nagar	77	Plr 90, MA 10	49	36	119
39.	Nambukurichi	102	Klk-Alp-MLT 100	—	—	—
40.	Nanjai Sankenthi	39	Plr 95, Igr 5	76	10	476
41.	Nathamangudi	51	Plr 95, MA 5	82	68	410
42.	Neikulam	89	Igr 40, Klk-Alp MLT 30, MLT 30	—	—	—
43.	Neikkuppai North	74/1	Plr 75, Igr 25	51	50	350
44.	Nenurchalakudi	36	MA 100	50	—	300
45.	Oottathur	116	Klk-Alp-MLT 60, MLT 25, Igr 15	111	3	312

(1)	(2)	(3)	(4)	(5)	(6)	(7)
46.	Oranthur	107	MLT 75, Kgm 20, Klk 5	71	—	300
47.	Pambaramsuthi	79	MA 100	85	23	168
48.	Periyakurukkai	90	Klk-Alp-MLT 60, Igr 15, MA 10	—	—	—
49.	Peruvalanallur East	63/2	Plr 85, Igr 15	79	88	385
50.	Peruvalanallur West	63/1	Plr 85, Igr 15	79	88	385
51.	Peruvalapur	42	Klk-Alp-MLT 85, Klk-MLT 15	49	—	350
52.	Poovalur East	64/2	Plr 75, Igr 15, MA 10	—	—	—
53.	Poovalur West	64/1	Plr 75, Igr 15, MA 10	—	—	—
54.	Pudukkudi	21	MA 100	95	29	274
55.	Pudur uthamanur	73	Plr 55, Igr 45	103	17	411
56.	Pullambadi North	45/1	Plr 40, Klk 40, Igr 15 , Klk MLT 15	—	—	—
57.	Pullambadi South	45/2	Plr 40, Klk 40, Igr 15, Klk-MLT 5	—	—	—
58.	Punjai Sankenthi	40	Plr 45, Klk 35, Igr 20	59	59	250
59.	Puthurpalayam	49	Klk 80, Igr 20	68	16	278
60.	R. Valavanur	31	Plr 90, Igr 10	80	10	263
61.	Rettimangudi	35	Igr 60, Omd-Igr 15, Klk-Alt-MLT 15, Plm 10	75	—	261
62.	Sadurpagam	108	Klk MLT 40, MLT 35 MLT-Alp 15, Klk 10	86	8	428
63.	Sankamarasapuram	60	MA 100	78	45	375
64.	Saradamangalam	105	Klk-Alp-MLT 70, Klk-MLT 25, Klk 5	—	—	—
65.	Sathamangalam	67	MA 100	80	31	470
66.	Sembarai	56	MA 75, Plr 25	—	—	—
67.	Sevanthinathapuram	82	MA 100	82	26	125

(1)	(2)	(3)	(4)	(5)	(6)	(7)
68.	Shesa samudram	80	MA 100	—	—	—
69.	Sirukalappur	103	Igr 100	49	—	—
70.	Sirumarudur	27	MA 95, Plr 5	60	85	290
71.	Sirumayangudi East	62/2	MA 90, Plr 10	122	4	333
72.	Sirumayangudi West	62/1	MA 90, Plr 10	122	4	333
73.	Siruthaiur	71	MA 95	—	—	—
74.	Therkusathiram	—	MA 100	—	—	—
75.	T.Kallikudi	55	Plr 100	70	42	385
76.	T.Valavanur	25	Plr 100	—	—	—
77.	Thalakkudi	22	MA 100	89	32	195
78.	Thappoi	114	Klk 35, MLT 35	50	—	295
79.	Thachankurichi	34	Igr 100	50	—	131
80.	Thinniyam	57	MA 100	70	48	390
81.	Thiranipalayam	101	Klk-Alp-MLT 100	107	15	293
82.	Thirumanamedu East	83/2	MA 100	50	31	100
83.	Thirumanamedu West	83/1	MA 100	50	31	100
84.	Thirumangalam	72	Plr 100	—	—	—
85.	Uthamanambi	20/1	Plr 85 , MA 15	—	—	—
86.	V.Thuraiyur	28	Plr 95, MA 5	71	42	287
87.	Valadi	26	MA 100	67	39	386
88.	Vanthalaikoodalur	47	Klk 70, Igr 20, Klk-Alp-MLT 10	—	—	—
89.	Varakuppai	110	Klk-MLT 100	49	—	143
90.	Vellanur	38	Plr 80, Klk 15, Igr 5	64	12	298
91.	Venkatachalapuram North	46/1	Plr 45, Klk 40, Igr 15	72	25	295
92.	Venkatachalapuram South	46/2	Plr 45, Klk 40, Igr 15	72	25	295
93.	Virakalur	51	Plr 60, MA 40	81	17	237

LAND CAPABILITY CLASSIFICATION

LALGUDI TALUK

S.No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations	Needs
1.	II s - Lands that have moderate limitations for sustained use under agriculture	Mixed Alluvium	9,746	16.38	Light texture	Soil conservation
2.	II es- Lands that have moderate limitations for sustained use under agriculture	Omandur Irugur	449	0.75	Erosion and light texture	Soil conservation
3.	III e - Lands that have severe limitations for sustained use under agriculture	Kallagam	897	1.51	Erosion and light texture	Soil conservation
4.	III s - Lands that have severe limitations for sustained use under agriculture	Puvalur	9,909	16.65	Slow permeability and alkalinity	Drainage improvement
5.	III es - Lands that have severe limitations for sustained use under agriculture	Irugur, Kallakkudi, Pilamedu, Kallakkudi + Alunthalaipur + Miscellaneous Land Type and Kallakkudi + Miscellaneous Land Type	33,400	56.14	Erosion depth and texture	Soil conservation and cultivation of suitable crops
		Miscellaneous Land Type	3,466	5.83	—	
		Others	577	0.97		
		Forest	1,054	1.77		
		Total	59,498	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*

Sub class

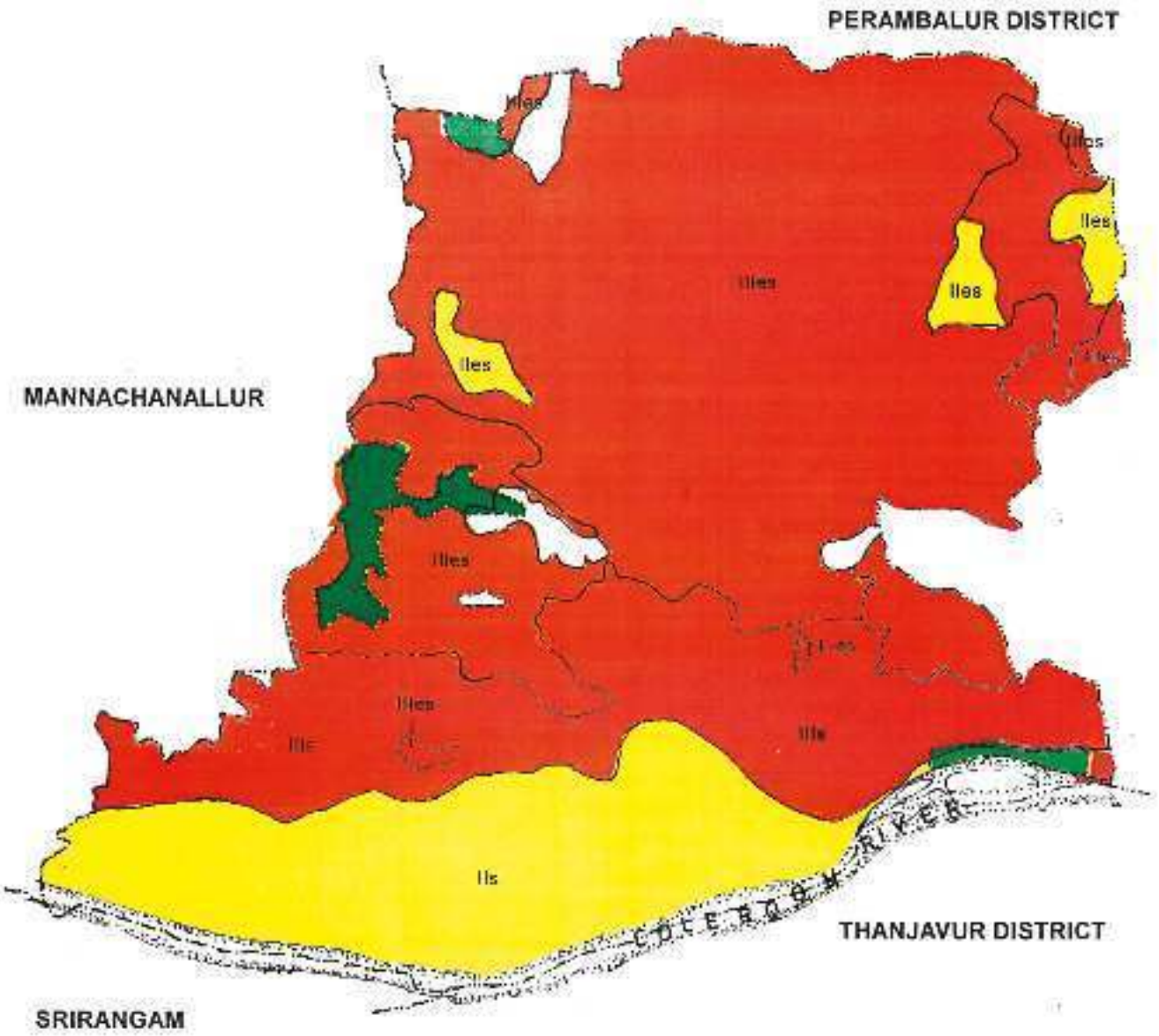
e *Erosion and run off*

s *Soil limitation*

w *Wetness*

LAND CAPABILITY

LALGUDI TALUK



LAND IRRIGABILITY CLASSIFICATION

LALGUDI TALUK

S. No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations
1.	2 d - Lands that have moderate limitations for sustained use under irrigation	Mixed Alluvium	9,746	16.38	Light texture
2.	2 st - Lands that have moderate limitations for sustained use under irrigation	Omandur + Irugur	449	0.76	Topography and light texture
3.	3 t - Lands that have severe limitations for sustained use under irrigation	Kallagam	897	1.51	Topography and light texture
4.	3 st - Lands that have severe limitations for sustained use under irrigation	Irugur	10,032	16.86	Topography and poor depth
5.	3 sd - Lands that have severe limitations for sustained use under irrigation	Puvalur Kallakkudi Pilamedu Kallakkudi + Alunthalaipur + Miscellaneous Land Type and Kallakkudi + Miscellaneous Land Type	33,277	55.92	Alkalinity, heavy texture and poor drainage
		Miscellaneous Land Type	3,466	5.83	
		Others	577	0.97	
		Forest	1,054	1.77	
		Total	**59,498**	**100.00**	

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

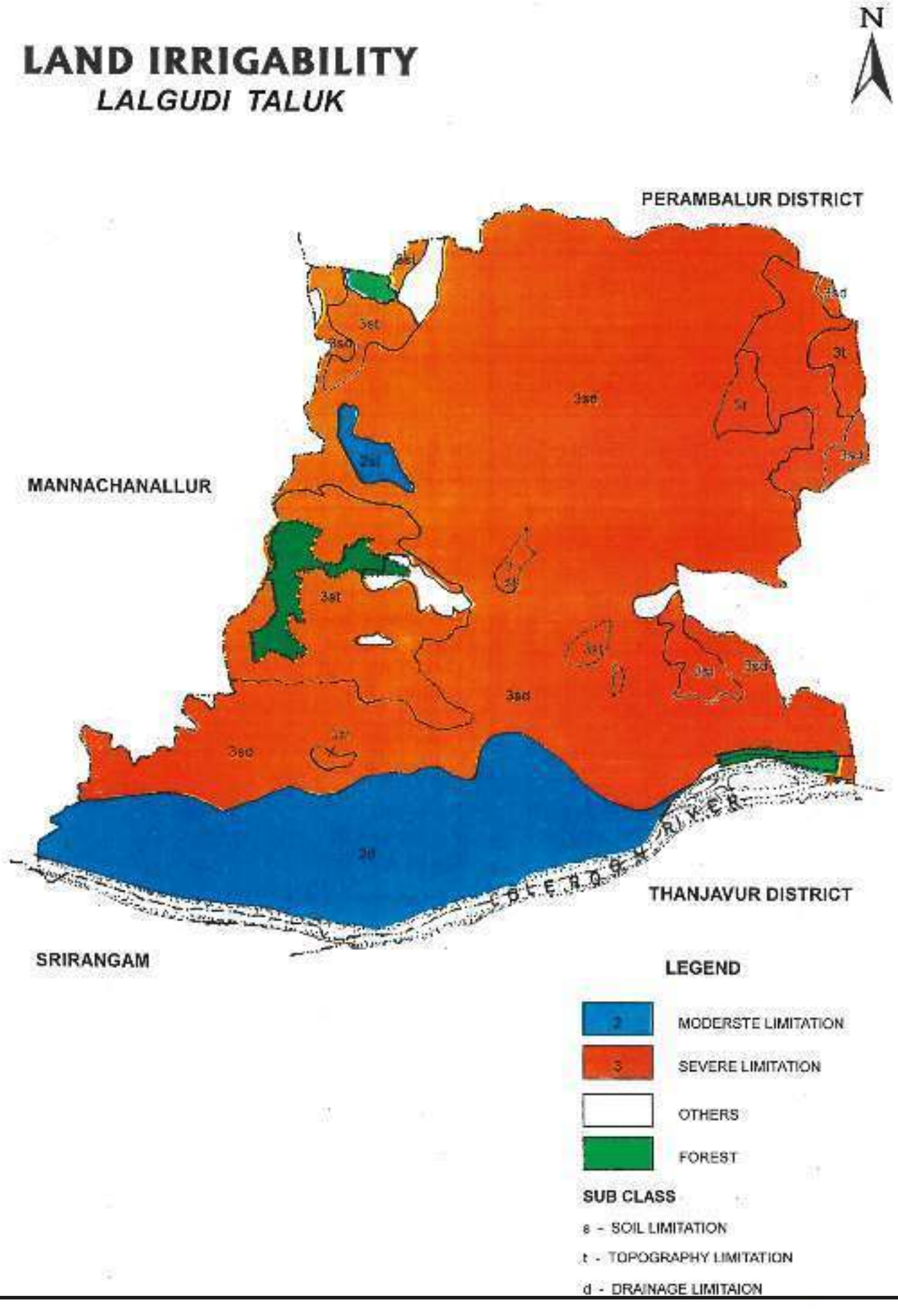
s *Soil problem*

t *Topography*

d *Drainage*

LAND IRRIGABILITY

LALGUDI TALUK



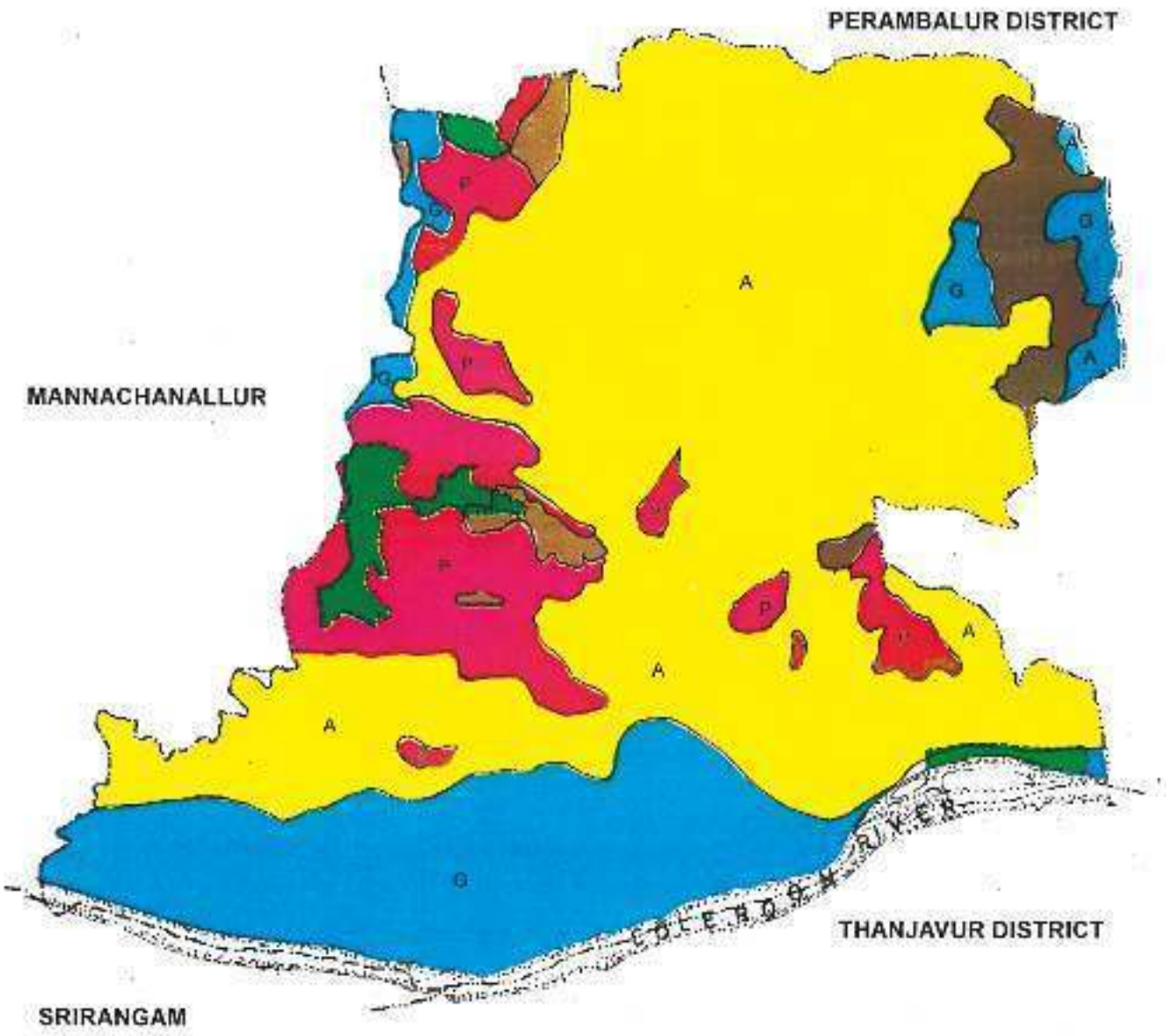
SOIL PRODUCTIVITY

LALGUDI TALUK

S.No.	Productivity		Soil series	Extent (ha)	Per cent to total
	Rating	Groupings			
1.	8 - 19	Poor (P)	Irugur and Omandur + Irugur	10,481	17.62
2.	20 - 34	Average (A)	Puvalur, Kallakkudi, Kallakkudi + Alunthalaipur + Miscellaneous Land Type and Kallakkudi + Miscellaneous Land Type	32,461	54.55
3.	35 - 64	Good (G)	Kallagam Pilamedu and Mixed Alluvium	11,459	19.26
	—		Miscellaneous Land Type	3,466	5.83
			Others	577	0.97
			Reserve forest	1,054	1.77
			Total	**59,498**	**100.00**

SOIL PRODUCTIVITY

LALGUDI TALUK

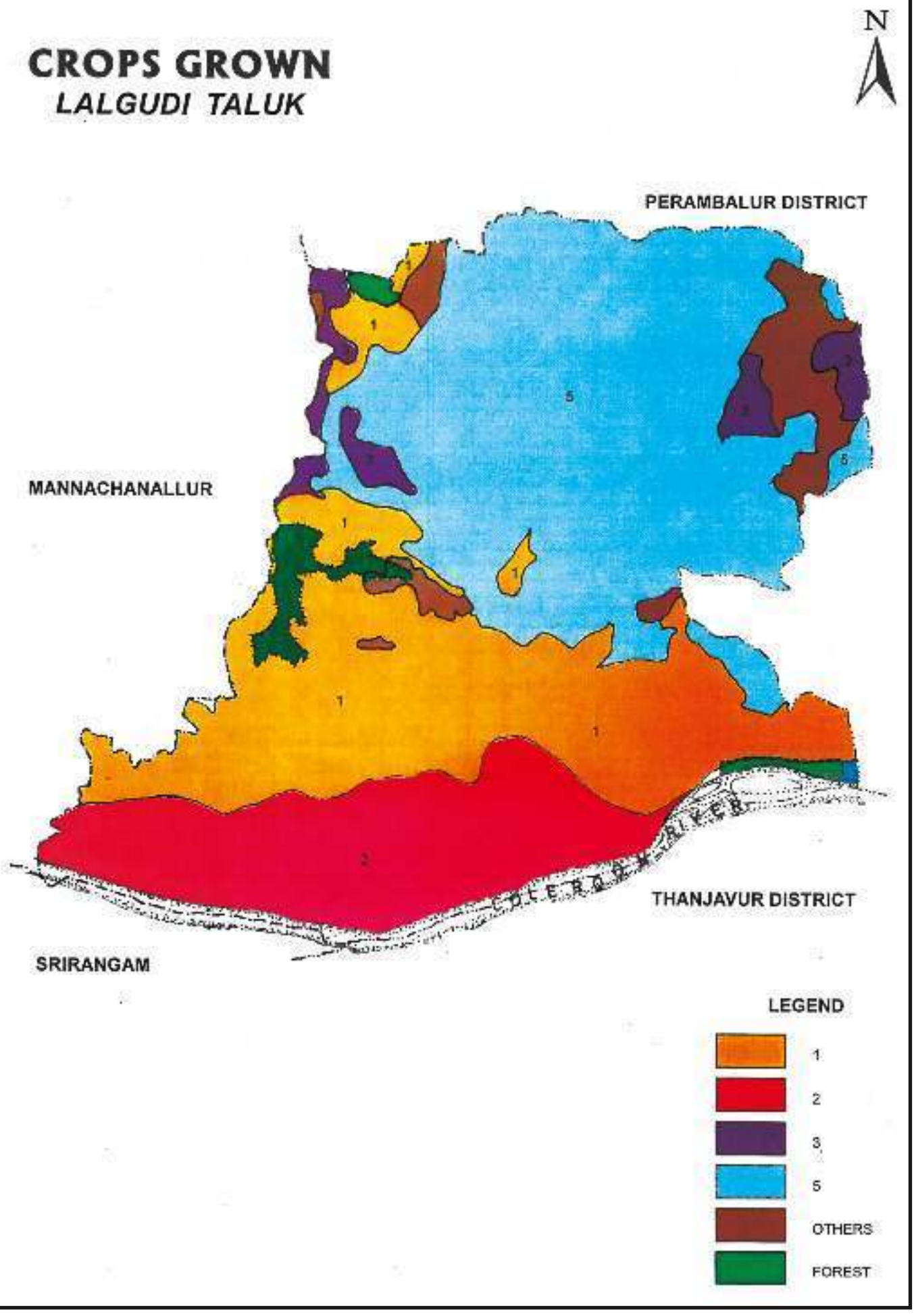


CROPS GROWN

LALGUDI TALUK

S.No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Rice, Sugarcane and Banana	Millets, Groundnut and Pulses	1	Irugur and Puvalur
2.	Vegetables, Rice and Flowers	Millets and Pulses	2	Mixed Alluvium
3.	Sugarcane, Tapioca, Onion, Groundnut and Rice	Chillies, Millets, Groundnut, Gingelly, Coriander, Cotton and Redgram	3	Pilamedu, Kallagam and Omandur + Irugur
4.	Rice and Chillies	Rice, Chillies, Millets and Groundnut	5	Kallakkudi, Kallakkudi + Alunthalaipur + Miscellaneous Land Type and Kallakkudi + Miscellaneous Land Type

CROPS GROWN
LALGUDI TALUK

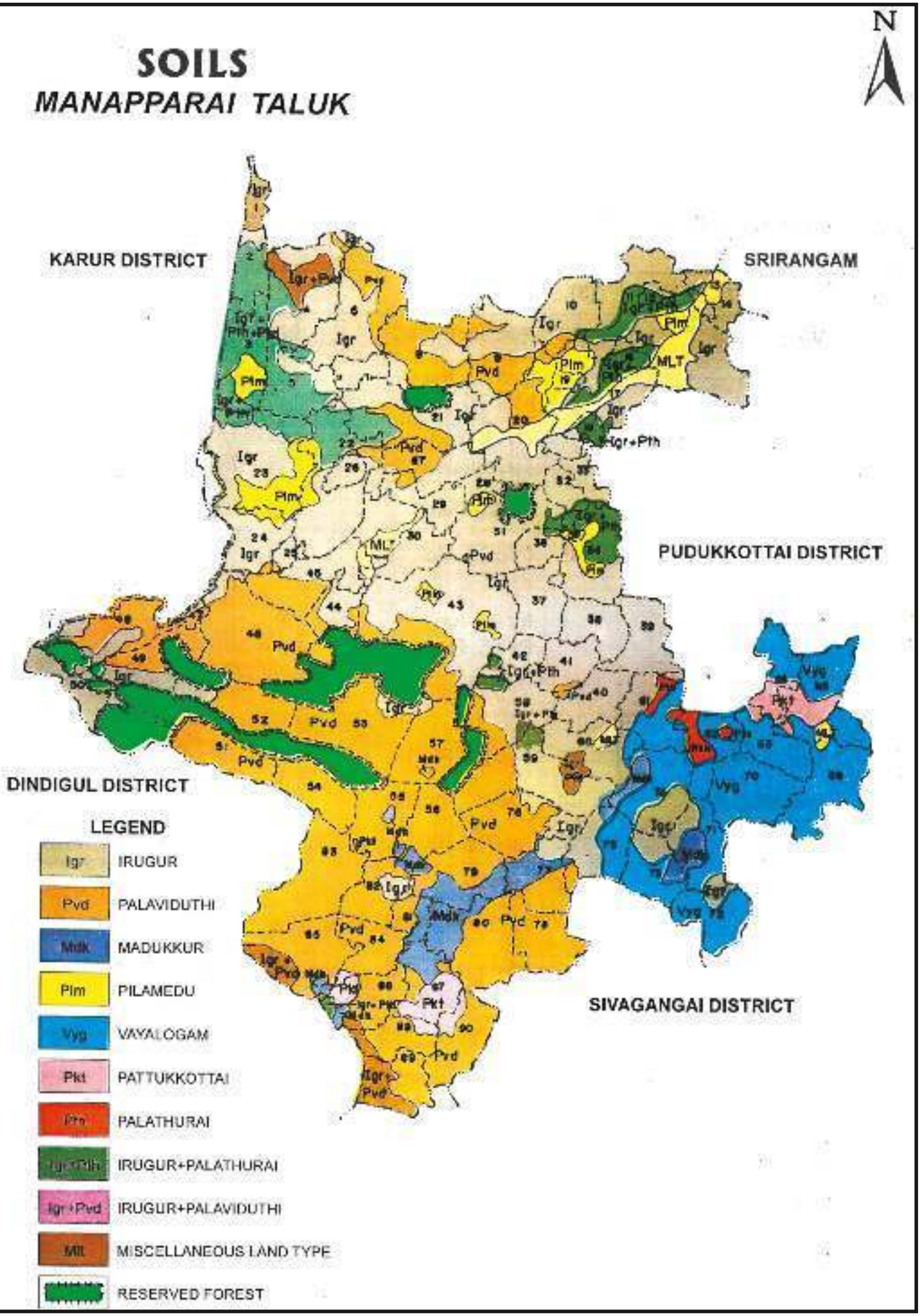


DISTRIBUTION OF SOIL SERIES

MANAPPARAI TALUK

S.No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Irugur	Igr	38,057	38.44
2.	Palaviduthi	Pvd	31,863	32.17
3.	Madukkur	Mdk	3,578	3.61
4.	Pilamedu	Plm	3,097	3.13
5.	Vayalogam	Vyg	2,822	2.85
6.	Pattukkottai	Pkt	2,546	2.57
7.	Palathurai	Pth	619	0.63
8.	Irugur + Palathurai	Igr + Pth	3,372	3.40
9.	Irugur + Palaviduthi	Igr + Pvd	2,615	2.64
	Miscellaneous Land Type	MLT	2,151	2.17
	Reserve Forest	RF	8,312	8.39
		Total	**99,032**	**100.00**

SOILS
MANAPPARAI TALUK



VILLAGE WISE DISTRIBUTION OF SOIL SERIES AND FERTILITY INDICES

MANAPPARAI TALUK

Sl. No.	Revenue village	Village No.	Distribution of Soil series in Percentage	Fertility Indices (kg/ac)		
				Nitrogen	Phosphorus	Potassium
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Akkiyampatti	86	Pvd 60, Pkt 40	92	—	263
2.	Alagapuri	87	Pvd 40, Pkt 40, Mdk 20	55	—	389
3.	Amaiyapuram	21	Igr 50, Pvd 30, Igr+Pth+Pvd 20	78	31	289
4.	Amanakkanpatti	41	Igr 95, Pvd 5	54	4	260
5.	Ammachatram	55	Pvd 80, Mdk 15, Pkt 5	—	—	—
6.	Aniyappur	6	Igr 90, Igr+Pth Pvd 5, Pvd 5	49	—	132
7.	Ayanporuvoi	73	Vyg 60, Igr 25, Mdk 15	—	—	—
8.	Ayanputhuppatti	63	Vyg 90, Pkt 10	—	—	—
9.	Ayanrettiapatti	44	Pvd 60, Igr 40	87	—	179
10.	Chattirappatti	16	Igr+Pth 100	—	—	—
11.	Chettichatram	13	Igr 100	—	—	—
12.	Chettiyapatti	30	Igr 70, MLT 30	100	23	181
13.	Chittanatham	14	Igr 55, MLT 35, Igr+Pth 10	93	24	262
14.	E.Idaiyappatti	12	Igr+Pth 50, Igr 50	52	—	319
15.	Elamanam	52	Pvd 75, Igr 25	—	—	—
16.	Endappuli	54	Pvd 100	123	—	39
17.	Ikkaraikosikurichi	85	Pvd 75, Igr+Pvd 25	—	—	—
18.	K.Periyapatti North	11/2	Igr 100	100	139	236
19.	K. Periyapatti South	11/1	Igr 30, Igr+Pth 30, Plm 20, MLT 20	100	139	236

(1)	(2)	(3)	(4)	(5)	(6)	(7)
20.	Kalingapatti	19	Plm 95, Igr 5	81	46	454
21.	Kalingapatti East	72/2	Vyg 85, Igr 15	98	—	278
22.	Kalingapatti West	72/1	Vyg 85, Igr 15	98	—	278
23.	Kanchanaickenpatti	83	Pvd 100	84	97	398
24.	Kannivadugapatti	42	Igr 90, Igr+Pth 10	—	—	—
25.	Kannudaiyanpatti	17	Igr+Pth 50, MLT 25, Igr 25	—	—	—
26.	Kannukkuzhi	66	Vyg 85, Igr 15	129	—	340
27.	Kannuthu	51	Pvd 100	—	—	—
28.	Kappakkudi	68	Vyg 100	—	—	—
29.	Karaippatti	81	Pvd 55, Mdk 45	118	28	332
30.	Karumalai	56	Pvd 90, Mdk 10	48	46	367
31.	Karuppur	53	Pvd 85, Igr 15	48	67	330
32.	Kavinaripatti	69	Vyg 100	—	—	—
33.	Kodumbapatti	70	Vyg 100	59	—	489
34.	Kovilpatti	7	Igr 100	49	51	163
35.	Kumaravadi	46	Pvd 65, Igr 35	49	—	133
36.	Lekkanaikanpatti	88	Pvd 80, Pkt 10, Igr+Pvd 10	124	9	228
37.	M.Keezhaiyur	34	Igr+Pth 45, Igr 30, Plm 25	47	76	278
38.	Malaiyadipatti	29	Igr 90, Pvd 10	147	8	486
39.	Marungapuri	76	Pvd 80, Igr 20	53	43	377
40.	Mathampatti	18	—	51	13	286
41.	Mogavanur North	23/1	Igr 60, Plm 40	88	7	211
42.	Mogavanur South	23/2	Igr 60, Plm 40	88	7	211
43.	Mondippatti	10	Igr 80, Pvd 15, Igr-Pth 5	—	—	—
44.	Mookurattiyapatti	25	Igr 80, Pvd 20	98	26	184
45.	Muthazvarpatti	59	Pvd 70, Igr 25, Igr-Pth 5	—	—	—
46.	Nadupatti	48	Igr 100	105	—	325
47.	Nallampillai	8	Pvd 75, Igr 25	—	—	—

(1)	(2)	(3)	(4)	(5)	(6)	(7)
48.	Nallur	78	Pvd 100	60	12	154
49.	Oothukuzhi	64	Vyg 100	—	—	—
50.	Pallakurichi	71	Vyg 70, Igr 15, Mdk 15	47	—	332
51.	Pannapatti East	43/A	Igr 60, Pvd 30, Plm 10	90	14	205
52.	Pannapatti West	43/B	Igr 60, Pvd 30, Plm 10	90	14	205
53.	Pappapatti	59/1	Pvd 50, Igr 40 Igr-Pth 10	—	—	—
54.	Pazhaiyakottai	22	Igr 90, Plm 10	—	—	—
55.	Pazhuvanji East	60/2	Igr 70, Vyg 10, MLT 10, Igr-Pvd 10	—	—	—
56.	Pazhuvanji West	60/1	Igr 70, Vyg 10, MLT 10, Igr-Pvd 10	—	—	—
57.	Pirampatti North	61/1	Vyg 70, Igr 20, Pth 10	—	—	—
58.	Pirampatti South	61/2	Vyg 70Igr20Pth 10	—	—	—
59.	Poigaipatti	31	Igr 75, Plm 10, Igr-Pth 10, Pvd 5	48	—	324
60.	Ponnambalampatti	47	Igr 100	89	—	196
61.	Pudukkottai	49	Igr 100	49	—	243
62.	Puduvadi	50	Igr 100	71	—	219
63.	Puthanatham	57	Pvd 90, Igr 5, Mdk 5	83	12	197
64.	Puththakkudi	67	Vyg 100	87	83	378
65.	Puthur	1	Igr 100	49	31	182
66.	Rettiyapatti	26	—	78	24	—
67.	Sampatti	37	Igr 100	—	—	—
68.	Samudram	15	MLT 50, Igr 25, Igr-Pth 25	108	22	189
69.	Seegampatti	33	Igr 100	96	15	175
70.	Sekkanam	24	Igr 85, Plm 10, Pvd 15	—	—	—
71.	Sevalur	20	Igr 45, Pvd 25, MLT 15, Plm 15	—	—	—

(1)	(2)	(3)	(4)	(5)	(6)	(7)
72.	Sevalpatti	84	Pvd 100	53	41	375
73.	Seventhanpatti	90	Pvd 85, Pkt 15	122	—	246
74.	Suzhiyappatti	36	Igr 90, Igr-Pth 10	—	—	—
75.	Thathanur	38	Igr 100	—	—	—
76.	Thavalaveeranpatti	3	Igr-Pth-Pvd 60, Plm 25, Igr-Pth 15	—	—	—
77.	Thenmugamidalya patti	75	Vyg 40, Igr 40, Pvd 10, Mdk 10	—	—	—
78.	Thenur	62	Vyg 60, Pth 40	—	—	—
79.	Thethur	89	Pvd 50, Igr-Pvd 50	47	48	373
80.	Thirunellipatti	58	Igr 60, Pvd 25, Igr-Pth 15	72	—	425
81.	Thoppampatti	9	Igr 55, Pvd 45	112	60	286
82.	Thottiyampatti	39	Igr 100	—	—	—
83.	Thuvarankurichi	80	Pvd 70, Mdk 30	96	—	285
84.	Usilampatti	32	Igr 90, Igr-Pth 10	—	—	—
85.	V.Periyapatti	5	Igr-Pth-Pvd 75, Igr 25	—	—	—
86.	Vadugapatti	28	Igr 95, Igr-Pth-Pvd 5	100	25	390
87.	Vaiyamalaippalaiyam	2	Igr-Pth-Pvd 90, Igr 10	—	—	—
88.	Vaiyampatti	45	Pvd 45, Igr 45, MLT 10	—	—	—
89.	Valanadu	74	Vyg 55, Igr 25, Mdk 20	54	—	136
90.	Velakkurichi	82	Pvd 100	—	—	—
91.	Vellaiyakkonpatti	40	Igr 95, Pvd 5	104	13	290
92.	Vellalappatti	4	Igr 45, Igr-Pvd 35, IGr-Pth-Pvd 20	94	11	130
93.	Vembanur	65	Vyg 65, Pkt 35	—	—	—
94.	Vengaikurichi	27	Igr 55, Pvd 45	94	—	195
95.	Venkat Naickenpatti	79	Pvd 60, Mdk 35, Igr 5	96	10	269
96.	Yagapuram	77	Pvd 45, Mdk 35, Igr20	—	—	—

LAND CAPABILITY CLASSIFICATION

MANAPPARAI 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	Palaviduthi and Palathurai	32,482	32.80	Erosion and depth	Soil conservation and texture improvement
2.	II s- Lands that have moderate limitations for sustained use under agriculture	Madukkur	3,578	3.61	Slow permeability and alkalinity	Soil reclamation and drainage improvement
3.	III e - Lands that have severe limitations for sustained use under agriculture	Pattukkottai	2,546	2.58	Erosion	Soil conservation
4.	III s - Lands that have severe limitations for sustained use under agriculture	Irugur Vayalogam Pilamedu Irugur + Palathurai and Irugur + Palaviduthi	49,963	50.45	Erosion depth and texture	Soil conservation and cultivation of suitable crops
		Miscellaneous Land Type	2,151	2.17	—	—
		Forest	8,312	8.39	—	—
		Total	99,032	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*

Sub class

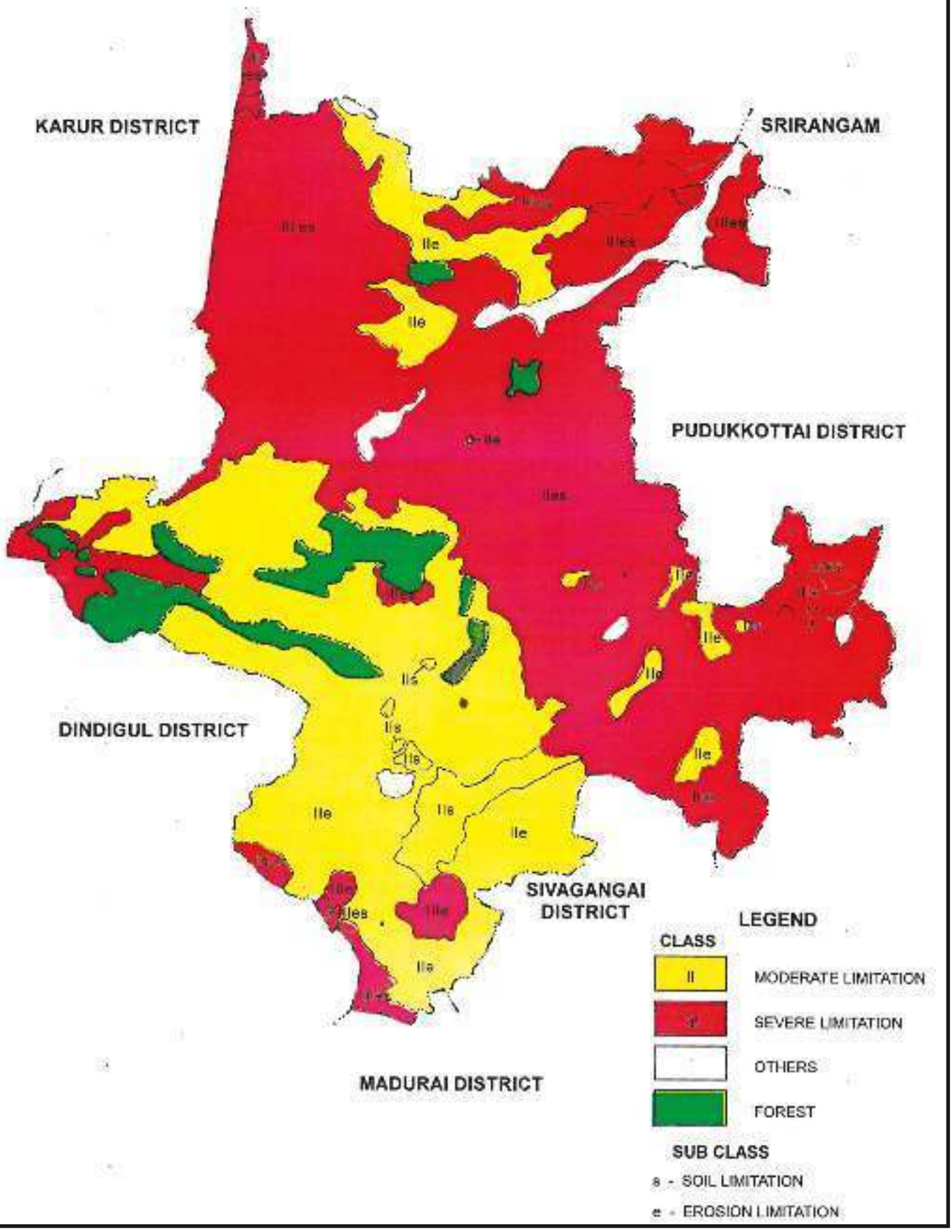
e *Erosion and run off*

s *Soil limitation*

w *Wetness*

LAND CAPABILITY

MANAPPARAI TALUK



LAND IRRIGABILITY CLASSIFICATION

MANAPPARAI 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	3,578	3.61	Light texture and poor depth
2.	2 s - Lands that have moderate limitations for sustained use under irrigation	Palaviduthi and Palathurai	32,482	32.80	Topography light texture, alkalinity and poor depth
3.	3 st - Lands that have severe limitations for sustained use under irrigation	Pattukkottai	2,546	2.57	Topography and light texture
4.	3 st - Lands that have severe limitations for sustained use under irrigation	Irugur, Vayalogam, Irugur + Palathurai and Irugur + Palaviduthi	46,866	47.33	Topography and poor depth
5.	3 st - Lands that have severe limitations for sustained use under irrigation	Pilamedu	3,097	3.13	Heavy texture and alkalinity
		Miscellaneous Land Type	2,151	2.17	—
		Forest	8,312	8.39	—
		Total	**99.032**	**100.00**	

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

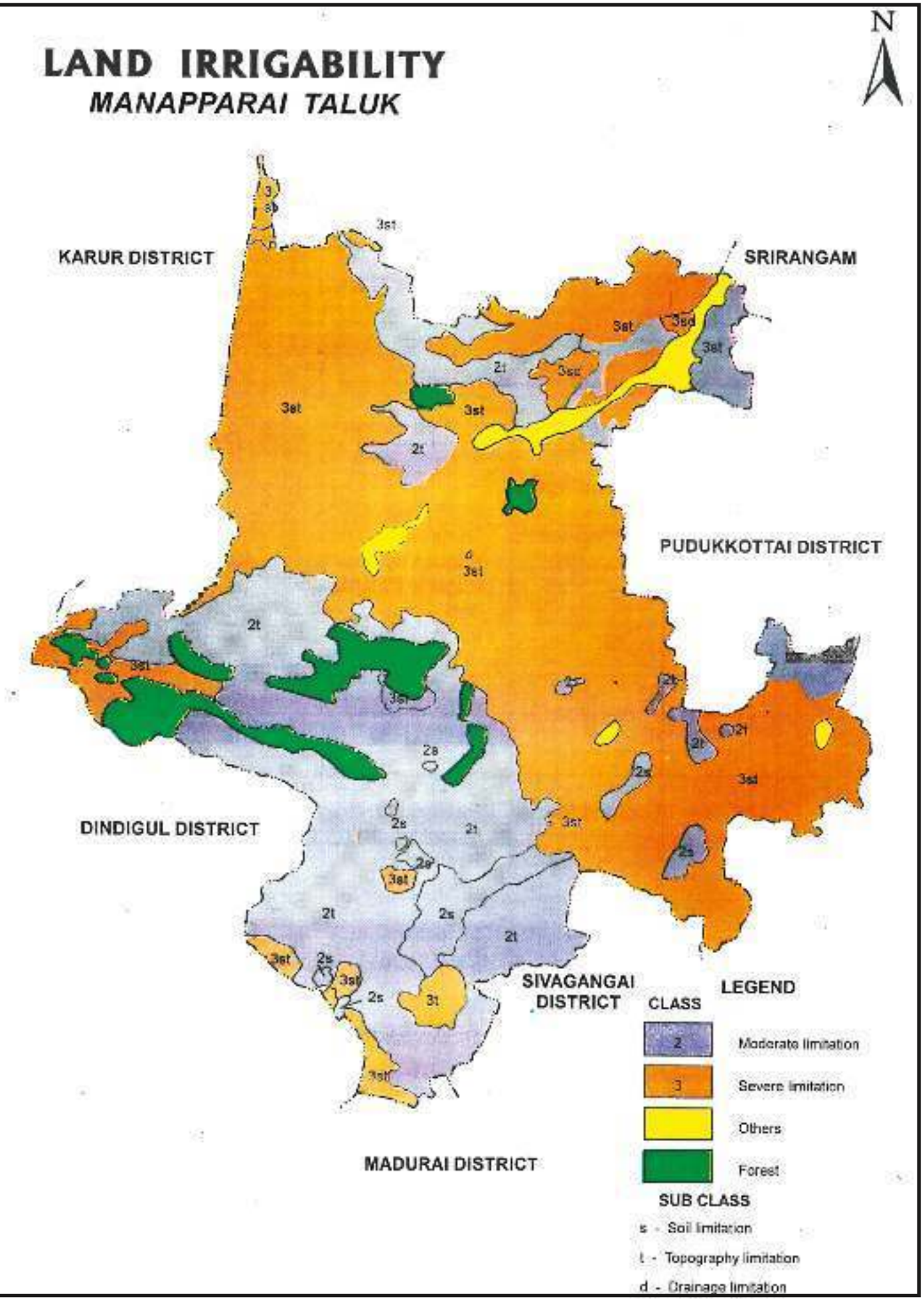
s *Soil problem*

t *Topography*

d *Drainage*

LAND IRRIGABILITY

MANAPPARAI TALUK



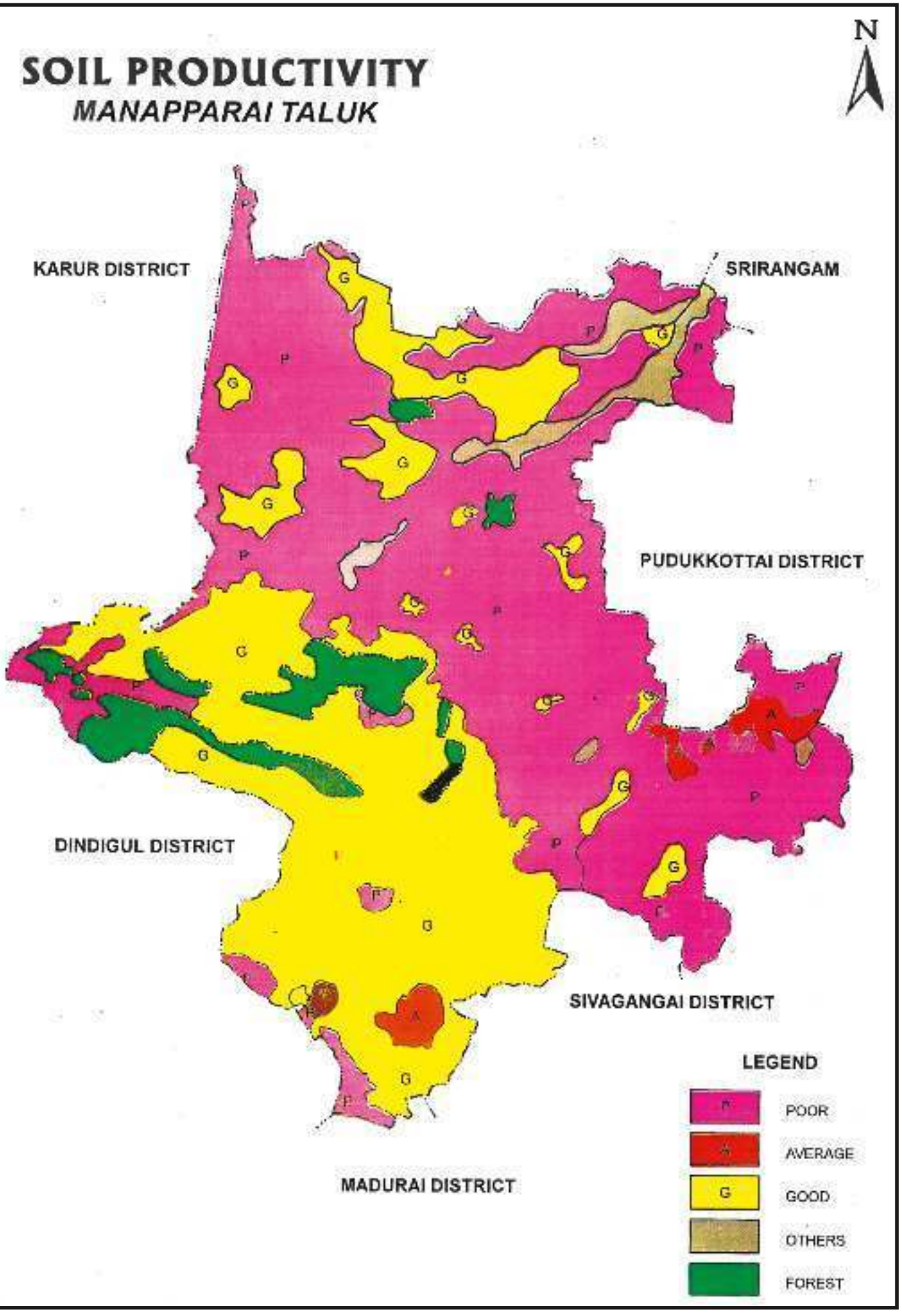
SOIL PRODUCTIVITY

MANAPPARAI TALUK

S.No.	Productivity		Soil series	Extent (ha)	Per cent to total
	Rating	Groupings			
1.	8 - 19	Poor (P)	Irugur Vayalogam Irugur + Palathurai and Irugur + Palaviduthi	46,866	47.32
2.	20 - 34	Average (A)	Palathurai and Pattukkottai	3,165	3.21
3.	35 - 64	Good (G)	Palaviduthi Madukkur and Pilamedu	38,538	38.91
	—	—	Miscellaneous Land Type	2,151	2.17
			Reserve Forest	8,312	8.39
			Total	**99,032**	**100.00**

SOIL PRODUCTIVITY

MANAPPARAI TALUK

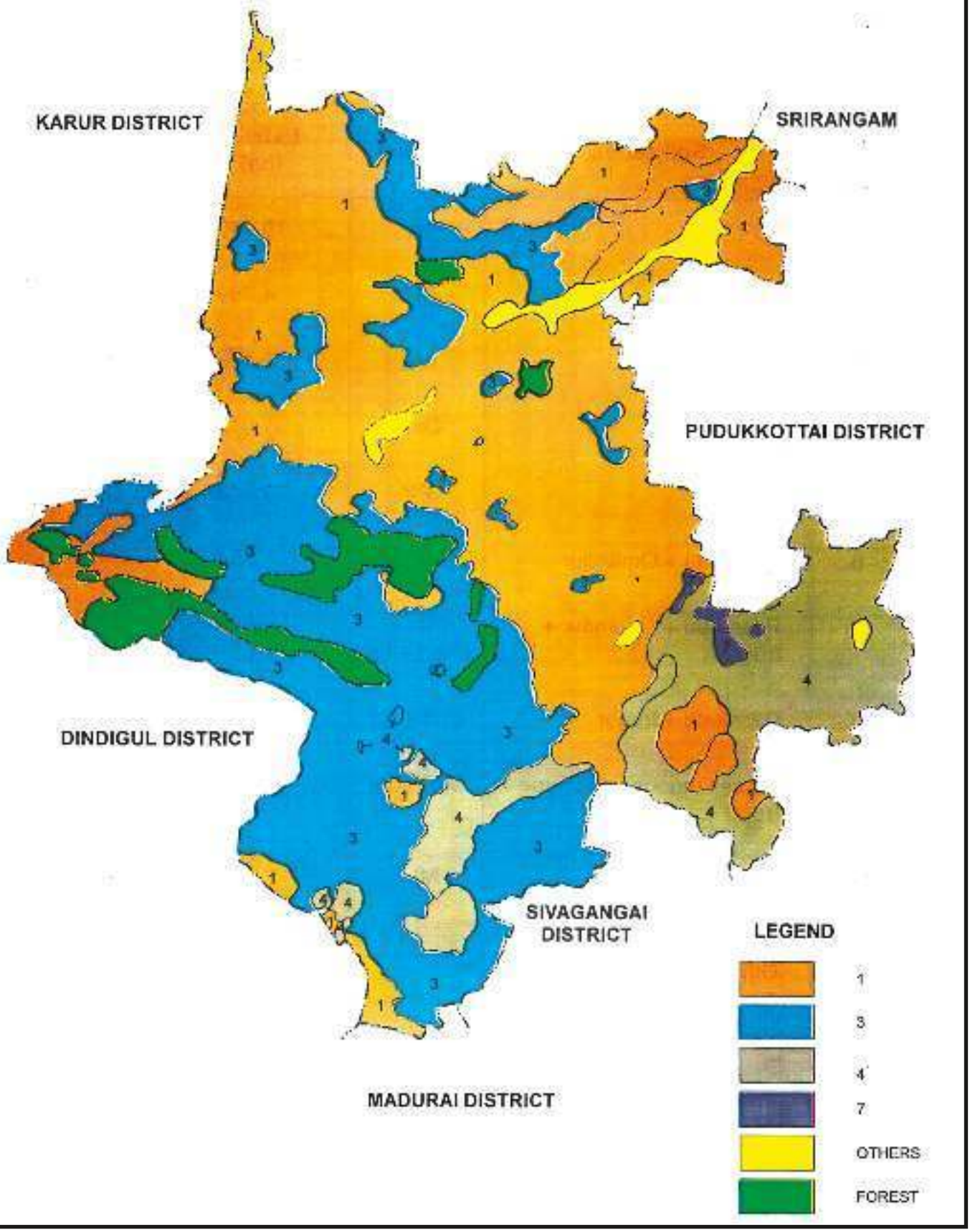


CROPS GROWN

MANAPPARAI TALUK

S.No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Rice, Sugarcane and Banana	Millets, Groundnut and Pulses	1	Irugur, Irugur + Palathurai and Irugur + Palaviduthi
2.	Sugarcane, Tapioca, Onion Groundnut and Rice	Chillies, Millets, Cotton, Groundnut, Gingelly, Coriander and Redgram	3	Pilamedu and Palaviduthi
3.	Rice, Millets Redgram and Chillies	Groundnut, Millets, Gingelly and Redgram	4	Madukkur, Pattukkottai and Vayalogam
4.	Rice, Millets Redgram and Chillies	Cumbu, Gingelly and Castor	7	Palathurai

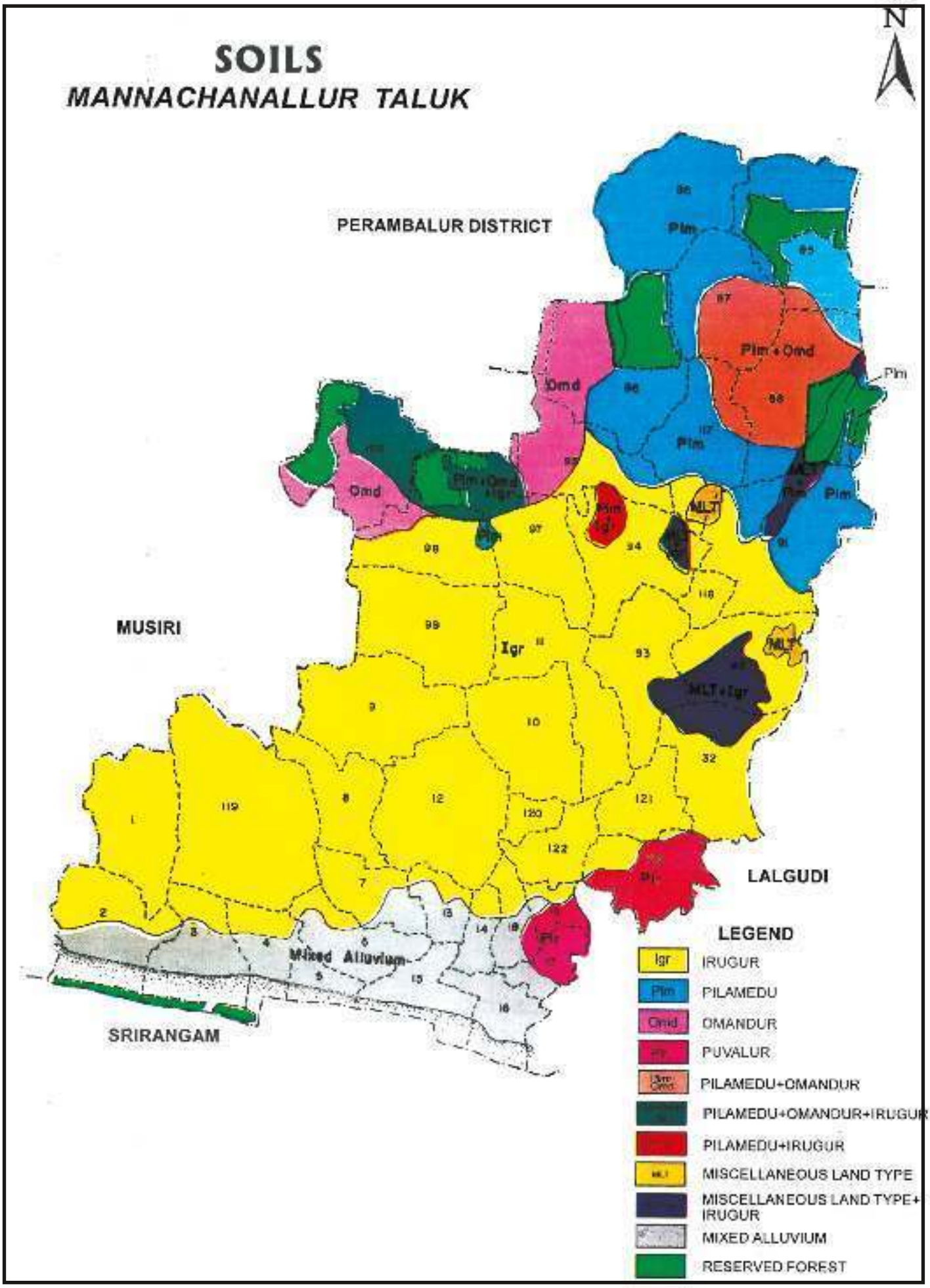
CROPS GROWN
MANAPPARAI TALUK



DISTRIBUTION OF SOIL SERIES

MANNACHANALLUR TALUK

S.No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Irugur	Igr	19,440	52.33
2.	Pilamedu	Plm	4,789	12.89
3.	Mixed Alluvium	MA	3,129	8.42
4.	Omandur	Omd	1,612	4.34
5.	Puvalur	Plr	1,043	2.81
6.	Pilamedu + Omandur	Plm + Omd	1,754	4.72
7.	Pilamedu + Omandur + Irugur	Plm + Omd + Igr	688	1.86
8.	Pilamedu + Irugur	Plm + Igr	142	0.38
9.	Miscellaneous Land Type + Irugur	MLT + Igr	901	2.42
	Miscellaneous Land Type	MLT	284	0.76
	Others	—	1,812	4.88
	Reserve Forest	RF	1,555	4.19
		Total	**37,149**	**100.00**


SOILS
MANNACHANALLUR TALUK
N
PERAMBALUR DISTRICT
MUSIRI
LALGUDI
SRIRANGAM
Mixed Alluvium
Pim
Omd
Pim+Omd
Igr
MLT
MLT+Igr
LEGEND
IRUGUR
PILAMEDU
OMANDUR
PUVALUR
PILAMEDU+OMANDUR
PILAMEDU+OMANDUR+IRUGUR
PILAMEDU+IRUGUR
MISCELLANEOUS LAND TYPE
MISCELLANEOUS LAND TYPE+ IRUGUR
MIXED ALLUVIUM
RESERVED FOREST

VILLAGE WISE DISTRIBUTION OF SOIL SERIES AND FERTILITY INDICES

MANNACHANALLUR TALUK

Sl. No.	Revenue village	Village No.	Distribution of Soil series in Percentage	Fertility Indices (kg/ac)		
				Nitrogen	Phosphorus	Potassium
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Alagiyamanavalam	7	Igr 70, MA 30	80	32	320
2.	Ayikudi	93	Igr 90, MLT-Igr 10	80	5	182
3.	Ayyampalaiyam	10	Igr 100	52	—	252
4.	C.Kannanur East	29/2	Plr 75, Igr 25	—	—	—
5.	C.Kannanur West	29/1	Plr 75, Igr 25	—	—	—
6.	Ethumalai	96	Plm 60, Omd 40	66	14	221
7.	Irungalur	32	Igr 70, Plm-Igr 25, Pvr 5	69	21	225
8.	Kariyamanickam	94	Igr 70, Plm-Igr 20, MLT-Igr 10	57	—	195
9.	Kariyamanickam East	2/2	Igr 50, MA 50	57	—	195
10.	Kariyamanickam West	2/1	Igr 50, MA 50	57	—	195
11.	Kiliyanallur North	3/1	MA 75, Igr 25	79	41	337
12.	Kiliyanallur South	3/2	MA 75, Igr 25	79	41	337
13.	Konalai	92	Igr 45, MLT-Igr 40, MLT 15	52	47	58
14.	Koothur	17	Plr 60, MA 40	48	43	325
15.	Kovaththakudi	6	MA 75, Igr 25	63	6	89
16.	Madhavaperumal koil	15	MA 100	48	59	350
17.	Mannachanallur	14	MA 65, Igr 35	—	—	—
18.	Melaseethevi mangalam	18	MA 35, Igr 35, Plr 30	—	—	—
19.	Melpathu	4	MA 75, Igr 25	49	64	350
20.	Omandur	100	Omd 55, Plm-Omd-Igr 45	—	—	—

(1)	(2)	(3)	(4)	(5)	(6)	(7)
21.	Palaiyur	95	Omd 50, Igr 30, Plm 20	119	51	246
22.	Perakambi	86	Plm 100	59	—	275
23.	Pichandar koil	16	MA 100	—	—	—
24.	Poonampalaiyam	12	Igr 100	80	20	164
25.	Rasampalaiyam	120	Igr 100	—	—	—
26.	Samayapuram	121	Igr 100	73	25	145
27.	Sanamangalam	88	Plm 45, Igr 35, MLT-Plm 15, MLT 5	51	43	222
28.	Seethevimangalam North	85/1	Plm 90, Plm-Omd 10	65	—	107
29.	Seethevimangalam South	85/2	Plm 90, Plm-Omd 10	65	—	107
30.	Sirukanur	91	Plm 45, Igr 35, MLT-Plm 15, MLT 15	81	30	369
31.	Sirukudi	98	Igr 60, Plm-Omd-Igr 20, Omd 15, Plm 5	50	—	95
32.	Sirupathur	99	Igr 100	49	45	38
33.	Solanganallur	1	Igr 100	—	—	—
34.	Theerampalayam	8	Igr 100	74	24	342
35.	Thirupattur	117	Plm 60, Plm-Omd 20, Igr 15, MLT 5	80	—	399
36.	Thiruppancheeli North	119/1	Igr 100	50	—	220
37.	Thiruppancheeli South	119/2	Igr 100	50	—	220
38.	Thiruvasi	5	MA 100	52	12	165
39.	Thiruvellarai	9	Igr 100	78	25	311
40.	Thaththamangalam	11	Igr 100	—	—	—
41.	Ulunthangudi	13	MA 65, Igr 35	—	—	—
42.	Vaalaiyur	87	Plm-Omd 55	—	—	—
43.	Valaiyur	97	Plm 45	67	39	386
44.	Vengangudi	19	Igr 100	—	—	—

LAND CAPABILITY CLASSIFICATION

MANNACHANALLUR TALUK

S.No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitation	Needs
1.	II s - Lands that have moderate limitations for sustained use under agriculture	Mixed Alluvium	3,129	8.42	Light texture	Soil conservation
2.	II es- Lands that have moderate limitations for sustained use under agriculture	Omandur	1,612	4.34	Erosion texture and alkalinity	Soil conservation drainage improvement and addition of organic amendments
3.	III s - Lands that have severe limitations for sustained use under agriculture	Puvalur	1,043	2.81	Alkalinity	Soil conservation cultivation of suitable crops and soil reclamation
4.	III es - Lands that have severe limitations for sustained use under agriculture	Irugur, Pilamedu, Pilamedu + Omandur Pilamedu + Irugur and Pilamedu + Omandur + Irugur	26,813	72.18	Erosion and depth	Soil conservation and cultivation of suitable crops
		Miscellaneous Land Type + Irugur	901	2.42	—	—
		Miscellaneous Land Type	284	0.76	—	—
		Others	1,812	4.88	—	—
		Forest	1,555	4.19	—	—
		Total	**37,149**	100.00		

Class

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

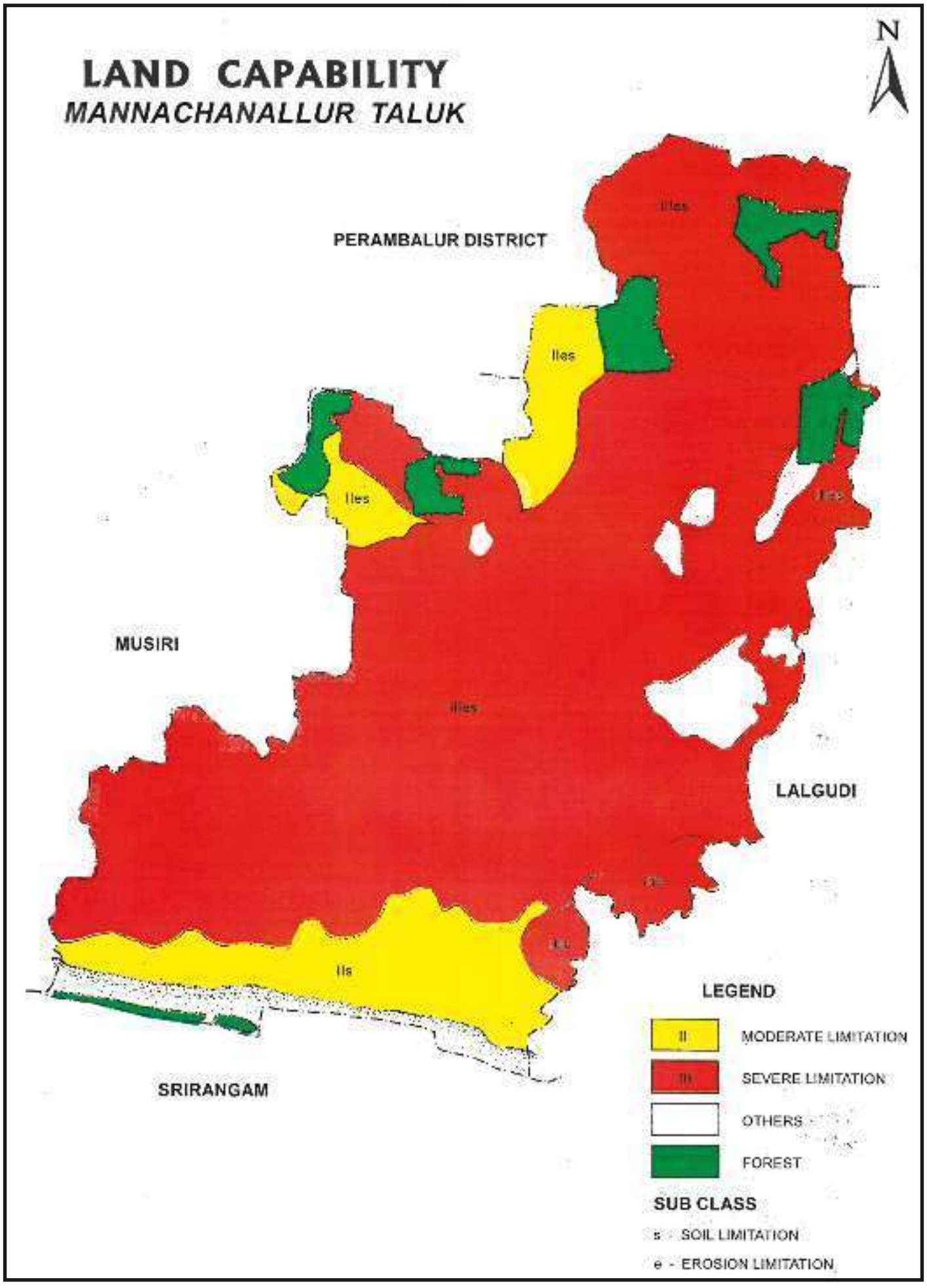
III *Lands that have severe limitations for sustained use under agriculture*

Sub class

e *Erosion and run off*

s *Soil limitation*

w *Wetness*


LAND CAPABILITY
MANNACHANALLUR TALUK
N
PERAMBALUR DISTRICT
MUSIRI
LALGUDI
SRIRANGAM
IIes
IIes
IIes
IIes
IIes
IIs
LEGEND
II
MODERATE LIMITATION
III
SEVERE LIMITATION
OTHERS
FOREST
SUB CLASS
s - SOIL LIMITATION
e - EROSION LIMITATION

LAND IRRIGABILITY CLASSIFICATION

MANNACHANALLUR TALUK

S. No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations
1.	2 d - Lands that have moderate limitations for sustained use under irrigation	Mixed Alluvium	3,129	8.42	Light texture
2.	2 st - Lands that have moderate limitations for sustained use under irrigation	Omandur	1,612	4.34	Poor depth, light texture and topography
3.	3 sd - Lands that have severe limitations for sustained use under irrigation	Pilamedu Puvalur Pilamedu + Omandur Pilamedu + Irugur and Pilamedu + Omandur + Irugur	8,416	22.65	Alkalinity, heavy texture and poor drainage
4.	3 st - Lands that have severe limitations for sustained use under irrigation	Irugur	19,440	52.33	Poor depth and topography
		Miscellaneous Land Type + Irugur	901	2.43	
		Miscellaneous Land Type	284	0.76	
		Others	1,812	4.88	
		Forest	1,555	4.19	
		Total	**37,149**	**100.00**	

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

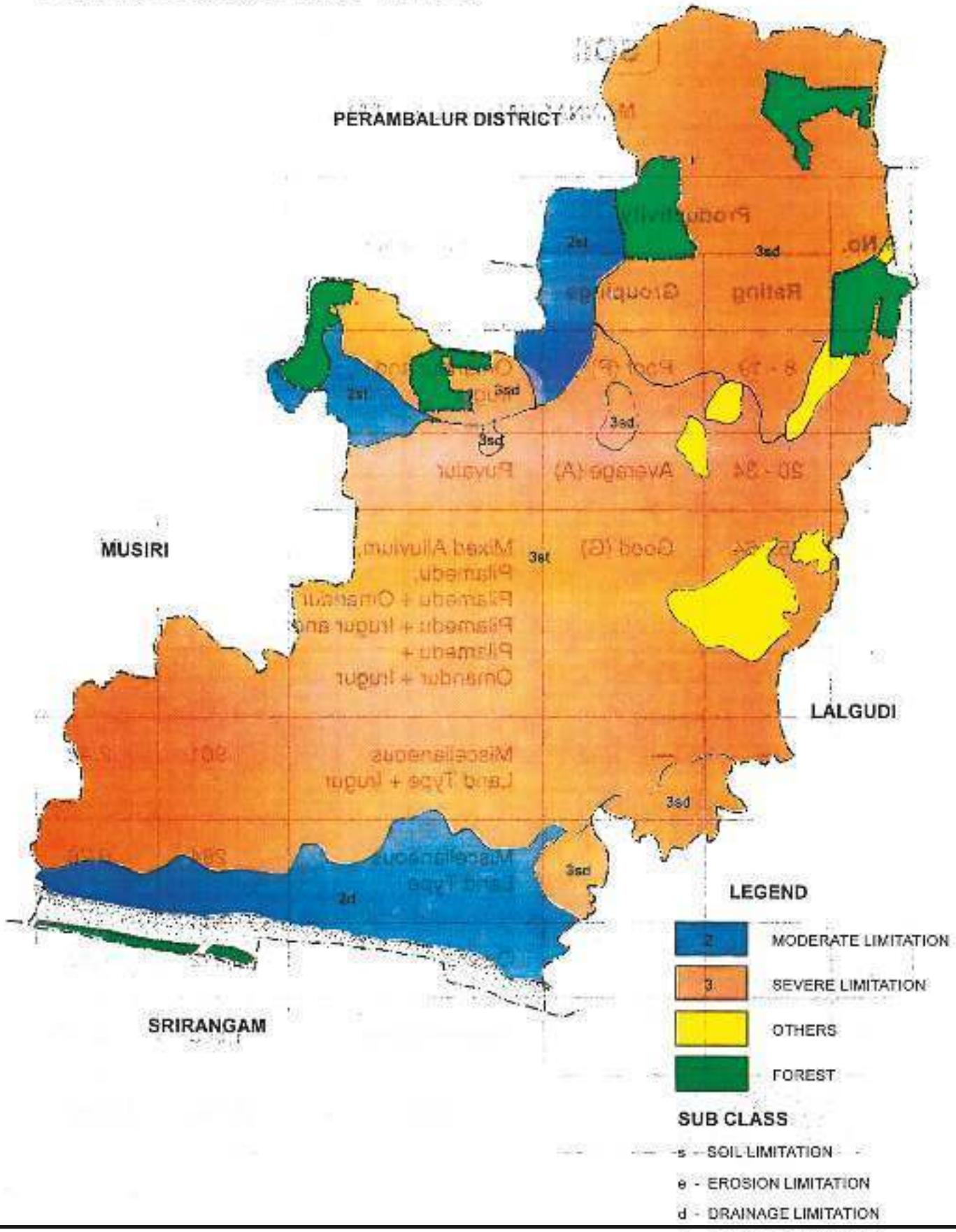
Sub class

s *Soil problem*

t *Topography*

d *Drainage*

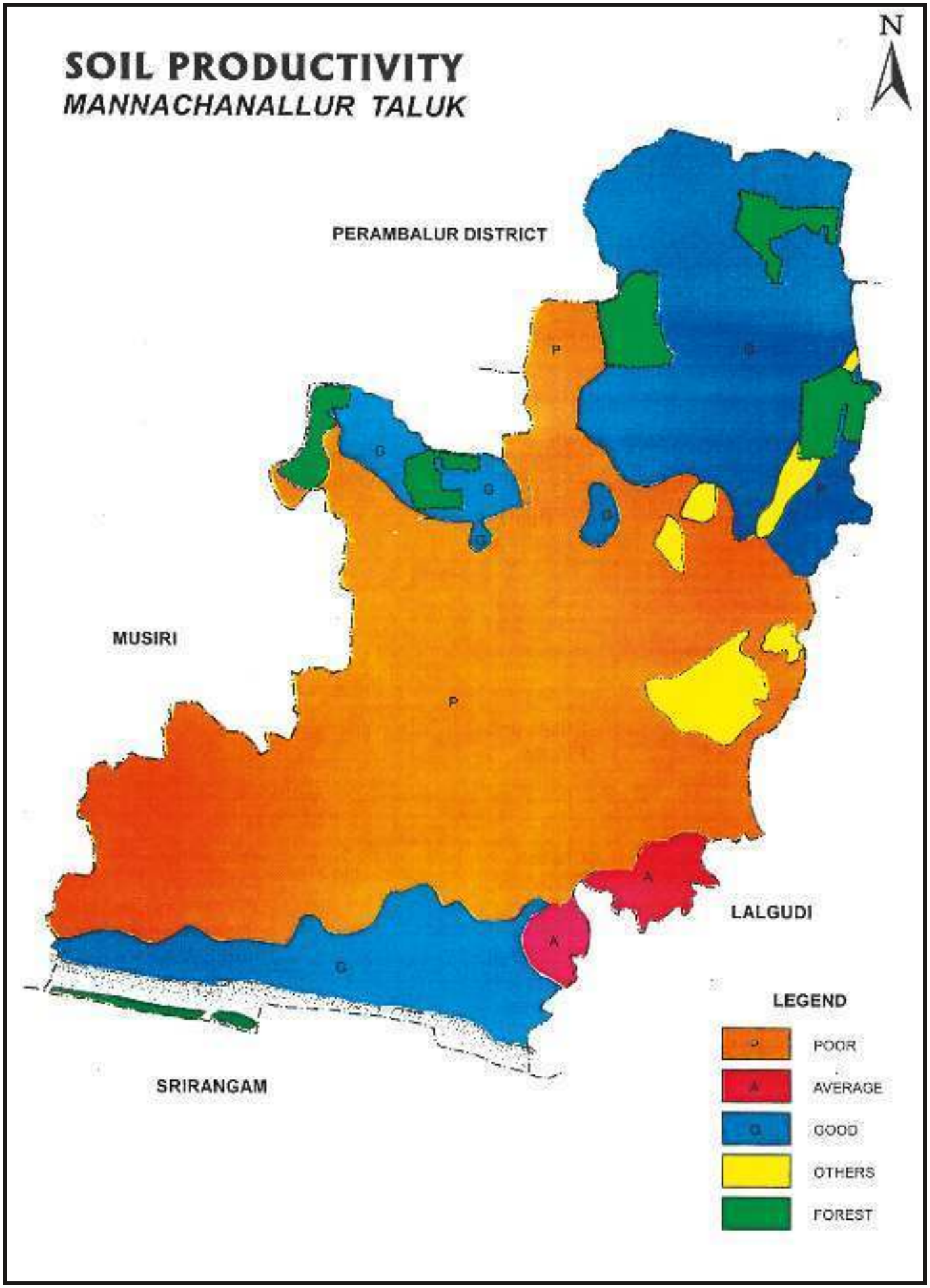
LAND IRRIGABILITY
MANNACHANALLUR TALUK



SOIL PRODUCTIVITY

MANNACHANALLUR TALUK

S.No.	Productivity		Soil series	Extent (ha)	Per cent to total
	Rating	Groupings			
1.	8 - 19	Poor (P)	Omandur and Irugur	21,052	56.67
2.	20 - 34	Average (A)	Puvalur	1,043	2.81
3.	35 - 64	Good (G)	Mixed Alluvium, Pilamedu, Pilamedu + Omandur Pilamedu + Irugur and Pilamedu + Omandur + Irugur	10,502	28.27
	—	—	Miscellaneous Land Type + Irugur	901	2.42
			Miscellaneous Land Type	284	0.76
			Others	1,812	4.88
			Reserve Forest	1,555	4.19
			Total	**37,149**	**100.00**

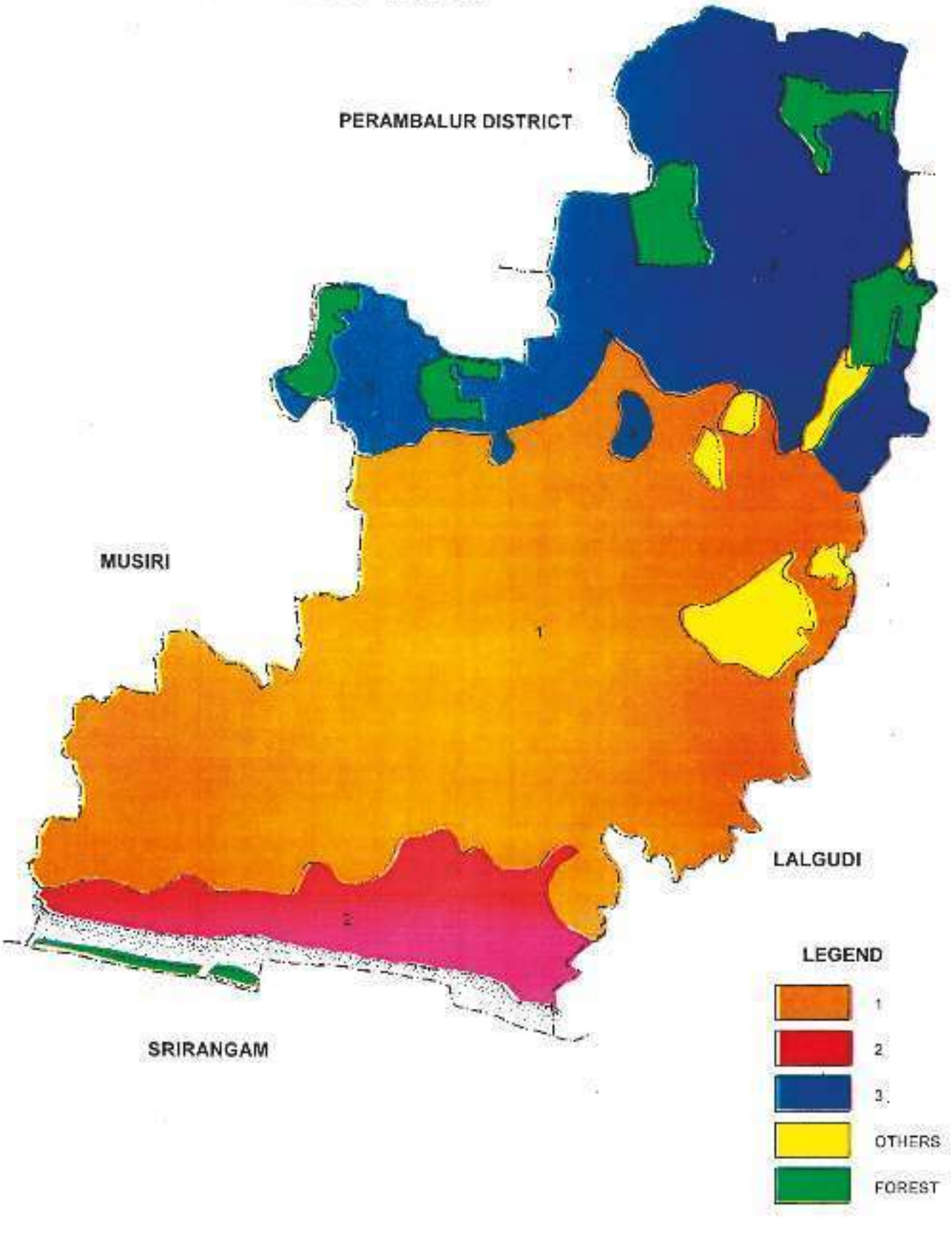

SOIL PRODUCTIVITY
MANNACHANALLUR TALUK
N
PERAMBALUR DISTRICT
MUSIRI
LALGUDI
SRIRANGAM
P
G
A
LEGEND
POOR
AVERAGE
GOOD
OTHERS
FOREST

CROPS GROWN

MANNACHANALUR TALUK

S.No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Banana, Rice and Sugarcane	Groundnut, Millets and Pulses	1	Irugur and Puvalur
2.	Flowers, Rice and Vegetables	Millets and Pulses	2	Mixed Alluvium
3.	Groundnut, Onion Rice Sugarcane and Tapioca	Chillies, Coriander, Cotton, Gingelly, Groundnut, Millets and Redgram	3	Pilamedu, Omandur, Pilamedu + Omandur Pilamedu + Omandur + Irugur and Pilamedu + Irugur

CROPS GROWN
MANNACHANALLUR TALUK

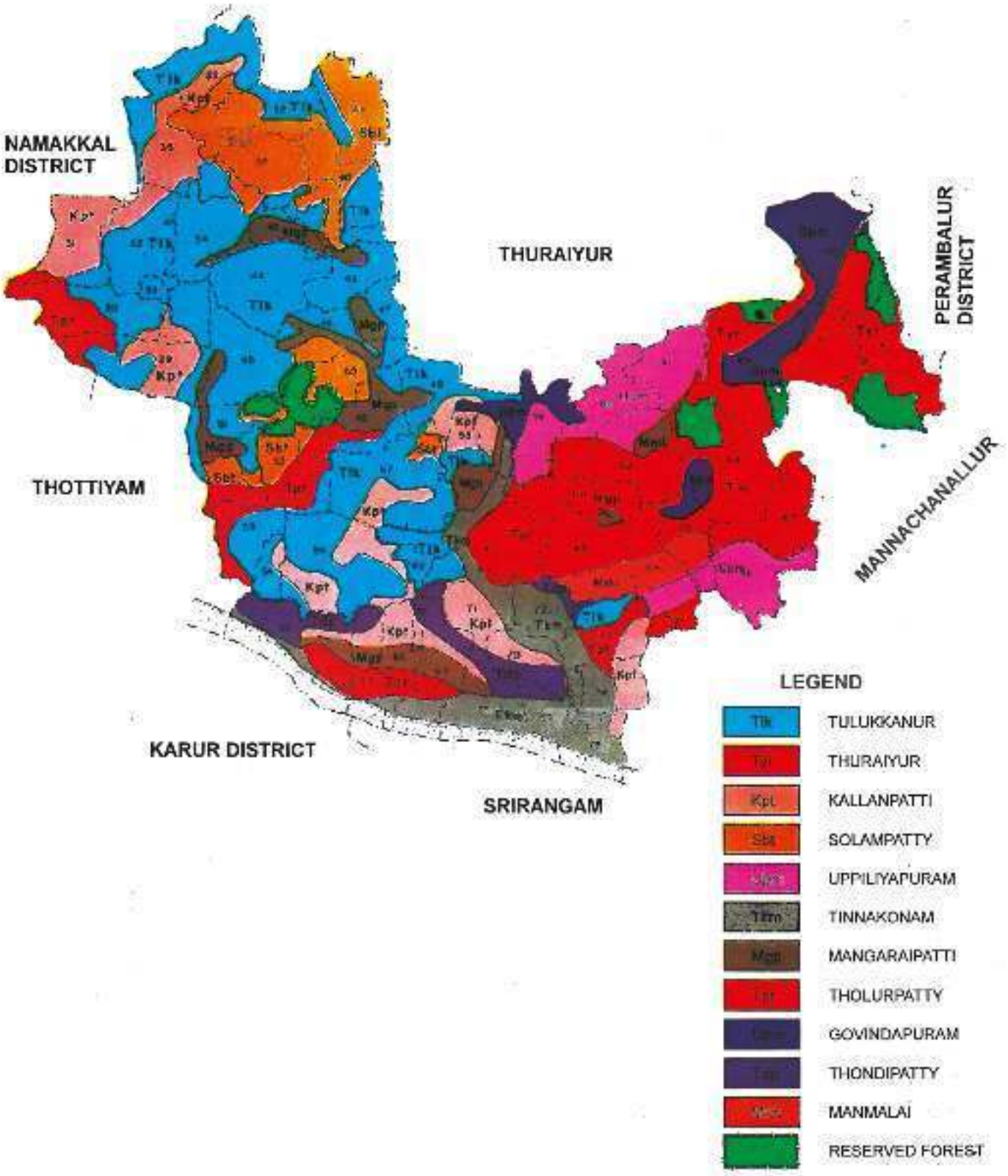


DISTRIBUTION OF SOIL SERIES

MUSIRI TALUK

S.No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Tulukkanur	Tlk	18,461	27.85
2.	Thuraiyur	Tyr	10,347	15.61
3.	Kallanpatti	Kpt	8,071	12.18
4.	Solampatti	Sbt	4,937	7.45
5.	Uppiliyapuram	Upm	3,778	5.70
6.	Thinnakonam	Tkm	3,735	5.63
7.	Mangaraipatti	Mgp	3,477	5.25
8.	Thotupatti	Tpt	3,306	4.99
9	Govindapuram	Gpm	3,220	4.86
10.	Thondipatti	Tdp	1,889	2.85
11.	Manmalai	Mmi	1,202	1.81
	Others	---	2,203	3.32
	Reserve Forest	RF	1,660	2.50
		Total	66,286	100.00

SOILS
MUSIRI TALUK



VILLAGE WISE DISTRIBUTION OF SOIL SERIES AND FERTILITY INDICES

MUSIRI TALUK

Sl. No.	Revenue village	Village No.	Distribution of Soil series .in Percentage	Fertility Indices (kg/ac)		
				Nitrogen	Phosphorus	Potassium
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Abinimangalam	71	Kpt 70, Tkm 30	75	—	370
2.	Amur	69	Tkm80, Tdp 20	81	—	312
3.	Anjalam	30	Tpt 55, Tlk 40, Kpt 5	80	7	110
4.	Aaraichi	43	Tlk 80, Mgp 20	66	—	162
5.	Ayyampalaiyam	67	Mgp30, Tdp 25, Kpt 10, Tpt 15, Tkm 20	48	25	250
6.	Evur	68	Tkm 60, Tdp 20, Mgp 15, Kpt 5	85	34	298
7.	Gunaseelam	75	Tkm85, Kpt 15	48	20	220
8.	Jambumadai	32	Tlk 75, Kpt 25	80	55	438
9.	Jeyankondan	59	Kpt 60, Mgp 15, Tkm 20	75	—	348
10.	Kamatchipatti	62	Tlk 95, Tdp 5	—	—	—
11.	Kannappanpatti	33	Tlk 100	—	—	—
12.	Karattampatti	61	Kpt 70, Tlk 20, Tkm 10	—	—	—
13.	Karikali	39	Sbt 80, Tlk 20	88	7	232
14.	Karukudi	37	Sbt 85, Tlk 15	105	34	195

(1)	(2)	(3)	(4)	(5)	(6)	(7)
15.	Kattukulam	66	—	—	—	—
16.	Koduthurai	70	Tdp 40, Kpt 30, Tkm 30	104	18	239
17.	Komangalam	73	Tpt 30, Tlk 25, Kpt 20, Tkm 20	—	—	—
18.	Kottathur	70	—	—	—	—
19.	M.Puduppatti Keelpart	56/2	Kpt 50, Mgp 25, Tkm 20	50	54	316
20.	M.Puduppatti Melapart	56/1	Kpt 50, Mgp 25, Tkm 20	50	54	316
21.	Mahadevi	35	Kpt 50, Tlk 25, Sbt 25	47	—	307
22.	Manparai	62	Tyr 55, Vpm 30, Mmi 15	49	10	307
23.	Mangalam	49	Mgp 50, Tlk 30, Tbt 15, Sbt 5	73	58	440
24.	Mavilaipatti	50	Tlk 55, Sbt 30, Mgp 15	—	—	—
25.	Mooveli	63	Tdp 45, Kbt 45, Mgp 10	82	—	208
26.	Moovanur	65	Tyr 40, Mmi 30, Gpm 15, Upm 15	—	—	—
27.	Moruppatti	38	Sbt 55, Tlk 45	—	—	—
28.	Musiri Keelpart	55/2	Tkm 40, Tdp 30, Tpt 15, Mgp 10 Kpt 5	—	—	—
29.	Musiri Melpart	55/1	Tkm 40, Tdp 30, Tpt 15, Mgp 10, Kpt 5	—	—	—
30.	Muthampatti	54	Tlk 70, Kpt 30	93	—	260

(1)	(2)	(3)	(4)	(5)	(6)	(7)
31.	Neiveli	72	Tkm 80, Tdp 10, Kpt 10	—	—	—
32.	Paithamparai	46	Tlk 80, Mgp 20	78	—	127
33.	Peramangalam	67	Tyr 100	—	—	—
34.	Perur	58	Mgp 60, Kpt 15, Tkm 15, Tlk 10	—	—	—
35.	Pillapalayam	36	Tlk 60, Kpt 30, Sbt 10	82	—	69
36.	Pillathurai	41	Sbt 60, Tlk 35, Tkm-Mgp 5	—	—	—
37.	Poolancheri	29	Kpt 40, Tlk 25, Tpt 20	—	—	—
38.	Pulivalam	68	Tyr 90, Gpm 10	73	38	325
39.	Puthanampatti	72	Tyr 100	—	—	—
40.	Seventhilingapuram	64	Tpt 35, Tkm 20, Mgp 15, Kpt 15, Tdp 15	87	—	232
41.	Sergudi	45	Tlk 50, Tpt 30, Sbt 20	68	—	310
42.	Sithambur	74	Tkm 50, Kpt 40, Tpt 10	—	—	—
43.	Sitalavai	53	Tlk 50, Tpt 30, Sbt 20	—	—	—
44.	Soorampatti	51	Tlk 60, Mgp 25, Sbt 15	50	43	286
45.	Sukkampatti	60	Kpt 85, Mgp 10, Tkm 5	—	—	—
46.	T.Pudupatti	60	Upm 70, Tyr 25, MLT-I 5	65	40	475

(1)	(2)	(3)	(4)	(5)	(6)	(7)
47.	Thandalaipathur	61	Kpt 70, Tlk 20, Tkm 10	—	—	—
48.	Thathaiyengarpettai	42	Mgp 75, Tlk 25	—	—	—
49.	Thevanur	44	Tlk 95, Mgp 5	—	—	—
50.	Thinnakonam	71	Kpt 70, Tkm 30	—	—	—
51.	Thinnanur	69	Tyr 70, Gpm 30	—	—	—
52.	Thiruthalaiyur	59	Upm 55, Gpm 45	—	—	—
53.	Thiruthiyamalai	63	Tyr 60, Mmi 40	—	—	—
54.	Thulayanatham	48	Tlk 60, Kpt 20, Mgp 15, Sbt 5	48	59	269
55.	Thumbalam	52	Tpt 40, Sbt 35, Tlk 20, Mgp 5	126	28	140
56.	Oorakkarai	34	Tlk 60, Kpt 20, Sbt 15, Mgp 5	—	—	—
57.	Vadamalaippatti	40	Spt 60, Tlk 40	—	—	—
58.	Valaiyeduppu	47	Tlk 55, Mgp 45	—	—	—
59.	Valavanthi Keelapart	52/2	Tlk 70, Kpt 20, Sbt 10	51	60	366
60.	Valavanthi Melapart	52/1	Tlk 70, Kpt 20, Sbt 10	51	60	366
61.	Valasirmani	31	Kpt 70, Tlk 15, Tpt 15	48	52	305
62.	Vellur	65	Kpt 30, Mgp 20, Tpt 20, Tkm 20, Tdp 10	49	21	250
63.	Vengaimandalam	64	Kpt 30, Mgp 20, Tpt 20, Tkm 20, Tdp 10	—	—	—
64.	Umaiyalpuram	65	Tpt 70, Tkm 30	48	19	300

LAND CAPABILITY CLASSIFICATION

MUSIRI TALUK

S.No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitation	Needs
1.	II e - Lands that have moderate limitations for sustained use under agriculture	Tholurpatti Thondipatti and Uppiliyapuram	8,973	13.54	Erosion and depth	Soil conservation
2.	II s- Lands that have moderate limitations for sustained use under agriculture	Manmalai and Solampatti	6,139	9.26	Alkalintiy and Erosion	Soil reclamation and drainage improvement
3.	II es -Lands that have moderate limitations for sustained use under agriculture	Thinnakonam	3,735	5.63	Erosion and alkalinity	Soil reclamation and drainage improvement
4.	III s - Lands that have severe limitations for sustained use under agriculture	Thuraiyur Kallanpatti Govindapuram and Mangaraipatti	25,115	37.89	Alkalinity and slow permeability	Soil conservation drainage imporvement and cultivation of suitable crops
5.	III es - Lands that have severe limitations for sustained use under agriculture	Tulukkanur	18,461	27.86	Erosion and poor depth	Soil conservation and cultivation of suitable crops
		Others	2,203	3.32		
		Reserve Forest	1,660	2.50		
		Total	66,286	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*

Sub class

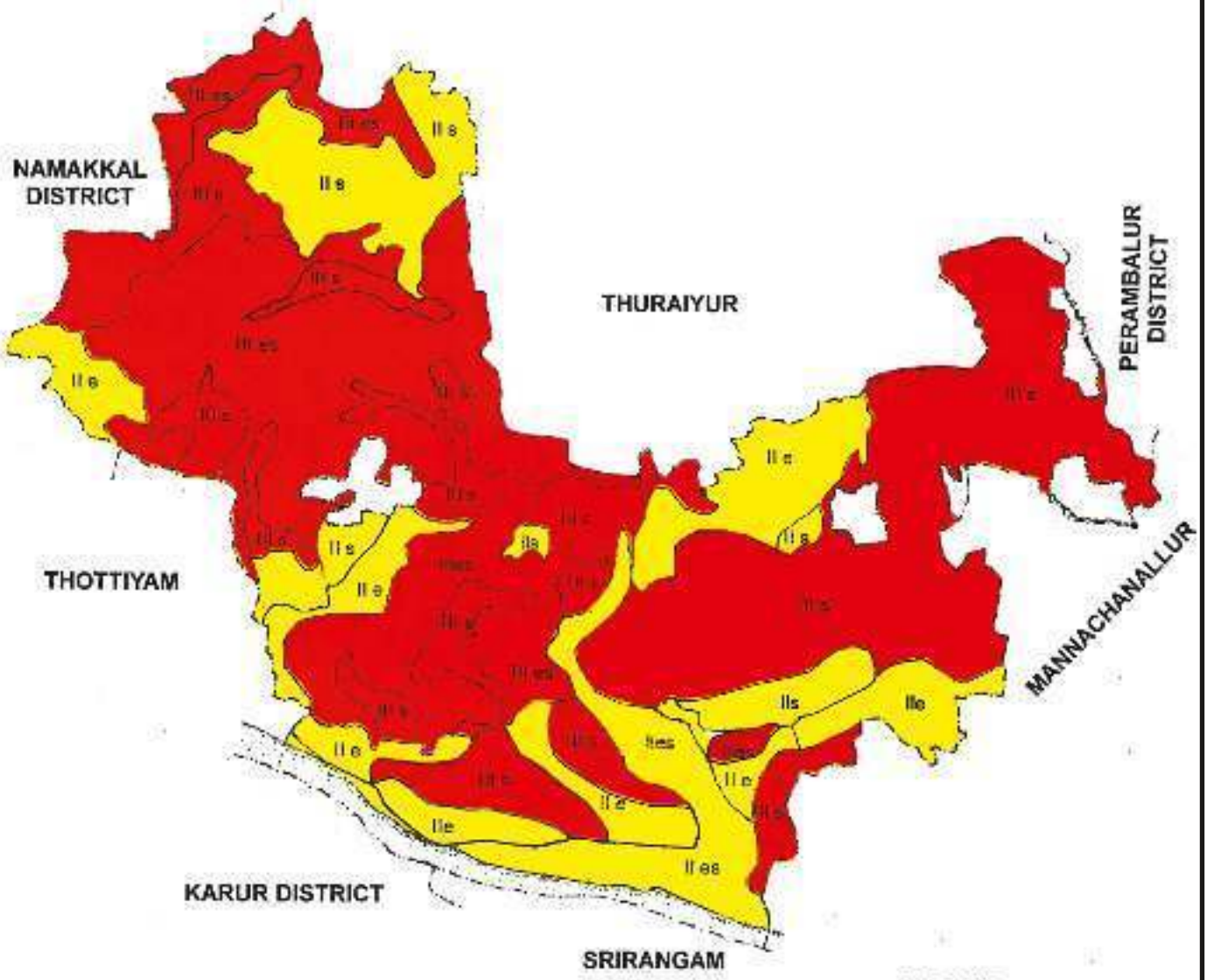
e *Erosion and run off*

s *Soil limitation*

w *Wetness*

LAND CAPABILITY

MUSIRI TALUK



LAND IRRIGABILITY CLASSIFICATION

MUSIRI TALUK

S. No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations
1.	2 d - Lands that have moderate limitations for sustained use under irrigation	Solampatti	4,937	7.45	Heavy texture alkalinity and drainage
2.	2 s - Lands that have moderate limitations for sustained use under irrigation	Manmalai	1,202	1.81	Light texture and poor depth
3.	2 sd - Lands that have moderate limitations for sustained use under irrigation	Thinnakonam	3,735	5.63	Heavy texture and poor drainage
4.	2 st - Lands that have moderate limitations for sustained use under irrigation	Tholurpatti and Thondipatti	5,195	7.84	Topography and poor depth
5.	3 s Lands that have severe limitations for sustained use under irrigation	Uppiliyapuram	3,778	5.70	Poor depth light texture and Topography
6.	3 sd Lands that have severe limitations for sustained use under irrigation	Kallanpatti	8,071	12.18	Drainage and alkalinity
7.	3 st Lands that have severe limitations for sustained use under irrigation	Govindapuram Mangaraipatti and Thuraiyur	17,044	25.72	Alkalinity and poor drainage
8.		Tulukkanur	18,461	27.85	Poor depth and Topography
		Others	2,203	3.32	
		Reserve Forest	1,660	2.50	
		Total	**66,286**	**100.00**	

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

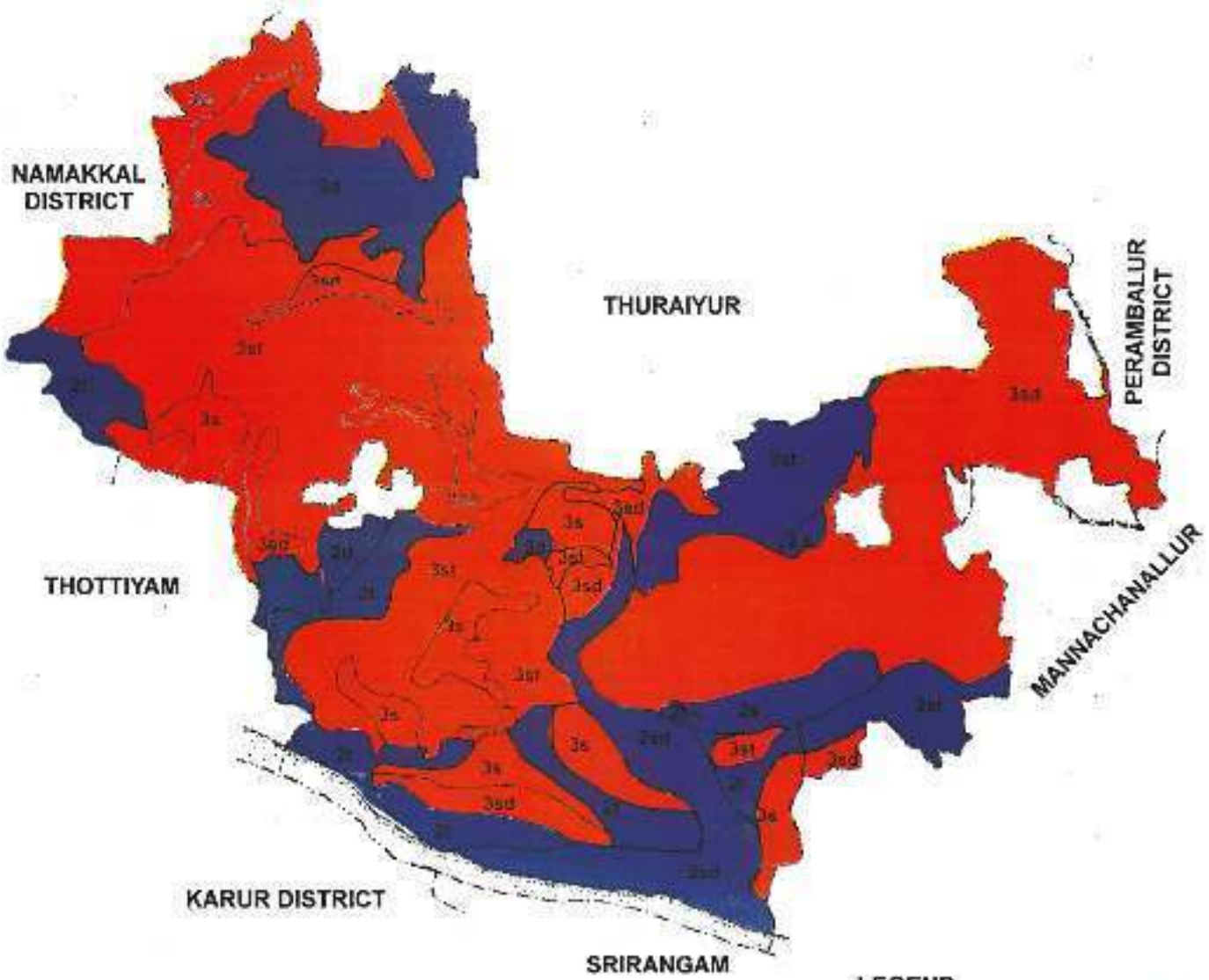
s *Soil problem*

t *Topography*

d *Drainage*

LAND IRRIGABILITY

MUSIRI TALUK



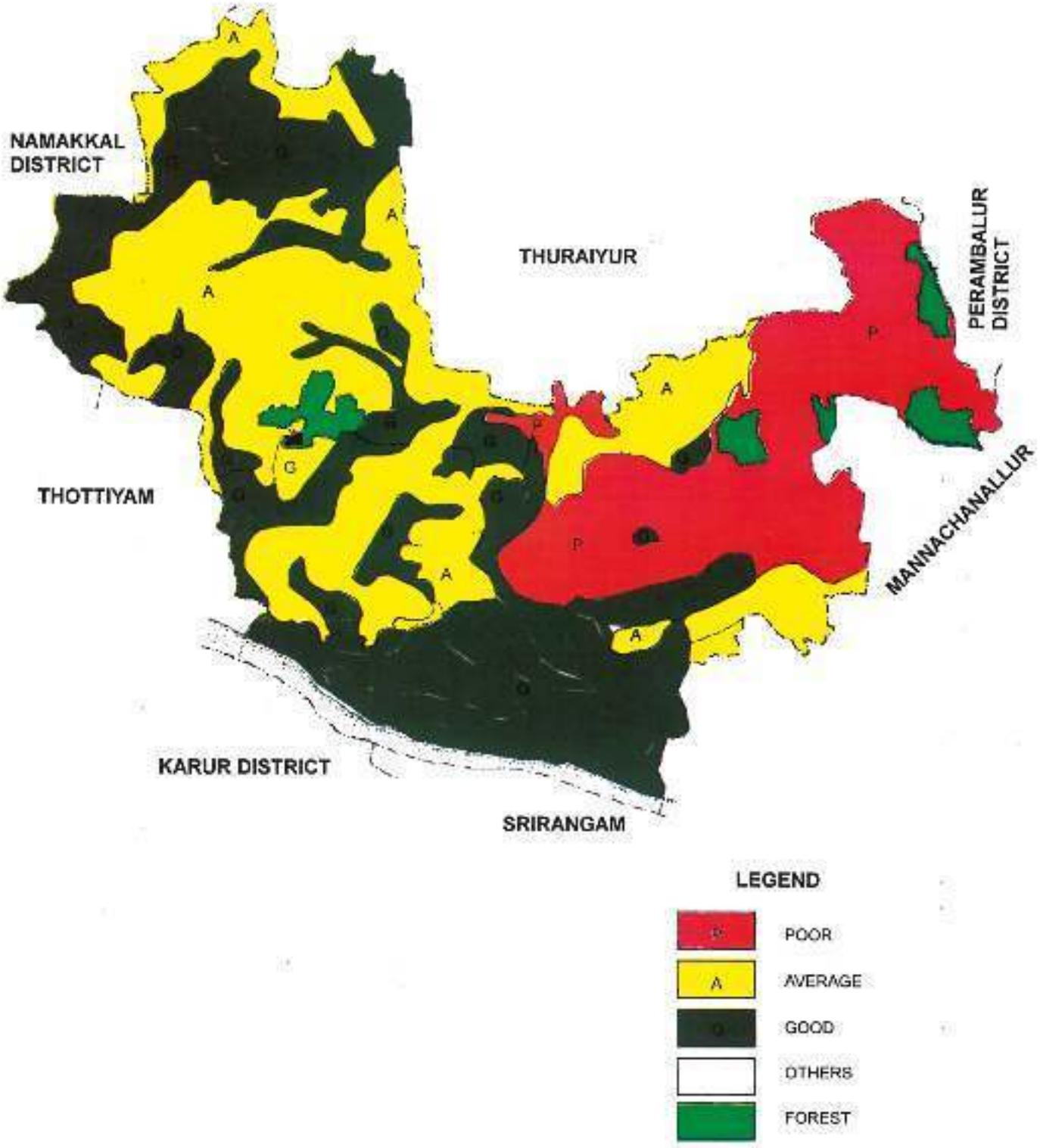
SOIL PRODUCTIVITY

MUSIRI TALUK

S.No.	Productivity		Soil series	Extent (ha)	Per cent to total
	Rating	Groupings			
1.	8 - 19	Poor (P)	Govindapuram Tholurpatti and Thuraiyur	16,873	25.46
2.	20 - 34	Average (A)	Tulukkanur and Uppiliyapuram	22,239	33.55
3.	35 - 64	Good (G)	Kallanpatti Mangaraipatti Manmalai Thondipatti Thinnakonam and Solampatti	23,311	35.17
			Others	2,203	3.32
			Reserve Forest	1,660	2.50
			Total	**66,286**	**100.00**

SOIL PRODUCTIVITY

MUSIRI TALUK

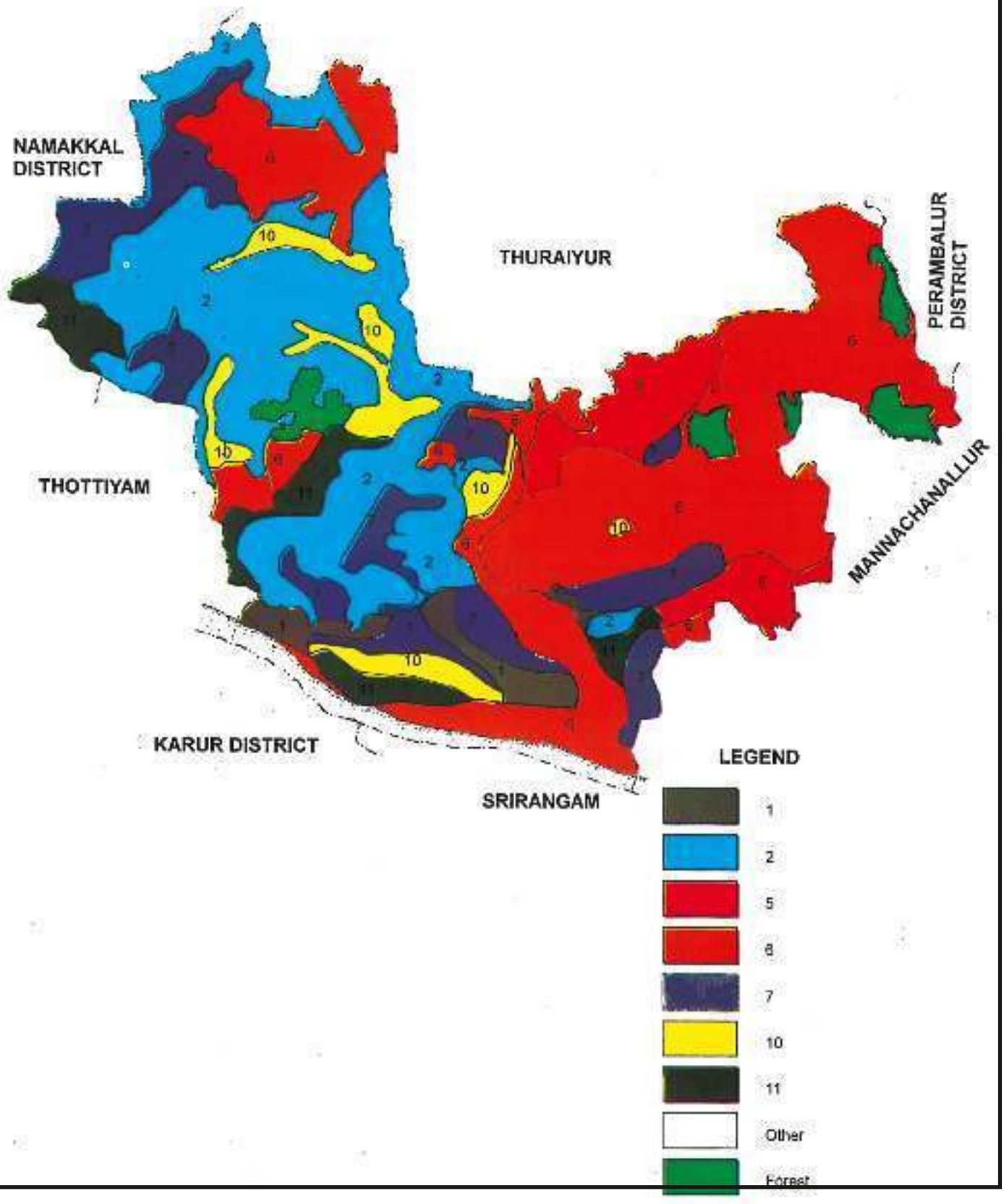


CROPS GROWN

MUSIRI TALUK

S.No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Banana, Rice and Sugarcane	Groundnut, Millets and Pulses	1	Thondipatti
2.	Flowers, Rice and Vegetables	Millets and Pulses	2	Tulukkanur
3.	Chillies and Rice	Chillies, Groundnut, Millets and Rice	5	Uppiliyapuram
4.	Banana, Chillies, Cotton, Groundnut, Onion, Rice and Sugarcane	Castor, Chillies, Groundnut, Millets, Redgram and Sunflower	6	Govindapuram Thuraiyur Thinnakonam and Solampatti
5.	Chillies, Millets, Redgram and Rice	Castor, Cumbu and Gingelly	7	Kallanpatti and Manmalai
6.	Chillies, Rice and Vegetables	—	10	Mangaraipatti
7.	Banana, Betelvine, Rice and Sugarcane	Bhendi and Gingelly	11	Tholurpatti

CROPS GROWN
MUSIRI TALUK

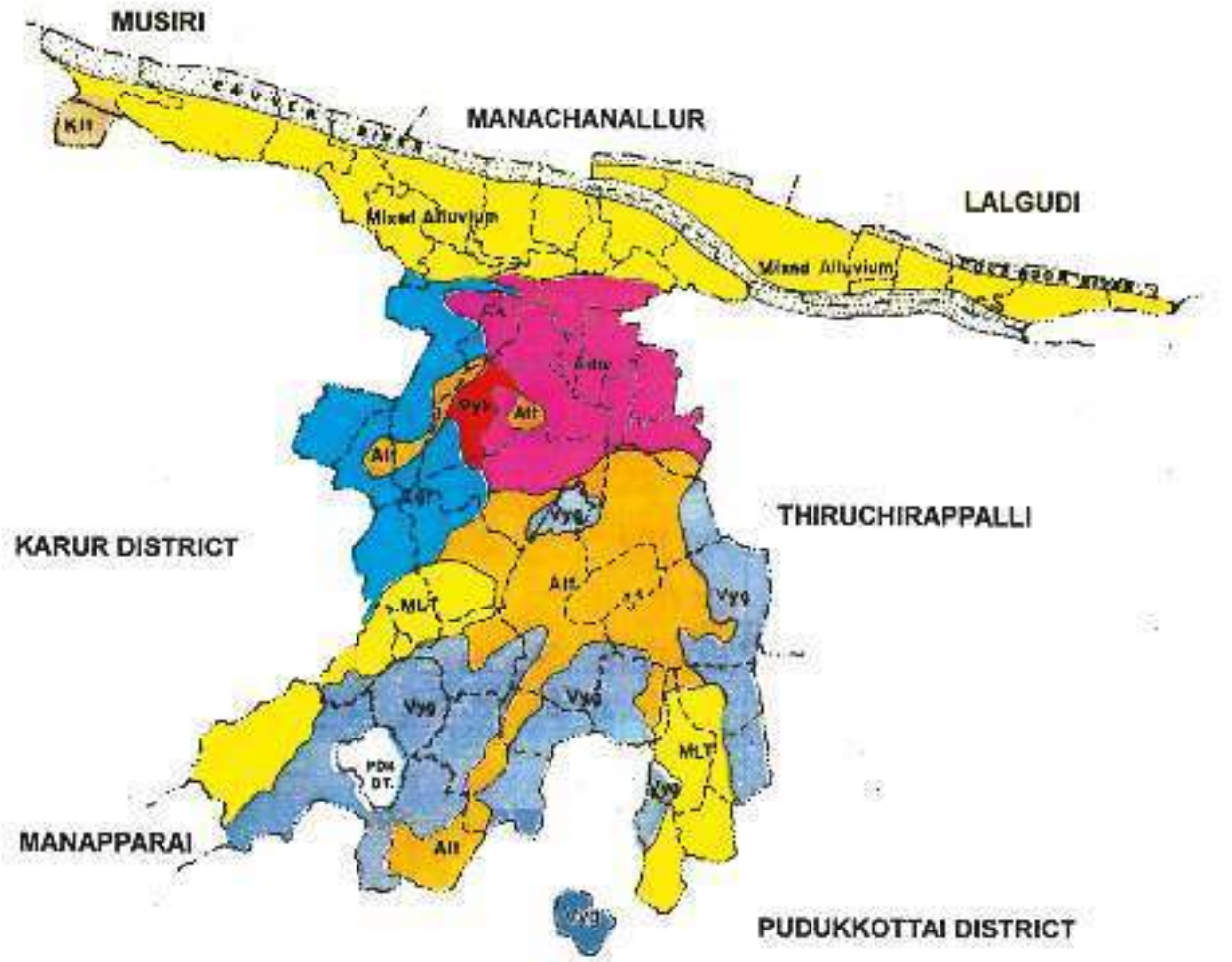


DISTRIBUTION OF SOIL SERIES

SRIRANGAM TALUK

S.No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Mixed Alluvium	MA	8,255	23.04
2.	Vayalogam	Vyg	7,438	20.77
3.	Alathur	Alt	5,976	16.69
4.	Adhanur	Adn	3,612	10.09
5.	Irugur	Igr	3,053	8.52
6.	Periyanayakkanpalayam	Pyk	387	1.08
7.	Kalathur	Klt	215	0.60
	Miscellaneous Land Type	MLT	3,612	10.07
	Others	—	3,222	8.99
	Reserve Forest	RF	45	0.13
		Total	**35,815**	**100.00**

SOILS
SRIRANGAM TALUK



VILLAGE WISE DISTRIBUTION OF SOIL SERIES AND FERTILITY INDICES

SRIRANGAM TALUK

Sl. No.	Revenue village	Village No.	Distribution of Soil series in Percentage	Fertility Indices (kg/ac)		
				Nitrogen	Phosphorus	Potassium
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Adavatthur East	26/2	Adn 30, Pyk 30, Alt 20, Igr 20	108	71	341
2.	Adavatthur West	26/1	Adn 30, Pyk 30, Alt 20, Igr 20	—	—	—
3.	Allur	12	MA 100	—	—	—
4.	Azhundur	29	Vyg 80, Alt 20	52	9	220
5.	Ammapettai	93	MLT 85, Vyg 15	82	10	207
6.	Andanallur	14	MA 100	49	16	205
7.	Ariyavur	90	Igr 75	—	—	—
8.	K.Satthanur North	31/1	Vyg 60, Alt 40	49	32	260
9.	K.Satthanur South	31/2	Vyg 60, Alt 40	49	32	260
10.	Kallikudi North	28/1	Alt 65, Vyg 35	88	17	100
11.	Kallikkudi South	28/2	Alt 65, Vyg 35	88	17	100
12.	Kambarasampettai	9	MA 100	115	12	85
13.	Kadiyakurichi	13/1	MA 100	—	—	—
14.	Kilikoodu	1	MA 100	60	14	133
15.	Kodiyalam	18	MA 95, Igr 5	—	—	—
16.	Kolathur	70	—	47	6	95
17.	Kondayanpettai	5	MA 100	62	10	145
18.	Koppu North	25	Igr 100	119	82	289
19.	Koppu South	25A	Igr 60, Alt 40	114	81	282
20.	Kottappattu	75	MLT 95, Vyg 5	—	—	—
21.	Kumaravayalur	23	Adn 100	—	—	—
22.	Kuzhumani	19	MA 55, Adn 35, Igr 10	48	22	185
23.	Malliampathu	36	Adn 100	61	12	496
24.	Maurthandakurichi	21	Adn 75, MA 25	81	15	260

(1)	(2)	(3)	(4)	(5)	(6)	(7)
25.	Mathur	69	Vyg 85, MLT 15	51	20	115
26.	Mekkudi	13	MA 100	70	12	113
27.	Mekkudi	72	Vyg 60, Alt 20, MLT 10	96	9	215
28.	Melur	8	MA 100	—	—	—
29.	Mudikandam	73	MLT 65, Vyg 20, Alt 15	55	28	405
30.	Mutharasanallur	10	MA 100	50	26	192
31.	Nachikurichi	33	Adn 60, Vyg 20, Alt 20	52	36	8
32.	Naavalurkottappattu	91	Alt 35, MLT 35, Igr 30	—	—	—
33.	Olaiyur	30/1	Vyg 70, MLT 30	—	—	—
34.	Paganur	92	Vyg 60, Alt 30, MLT 10	54	11	175
35.	Panaiyapuram	3	MA 100	59	25	144
36.	Pazhur	11	MA 100	116	25	168
37.	Periyakaruppur	13/2	MA 100	48	83	122
38.	Perur	20	MA 50, Adn 40, Igr 10	81	8	228
39.	Perugamani	16	MA 100	—	—	—
40.	Pettavaithalai	81	Klt 50, MA 50	76	22	201
41.	Pirattiyur East	32/2	Alt 60, Vyg 40	—	—	—
42.	Pirattiyur West	32/1	Alt 60, Vyg 40	—	—	—
43.	Pothavur	89	Igr 85, Alt 15	—	—	—
44.	Puliyur	89/1	Igr 100	68	14	223
45.	Sirugamani East	17/2	MA 100	119	41	228
46.	Sirugamani West	17/1	MA 100	119	41	228
47.	Somarasampettai	22	Adn 100	109	26	276
48.	Thayanur	27	Adn 50, Alt 25, Igr 25	49	33	111
49.	Thimma rayasamudram	7	MA 100	62	10	154
50.	Thiruchendurai	13/3	MA 100	117	62	252
51.	Thirupparaitthurai	15	MA 100	78	8	114
52.	Thiruvalarcholai	4	MA 100	48	28	142
53.	Thorakkudi	74/1	MLT 70, Vyg 30	—	—	—
54.	Uthamacheri	2	MA 100	53	15	146
55.	Uellithirumutham	6	MA 100	—	—	—
56.	Uyyakondam thirumalai	35	Adn 100	73	35	413

LAND CAPABILITY CLASSIFICATION

SRIRANGAM TALUK

S.No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitation	Needs
1.	II s - Lands that have moderate limitations for sustained use under agriculture	Kalathur	215	0.60	Slow permeability	Textural and drainage improvement
2.	II s- Lands that have moderate limitations for sustained use under agriculture	Mixed Alluvium	8,255	23.05	Light texture	Soil conservation
3.	III s - Lands that have severe limitations for sustained use under agricuiture	Adhanur Alathur Periyanayakkan-palayam and Vayalogam	17,413	48.62	Alkalinity and slow permeability	Soil reclamation and drainage improvement
4.	III es - Lands that have severe limitations for sustained use under agriculture	Irugur	3,053	8.52	Erosion and depth	Drainage, Soil reclamation and selection of suitable crops
5.		Miscellaneous Land Type	3,612	10.09	—	Soil conservation and cultivation of suitable crops
		Others	3,222	8.99	—	
		Reserve Forest	45	0.13	—	
		Total	**35,815**	**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*

Sub class

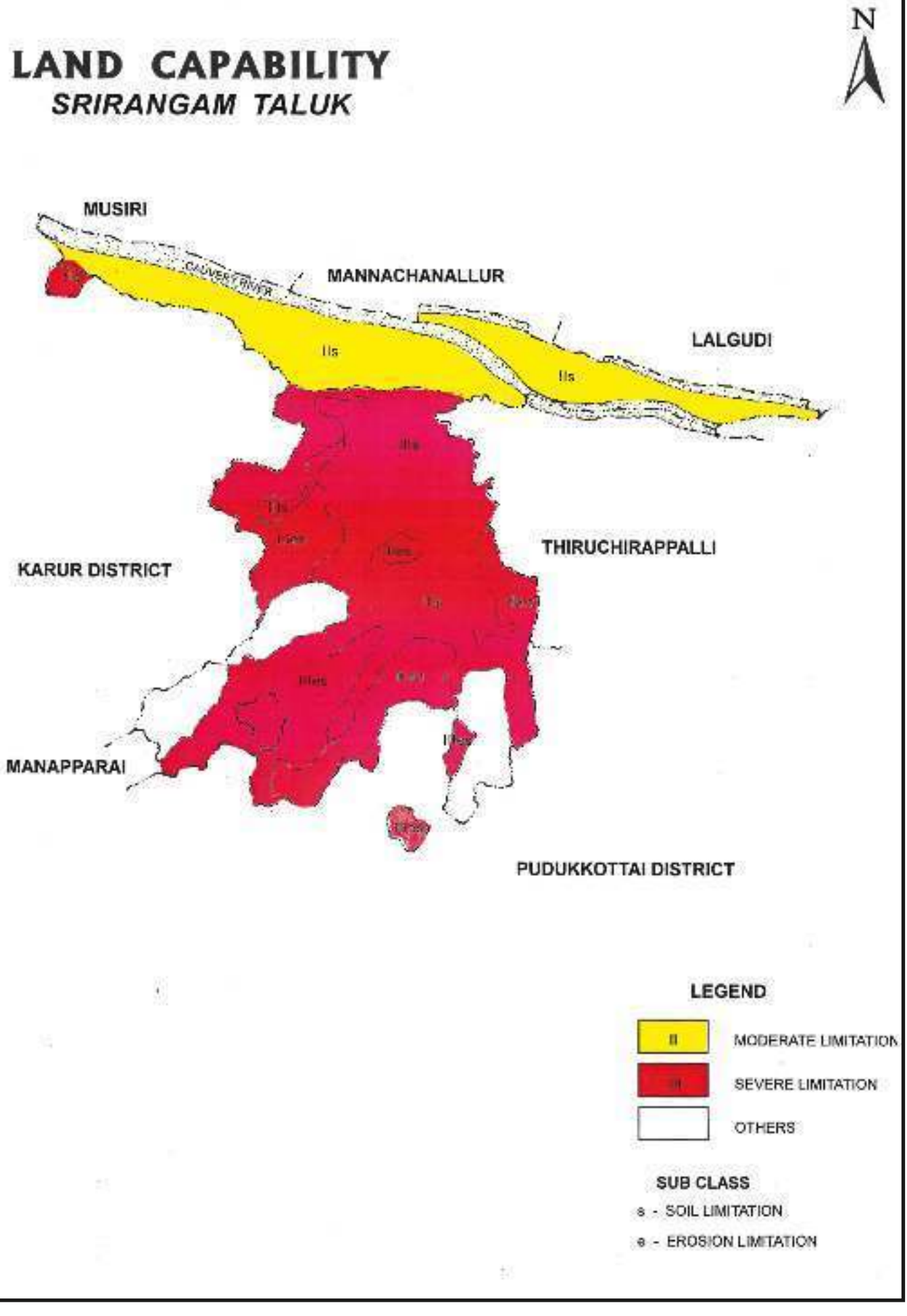
e *Erosion and run off*

s *Soil limitation*

w *Wetness*

LAND CAPABILITY

SRIRANGAM TALUK



LAND IRRIGABILITY CLASSIFICATION

SRIRANGAM TALUK

S. No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations
1.	2 d - Lands that have moderate limitations for sustained use under irrigation	Mixed Alluvium	8,255	23.05	Light texture
2.	2sd Lands that have moderate limitations for sustained use under irrigation	Kalathur	215	0.60	Heavy texture and poor drainage
3.	3 s - Lands that have severe limitations for sustained use under irrigation	Periyanayakkanpalayam	387	1.08	Poor drainage and alkalinity
4.	3 sd - Lands that have severe limitations for sustained use under irrigation	Adhanur and Alathur	9,588	26.77	Heavy texture, alkalinity and poor drainage
5.	3 st - Lands that have severe limitations for sustained use under irrigation	Irugur and Vayalogam	10,491	29.29	Poor depth and Topography
		Miscellaneous Land Type	3,612	10.09	
		Others	3,222	8.99	
		Reserve Forest	45	0.13	
		Total	**35,815**	**100.00**	

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

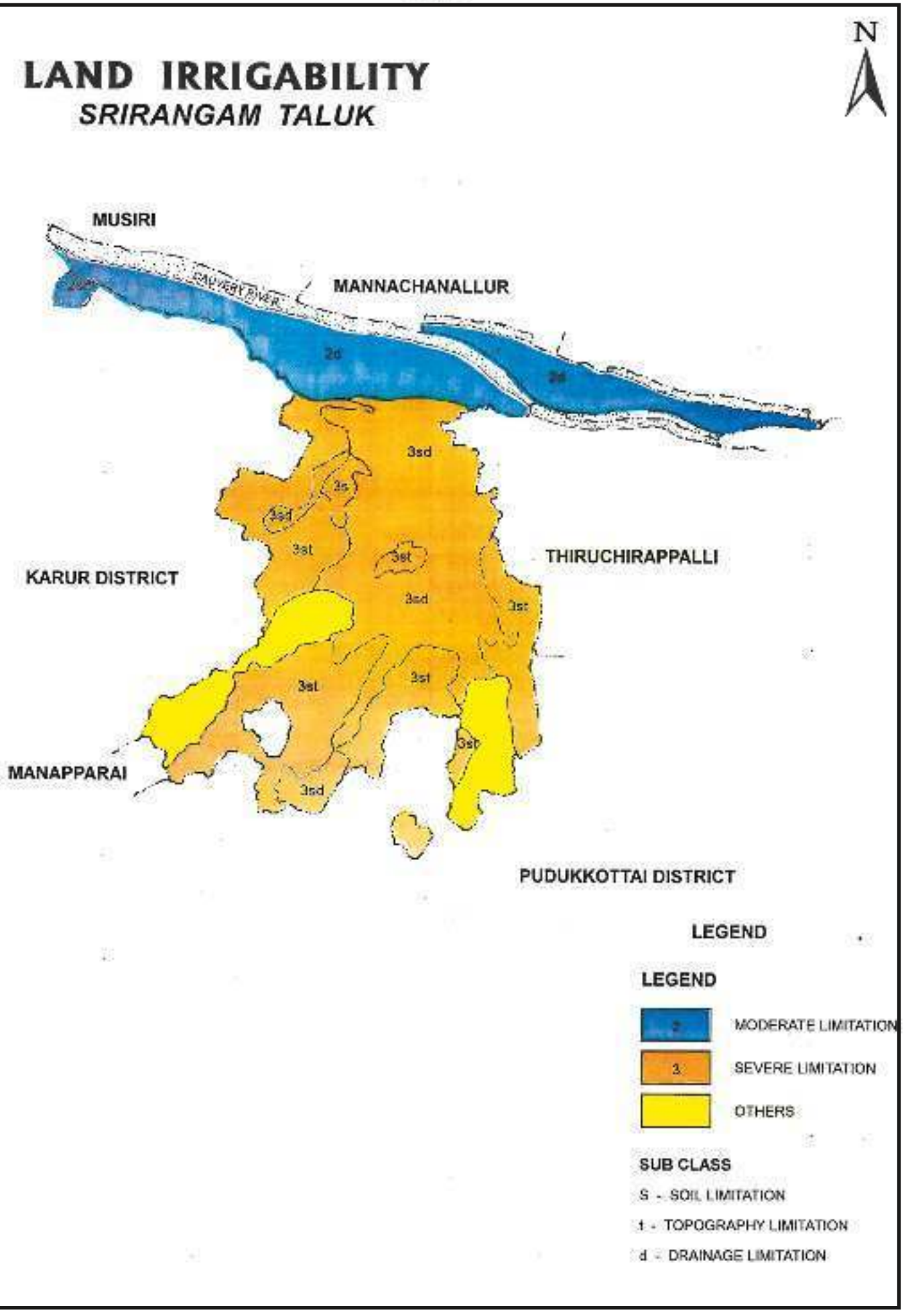
s *Soil problem*

t *Topography*

d *Drainage*

LAND IRRIGABILITY

SRIRANGAM TALUK



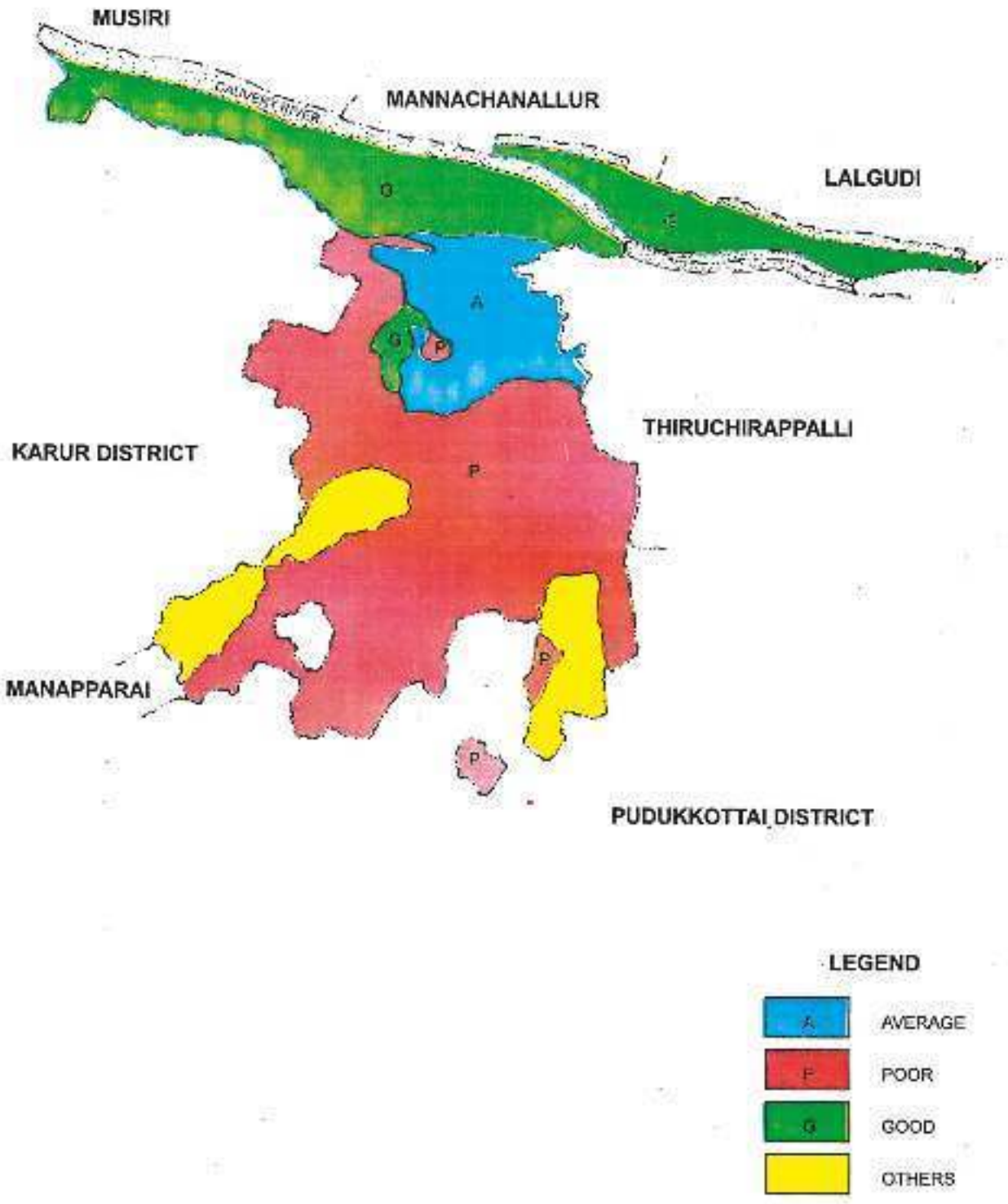
SOIL PRODUCTIVITY

SRIRANGAM TALUK

S.No.	Productivity		Soil series	Extent (ha)	Per cent to total
	Rating	Groupings			
1.	8 - 19	Poor (P)	Vayalogam Alathur and Irugur	16,467	45.97
2.	20 - 34	Average (A)	Adhanur	3,612	10.09
3.	35 - 64	Good (G)	Kalathur Periyanayakkanpalayam and Mixed Alluvium	8,857	24.73
			Miscellaneous Land Type	3,612	10.09
			Others	3,222	8.99
			Reserve Forest	45	0.13
			Total	**35,815**	**100.00**

SOIL PRODUCTIVITY

SRIRANGAM TALUK

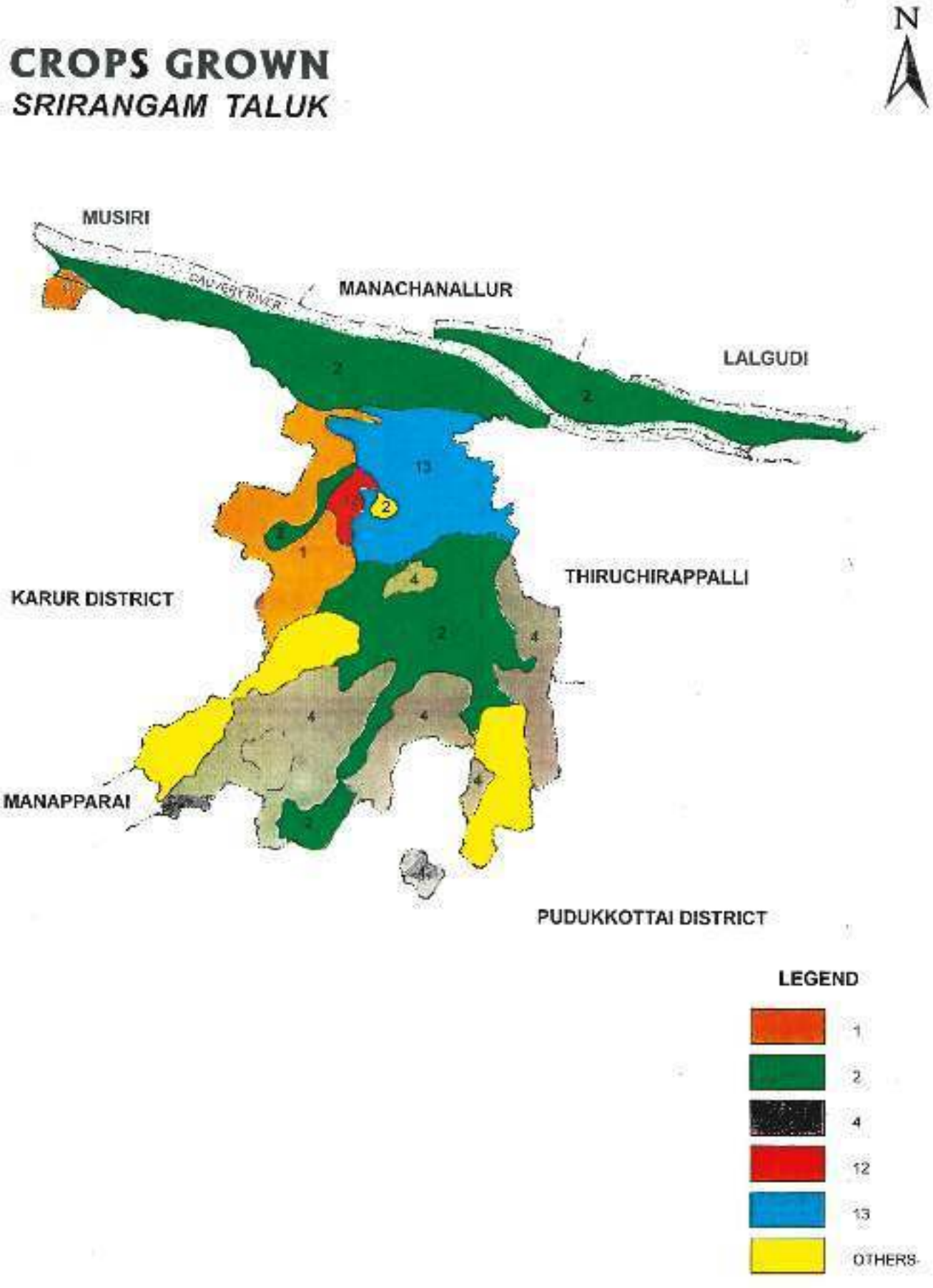


CROPS GROWN

SRIRANGAM TALUK

S.No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Banana, Rice and Sugarcane	Groundnut, Millets and Pulses	1	Irugur and Kalathur
2.	Flowers, Vegetables and Rice	Millets and Pulses	2	Alathur and Mixed Alluvium
3.	Cotton, Groundnut, Millets and Rice	Gingelly, Groundnut, Millets and Redgram	4	Vayalogam
4.	Chillies, Rice and Vegetables	—	12	Periyanayakkanpalayam
5.	Banana, Betelvine, Rice and Sugarcane	Bhendi and Gingelly	13	Adhanur

CROPS GROWN
SRIRANGAM TALUK

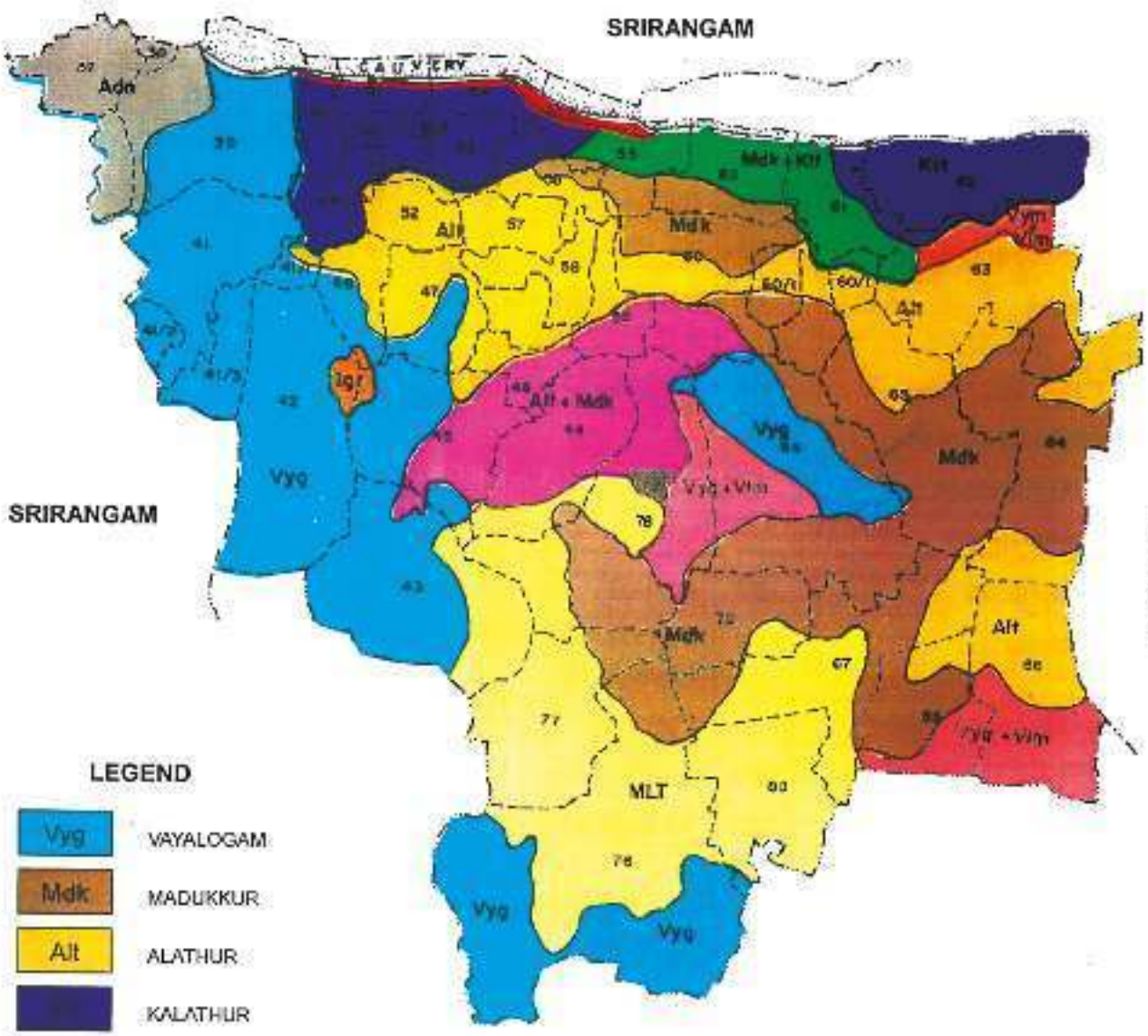


DISTRIBUTION OF SOIL SERIES

THIRUCHIRAPPALLI TALUK

S.No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Vayalogam	Vyg	7,749	22.80
2.	Madukkur	Mdk	6,504	19.14
3.	Alathur	Alt	5,457	16.05
4.	Kalathur	Klt	2,592	7.63
5.	Adhanur	Adn	972	2.86
6.	Mixed Alluvium	MA	573	1.69
7.	Irugur	Igr	125	0.37
8.	Vayalogam + Vallam	Vyg + Vlm	2,114	6.22
9.	Alathur + Madukkur	Alt + Mdk	2,039	6.00
10.	Madukkur + Kalathur	Mdk + Klt	994	2.92
	Miscellaneous Land Type	MLT	4,734	13.93
	Reserve Forest	RF	135	0.39
		Total	**33,988**	**100.00**

SOILS
THIRUCHIRAPPALLI TALUK



LEGEND

Vyg	VAYALOGAM
Mdk	MADUKKUR
Alt	ALATHUR
	KALATHUR
Adn	ADHANUR
Igr	IRUGUR
Vyg+Vlm	VAYALOGAM+VALLAM
Alt+Mdk	ALATHUR+MADUKKUR
Mdk+Klt	MADUKKUR+KALATHUR
MLT	MISCELLANEOUS LAND TYPE
	MIXED ALLUVIAM

VILLAGE WISE DISTRIBUTION OF SOIL SERIES AND FERTILITY INDICES

THIRUCHIRAPPALLI TALUK

Sl. No.	Revenue village	Village No.	Distribution of Soil series in Percentage	Fertility Indices (kg/ac)		
				Nitrogen	Phosphorus	Potassium
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Agaram	58	Vyg-Vlm 55, Alt 45	118	8	380
2.	Alathur	47	Alt 100	—	—	—
3.	Arasangudi	61	Alt 100	82	9	440
4.	Ariyamangalam	52	Klt 100	—	—	—
5.	Asoor	66	Vyg-Vlm 55, Alt 45, 17	17	170	
6.	Chozhamadevi	44	Alt-Mdk 70, MLT 25	55	20	247
7.	Chinnavadavur	40/3	—	—	—	—
8.	Chinthamani	39	Vyg 65, Adn 35	—	—	—
9.	Elanthapatti	80	MLT 95, Vyg 5	135	14	431
10.	Ellayakudi	57	Alt 100	127	—	320
11.	Gundur	43	Vyg 60, MLT 30 Alt-Mdk 10	106	43	230
12.	K.Abishegapuram	41	Vyg 100	—	—	—
13.	Kanthalur	80/1	—	—	—	—
14.	Keezhakal kandarkottai	46	Alt-Mdk 100	62	15	234
15.	Keezhakurichi	45	Vyg 55, Alt-Mdk 35, Igr 5, Alt 5	—	—	—
16.	Keezhamullakkudi	54	Klt 55, MA 45	69	38	130
17.	Kiliyur	52	Klt 100	158	119	322
18.	Koothappar	60	Mdk 70, Alt 30	99	12	323
19.	Kottappattu	42	MLT 95, Vyg 5	92	20	275
20.	Krishna samudram	60/1	Mdk 50, Alt 50	103	14	302
21.	Kumbakudi velayuthangudi	77	MLT 75, Mdk 25	80	240	426
22.	Kuvalakudi	53	Klt 95, Alt 5	118	49	342
23.	Natarajapuram	83	Mdk-Klt 65, Mdk 35	84	11	456

(1)	(2)	(3)	(4)	(5)	(6)	(7)
24.	Natharshapallivasal	40/2	—	—	—	—
25.	Navalpattu	28	Mdk 25, Vyg-Vlm 25, Alt-Mdk 25	—	—	—
26.	Pazhanganangudi	67	MLT 40, Mdk 40, Alt 20	48	5	213
27.	Panaiyakurichi	51	Klt 70, MA 30	116	7	425
28.	Pandamangalam	37	Adn 90, MA 10	58	19	442
29.	Pappakurichi	56	Alt 40, Klt 35, Mdk 25	129	7	355
30.	Paththalapettai	63	Alt 65, Mdk 20, Vyg-Vlm 10	91	11	128
31.	Periyavadavur	50/1	—	—	—	—
32.	Poolangudi	79	Mdk 85, MLT 15	114	15	366
33.	Puthur	40	Adn 100	—	—	—
34.	Sooriyur	76	Vyg 50, MLT 40, Mdk 10	73	31	181
35.	Sengulam	87	Adn 95, MA 5	—	—	—
36.	Sempangulam	60 A	—	—	—	—
37.	Thamalavarubayam	38	—	—	—	—
38.	Tharanallur	49	Klt 95, Alt 5	—	—	—
39.	Theneripatti	85	Mdk 85, Alt 15	49	74	164
40.	Thennur	40/1	—	—	—	—
41.	Devathanam	50	Klt 85, MA 15	—	—	—
42.	Thiruchirappalli Town	86	—	—	—	—
43.	Thirunedunkulam	64	Mdk 70, Alt 30	82	13	438
44.	Thiruverumbur	59	Alt-Mdk 55, Alt 45	—	—	—
45.	Thuvakkudi	84	Mdk 40, Vyg 40, Vyg-Vlm 20	—	—	—
46.	Ukkadai Ariyamangalam	52/1	Klt 100	—	—	—
47.	Valavanthankottai	65	Mdk 65, Alt30, Vyg 5	63	46	345
48.	Varaganeri	48	Vyg 50, Alt45, Igr 5	—	—	—
49.	Venkoor	55	Mdk-Klt 45, MA 25, Klt 15, Mdk 15	85	11	125

LAND CAPABILITY CLASSIFICATION

THIRUCHIRAPPALLI TALUK

S.No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitation	Needs
1.	II s - Lands that have moderate limitations for sustained use under agriculture	Kalathur Madukkur Mixed Alluvium and Madukkur + Kalathur	10,663	31.37	Slow permeability	Texture and drainage improvement
2.	III s- Lands that have moderate limitations for sustained use under agriculture	Adhanur Alathur and Alathur + Msdukkur	8,468	24.92	Alkalinity and slow permeability	Soil reclamation, drainage improvement and selection of suitable crops
3.	III es -Lands that have severe limitations for sustained use under agriculture	Irugur Vayalogam and Vayalogam + Vallam	9,988	29.39	Erosion depth and texture	Soil conservation and cultivation of suitable crops
		Miscellaneous Land Type	4,734	13.93	—	—
		Reserve Forest	135	0.39	—	—
		Total	**33,988**	**100.00**		

Class

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

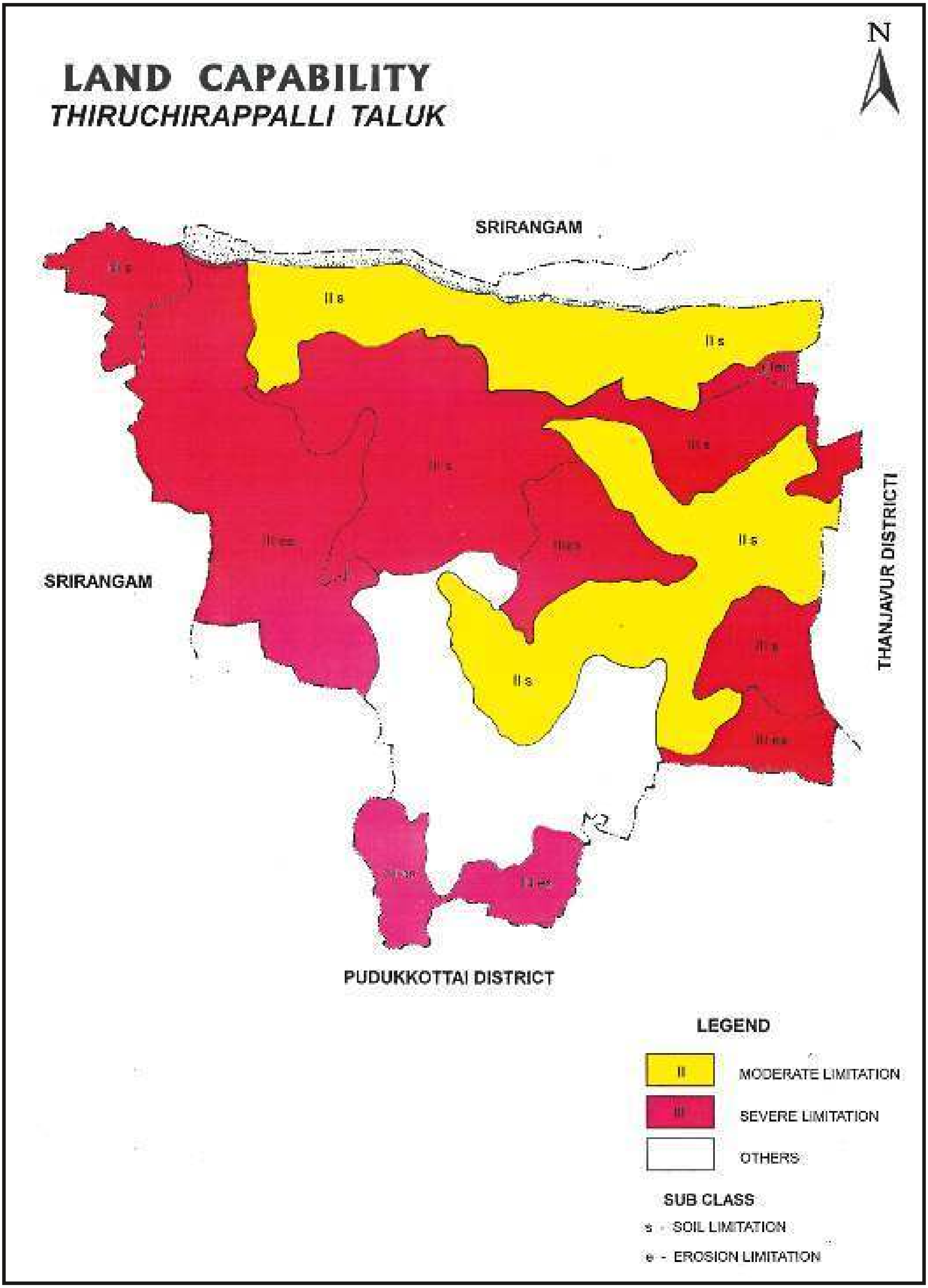
III *Lands that have severe limitations for sustained use under agriculture*

Sub class

e *Erosion and run off*

s *Soil limitation*

w *Wetness*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LAND CAPABILITY
THIRUCHIRAPPALLI TALUK
SRIRANGAM
SRIRANGAM
THANJAVUR DISTRICTI
PUDUKKOTTAI DISTRICT
II s
II s
II s
II s
LEGEND
II
MODERATE LIMITATION
III
SEVERE LIMITATION
OTHERS
SUB CLASS
s - SOIL LIMITATION
e - EROSION LIMITATION

LAND IRRIGABILITY CLASSIFICATION

THIRUCHIRAPPALLI TALUK

S. No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations
1.	2 d - Lands that have moderate limitations for sustained use under irrigation	Mixed Alluvium	573	1.69	Light texture
2.	2 s - Lands that have moderate limitations for sustained use under irrigation	Madukkur and Madukkur + Kalathur	7,498	22.06	Light texture
3.	2 sd - Lands that have moderate limitations for sustained use under irrigation	Kalathur	2,592	7.63	Heavy texture and poor drainage
4.	3 sd - Lands that have severe limitations for sustained use under irrigation	Adhanur Alathur and Alathur + Madukkur	8,468	24.91	Alkalinity heavy texture and poor drainage
5.	3 st - Lands that have severe limitations for sustained use under irrigation	Vayalogam Irugur and Vayalogam + Vallam	9,988	29.39	Poor depth and Topography
		Miscellaneous Land Type	4,734	13.93	
		Reserve Forest	135	0.39	
		Total	**33,988**	100.00	

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*

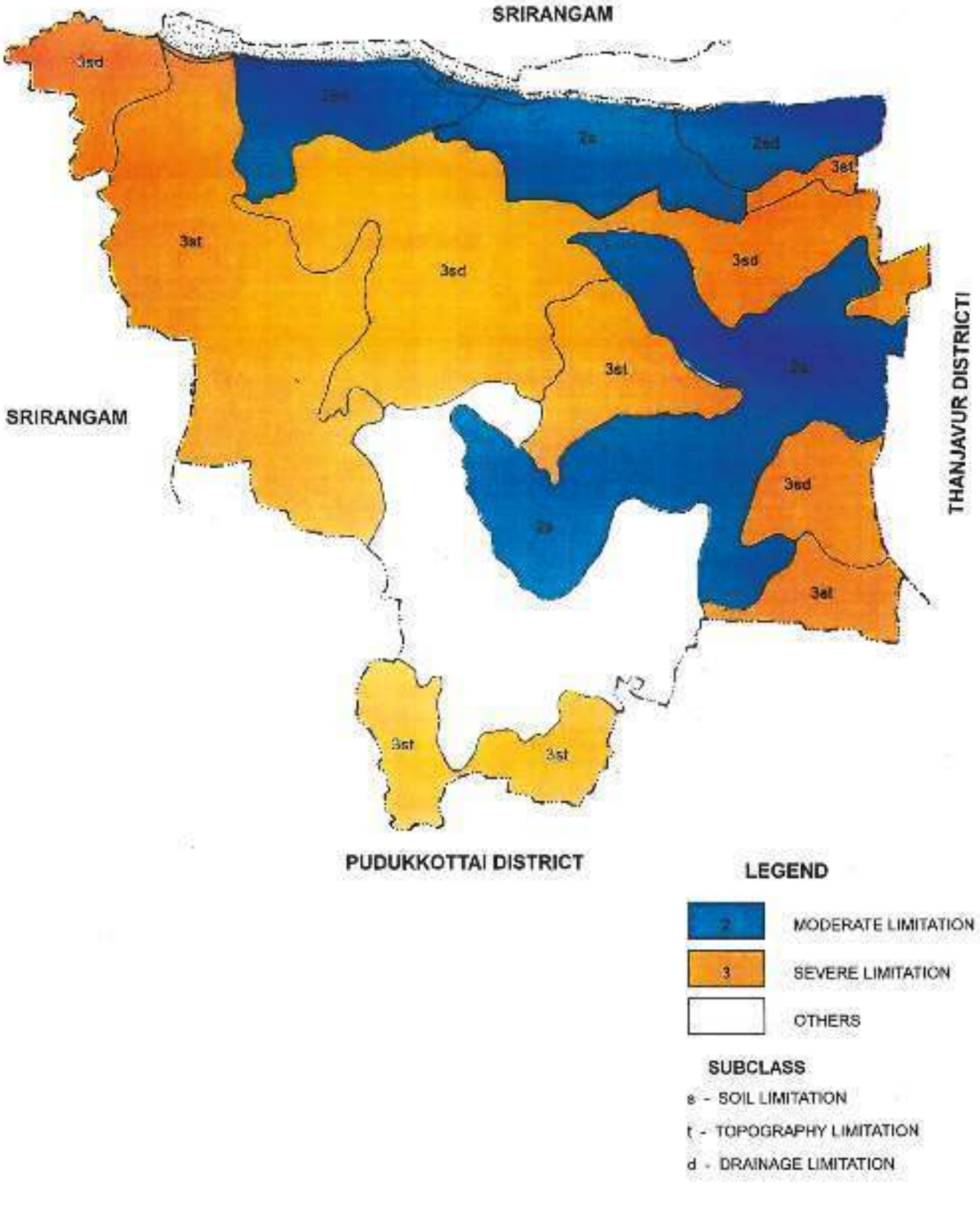
Sub class

s *Soil problem*

t *Topography*

d *Drainage*

LAND IRRIGABILITY
THIRUCHIRAPPALLI TALUK

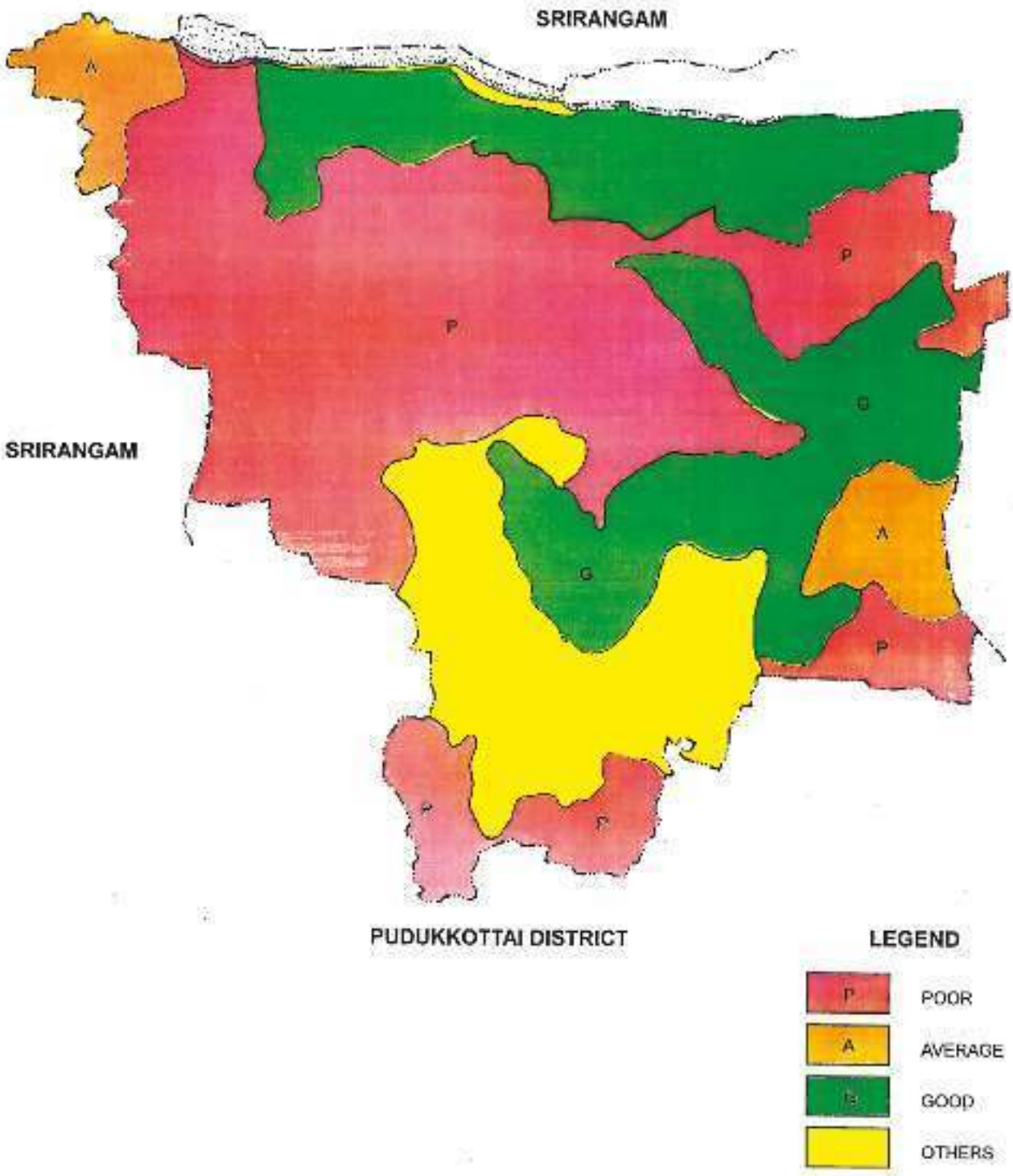


SOIL PRODUCTIVITY

THIRUCHIRAPPALLI TALUK

S.No.	Productivity		Soil series	Extent (ha)	Per cent to total
	Rating	Groupings			
1.	8 - 19	Poor (P)	Alathur, Irugur, Vayalogam + Vallam and Alathur + Madukkur	17,484	51.44
2.	20 - 34	Average (A)	Adhanur	972	2.86
3.	35 - 64	Good (G)	Madukkur, Kalathur, Mixed Alluvium and Madukkur + Kalathur	10,663	31.38
			Miscellaneous Land Type	4,734	13.93
			Reserve Forest	135	0.39
			Total	**33,988**	**100.00**

SOIL PRODUCTIVITY
THIRUCHIRAPPALLI TALUK

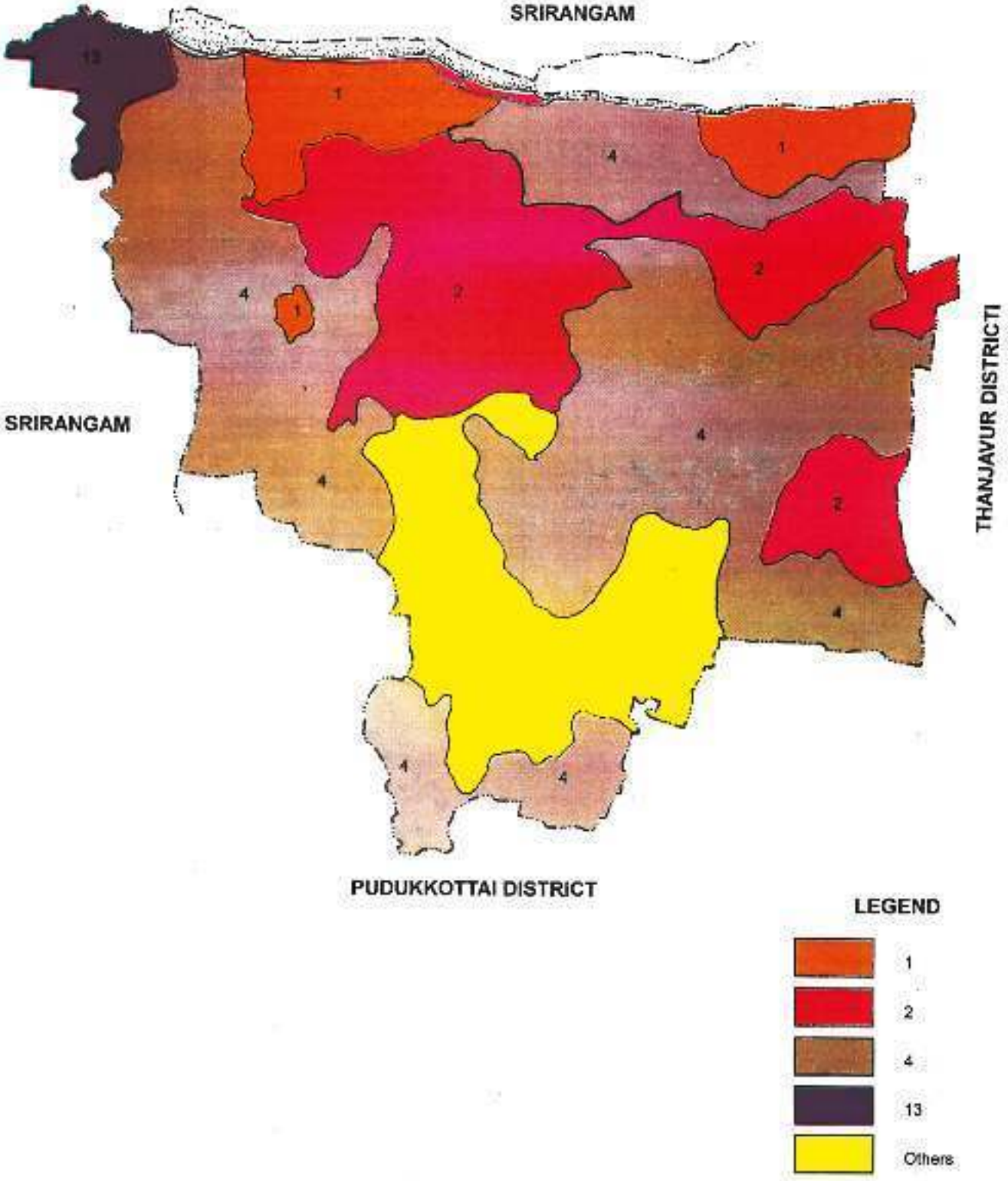


CROPS GROWN

THIRUCHIRAPPALLI TALUK

S.No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Banana, Rice and Sugarcane	Groundnut, Millets and Pulses	1	Irugur and Kalathur
2.	Flowers, Rice and Vegetables	Millets and Pulses	2	Alathur, Mixed Alluvium and Alathur + Madukkur
3.	Cotton, Groundnut, Millets and Rice	Gingelly, Groundnut and Millets	4	Madukkur, Vayalogam Madukkur + Kalathur and Vayalogam + Vallam
5.	Banana, Betelvine, Rice and Sugarcane	Bhendi and Gingelly	13	Adhanur

CROPS GROWN
THIRUCHIRAPPALLI TALUK

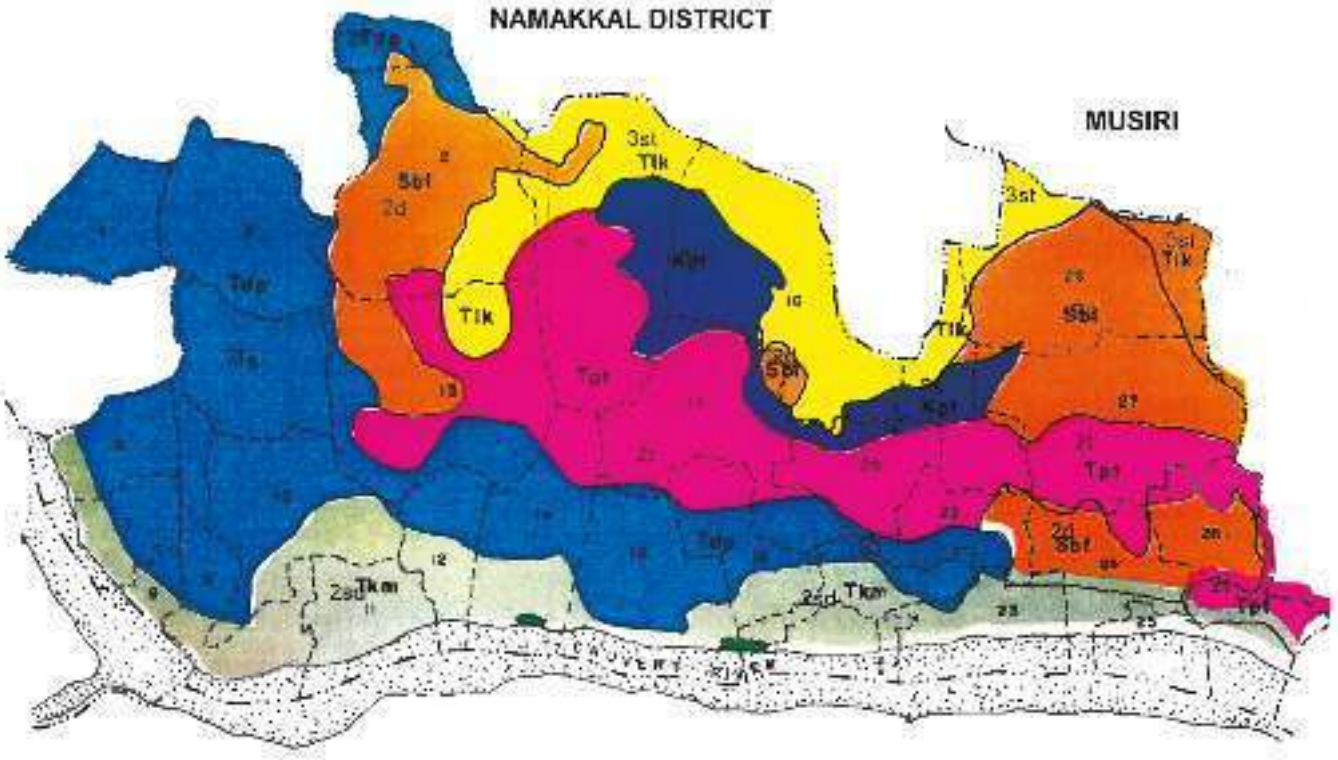


DISTRIBUTION OF SOIL SERIES

THOTTIYAM TALUK

S.No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Thondipatti	Tdp	7,332	26.37
2.	Tholurpatti	Tpt	5,029	18.09
3.	Solampatti	Sbt	4,724	16.99
4.	Thinnakonam	Tkm	3,690	13.27
5.	Tulukkanur	Tlk	3,502	12.60
6.	Kallanpatti	Kpt	1,528	5.50
	Others	—	1,920	6.90
	Reserve Forest	RF	77	0.28
		Total	**27,802**	**100.00**

SOILS
THOTTIYAM TALUK



VILLAGE WISE DISTRIBUTION OF SOIL SERIES AND FERTILITY INDICES

THOTTIYAM TALUK

Sl. No.	Revenue village	Village No.	Distribution of Soil series in Percentage	Fertility Indices (kg/ac)		
				Nitrogen	Phosphorus	Potassium
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Alakarai	24	Sbt 60, Tpt 20, Tkm 20	63	194	413
2.	Appananallur	28	Sbt 65, Tlk 35	—	—	—
3.	Arangoor	21	Tpt 40, Kpt 35, Tlk 25	61	16	475
4.	Arasalur	19	Tdp 40, Tpt 30, Tkm 30	51	79	343
5.	Chinnapallippalaiyam	8	Tkm 60, Tdp 40	—	—	—
6.	Chithoor	22	Tpt 40, Tdp 40, Sbt 20	60	13	100
7.	Elurpatti	15	Tpt 60, Kpt 15, Tlk 15, Sbt 10	80	—	435
8.	Kaduvetti	12	Tdp 55, Tkm 45	49	39	248
9.	Kamalapuram	16	Tlk 50, Kpt 40, Sbt 10	51	89	456
10.	Kattuputhur Melapart	10/1	Tdp 55, Tkm 45	49	24	315
11.	Kattuputhur Keelpart	10/2	Tdp 55, Tkm 45	49	24	315
12.	Kidaram	4	Tdp 100	82	—	146
13.	Kolakkudi	27	Sbt 60, Tpt 30, Kpt 10	79	96	444

(1)	(2)	(3)	(4)	(5)	(6)	(7)
14.	M.Kalathur	2	Sbt 55, Tlk 35, Tdp 10	—	—	—
15.	M.Puthur	18	Tdp 80, Tkm 20	57	—	429
16.	Manamedu	25	Tkm 100	—	—	—
17.	Mullipadi	26	Sbt 45, Tpt 30, Tkm 25	—	—	—
18.	Murungai	3	Tdp 100	49	48	262
19.	Nagaiyanallur	13	Tkm 100	83	—	257
20.	Natham	14	Tdp 45, Tkm 40, Tpt 15	48	43	328
21.	Periyapallipalaiyam	7	Tdp 55, Tkm 45	86	—	300
22.	Pidaramangalam	5	Tdp 100	86	24	108
23.	Seelaipillayarputhur	11	Tkm 100	82	19	328
24.	Sriramasamuthiram	9	Tdp 90, Tkm 10	49	21	314
25.	Srinivasanallur	23	Tkm 90, Sbt 5, Tdp 5	—	—	—
26.	Thirunarayanapuram	19/1	Tdp 90, Tkm 10	82	75	415
27.	Thottiyam	20	Tpt 80, Kpt 20	62	16	500
28.	Tholurpatti	17	Tpt 65, Tdp 15 Sbt 10, Kpt 10	—	—	—
29.	Unniyur	6	Tdp 70, Tkm 30	76	19	374
30.	Valvelputhur	1	Tdp 90, Sbt 10	83	—	273

LAND CAPABILITY CLASSIFICATION

THOTTIYAM TALUK

S.No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitation	Needs
1.	II e - Lands that have moderate limitations for sustained use under agriculture	Thondipatti and Tholurpatti	12,361	44.46	Erosion	Soil conservation
2.	II s - Lands that have moderate limitations for sustained use under agriculture	Solampatti	4,724	16.99	Alkalinity	Drainage, improvement and soil conservation
3.	II es - Lands that have moderate limitations for sustained use under agriculture	Thinnakonam	3,690	13.27	Erosion and alkalinity	Soil reclamation and drainage improvement
4.	III s - Lands that have severe limitations for sustained use under agriculture	Kallanpatti	1,528	5.50	Texture and alkalinity	Drainage and textural improvement
5.	III es -Lands that have severe limitations for sustained use under agriculture	Tulukkanur	3,502	12.60	Erosion depth and texture	Soil conservation and cultivation of suitable crops
		Others	1,920	6.90	—	—
		Reserve Forest	77	0.28	—	—
		Total	27,802	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*

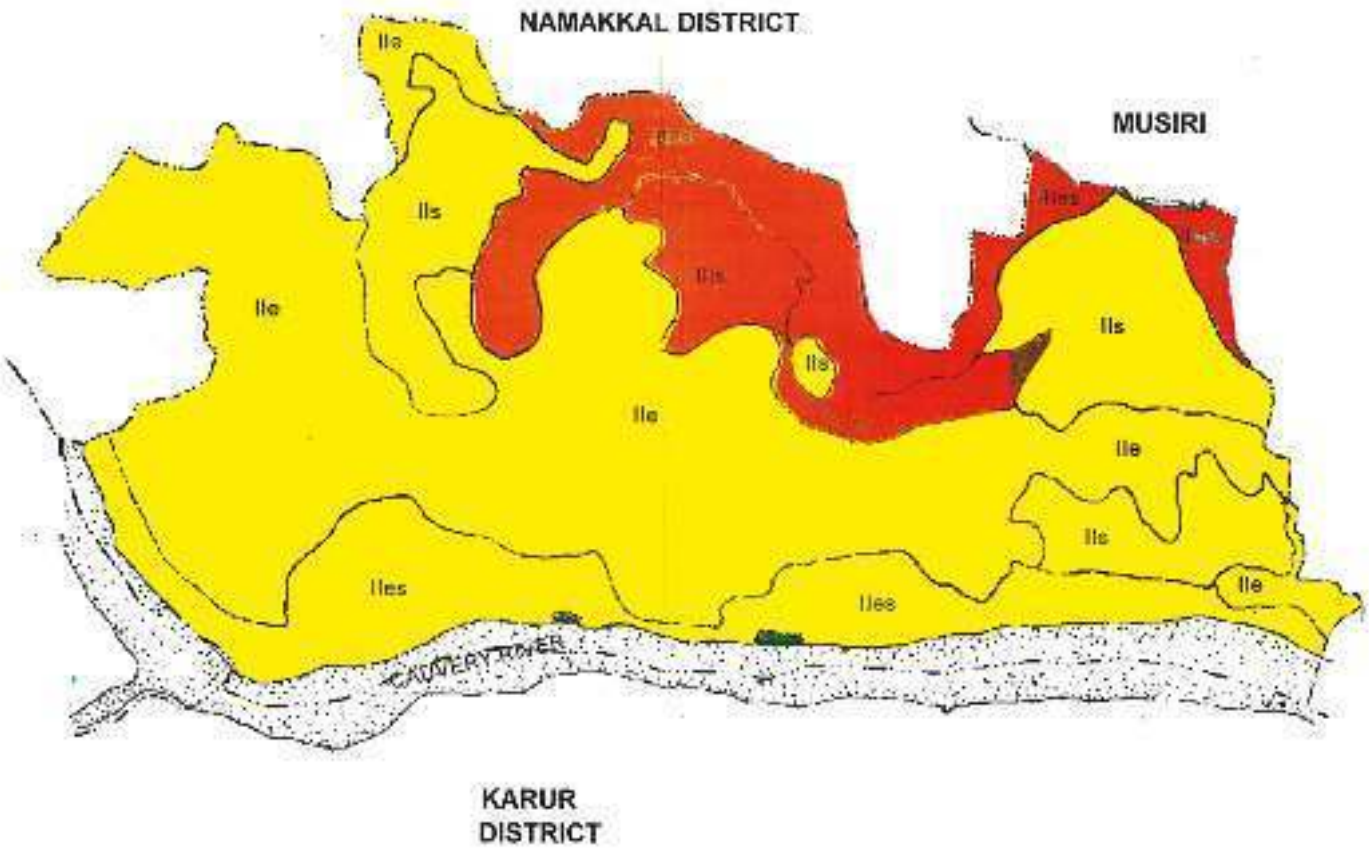
Sub class

e *Erosion and run off*

s *Soil limitation*

w *Wetness*

LAND CAPABILITY
THOTTIYAM TALUK



LAND IRRIGABILITY CLASSIFICATION

THOTTIYAM TALUK

S. No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitations
1.	2 t - Lands that have moderate limitations for sustained use under irrigation	Thondipatti and Tholurpatti	12,361	44.46	Topography and poor drainage
2.	2 d - Lands that have moderate limitations for sustained use under irrigation	Solampatti	4,724	16.99	Heavy texture, alkalinity and drainage
3.	2 sd - Lands that have moderate limitations for sustained use under irrigation	Thinnakonam	3,690	13.27	Heavy texture, alkalinity and drainage
4.	3 s - Lands that have severe limitations for sustained use under irrigation	Kallanpatti	1,528	5.50	Light texture and alkalinity
5.	3 st - Lands that have severe limitations for sustained use under irrigation	Tulukkanur	3,502	12.60	Poor depth and topography
		Others	1,902	6.90	
		Reserve Forest	77	0.28	
		Total	**27,802**	**100.00**	

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

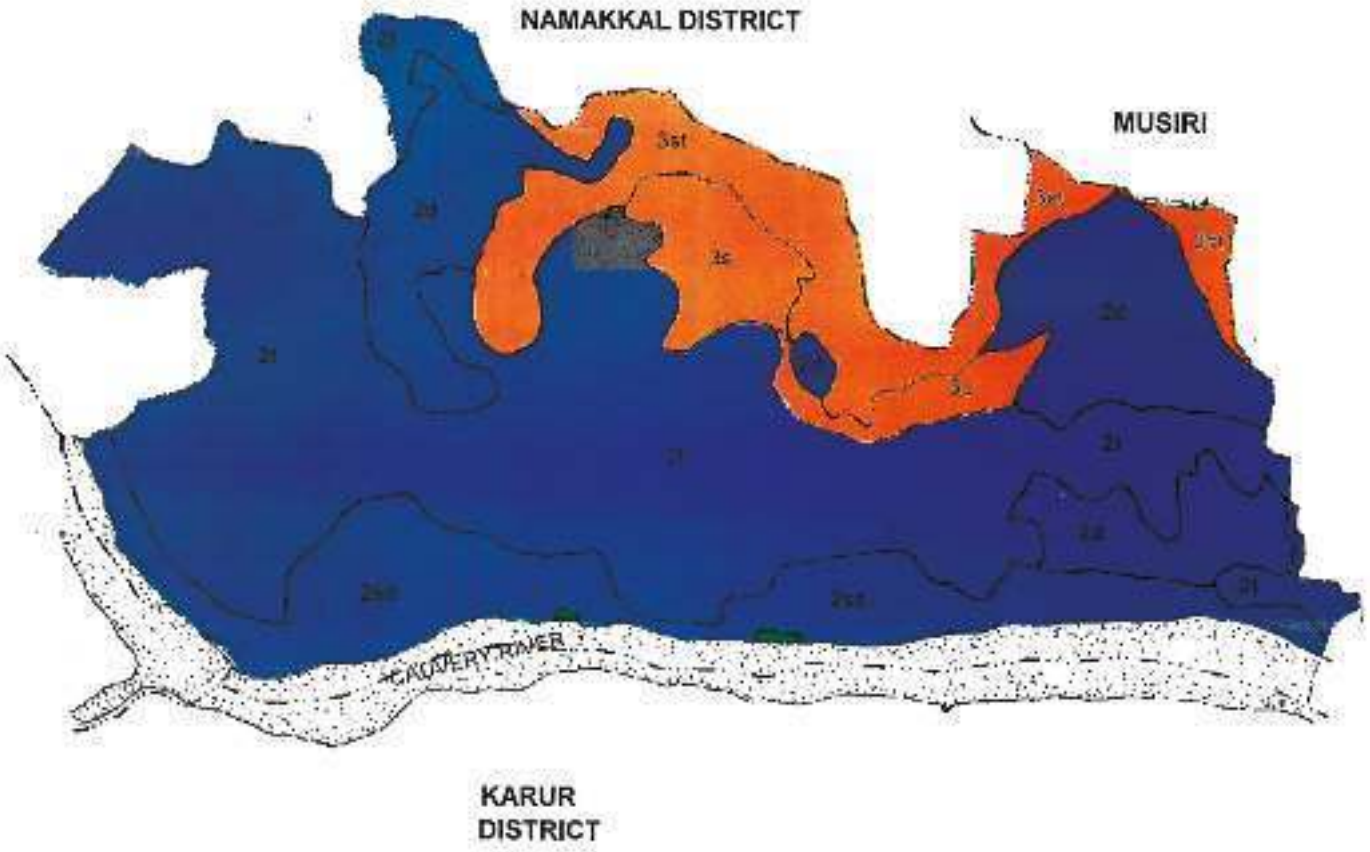
s *Soil problem*

t *Topography*

d *Drainage*

LAND IRRIGABILITY

THOTTIYAM TALUK

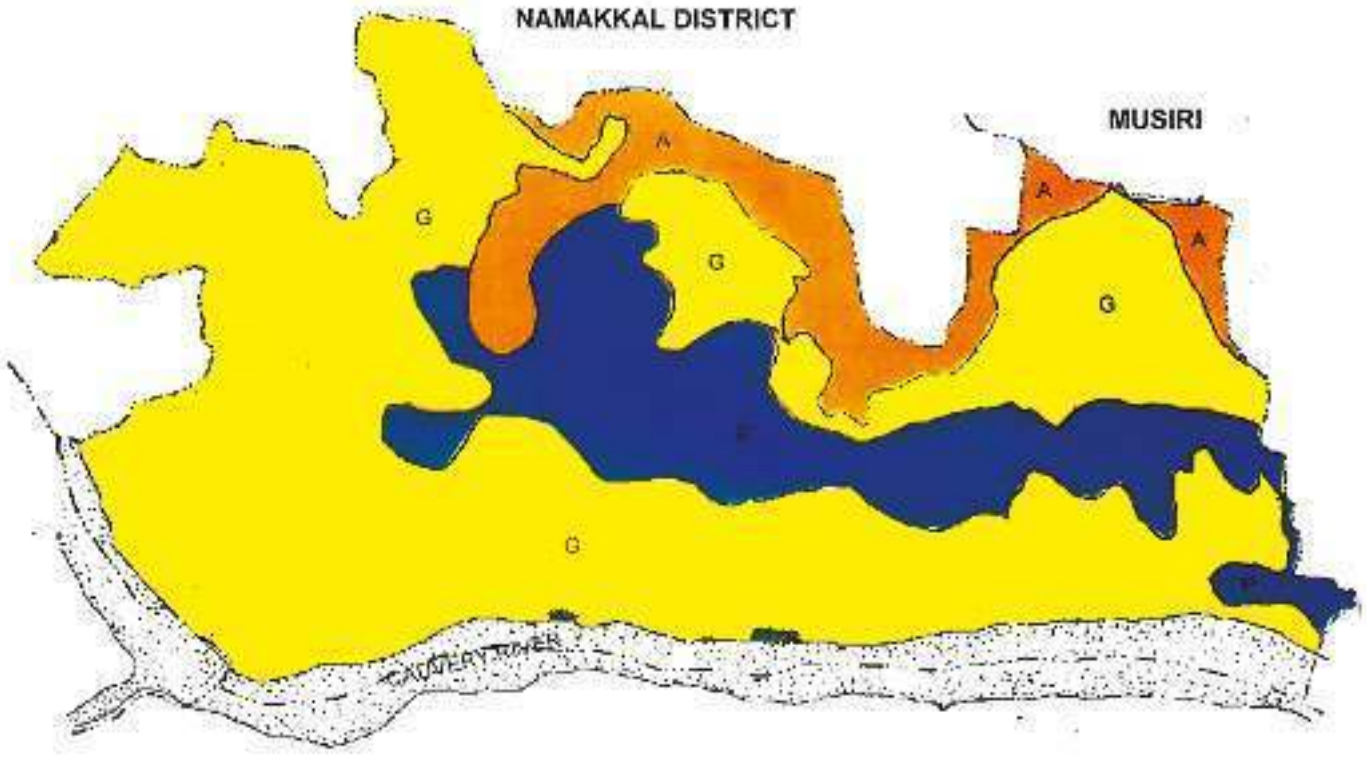


SOIL PRODUCTIVITY

THOTTIYAM TALUK

S.No.	Productivity		Soil series	Extent (ha)	Per cent to total
	Rating	Groupings			
1.	8 - 19	Poor (P)	Tholurpatti	5,029	18.09
2.	20 - 34	Average (A)	Tulukkanur	3,502	12.60
3.	35 - 64	Good (G)	Thondipatti Solampatti Thinnakonam and Kallanpatti	17,274	62.13
			Others	1,920	6.90
			Reserve Forest	77	0.28
			Total	**27,802**	**100.00**

SOIL PRODUCTIVITY
THOTTIYAM TALUK

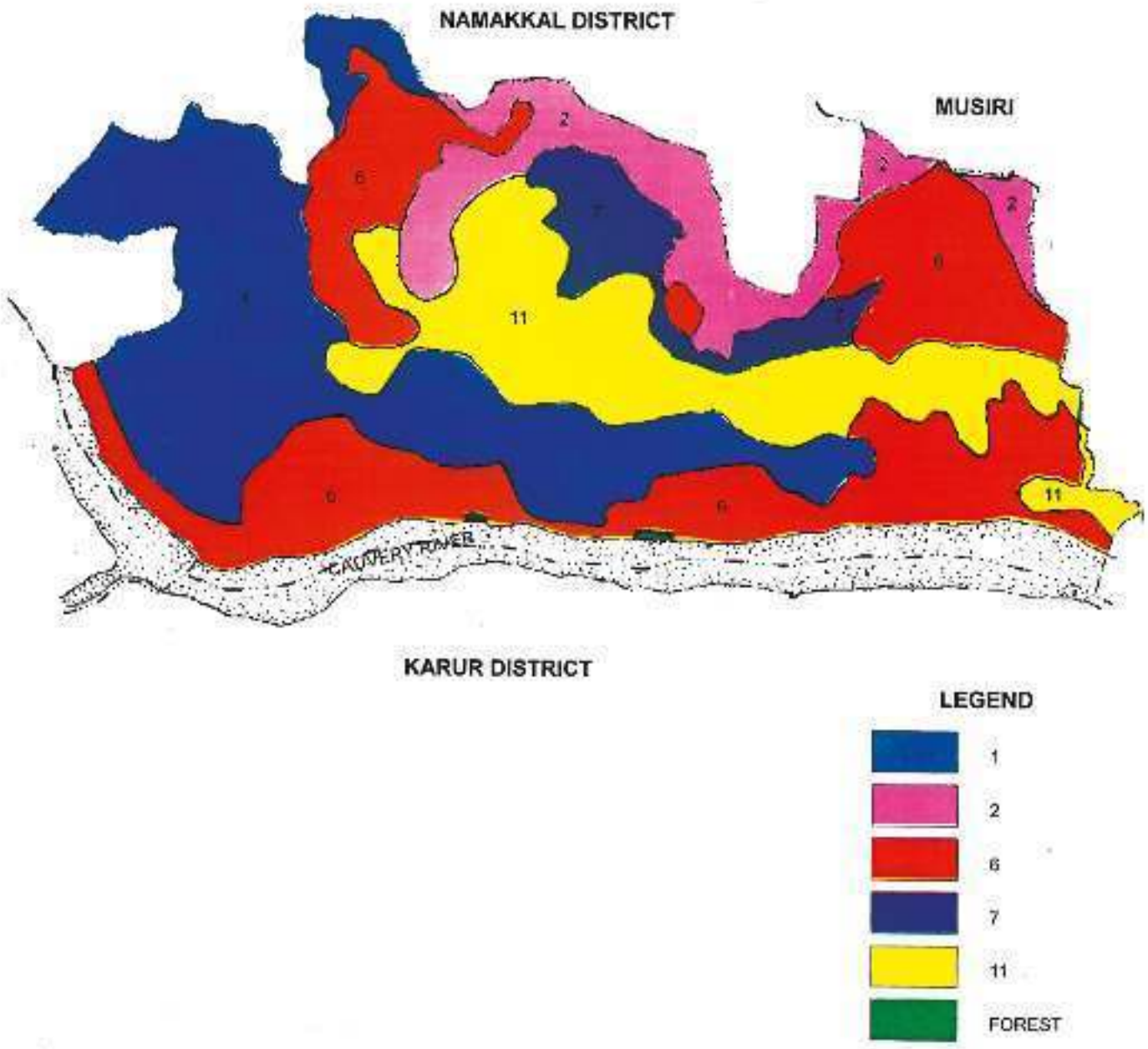


CROPS GROWN

THOTTIYAM TALUK

S.No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Rice, Sugarcane and Banana	Millets, Groundnut and Pulses	1	Thondipatti
2.	Vegetables, Rice and Flowers	Millets and Pulses	2	Tulukkanur
3.	Rice, Sugarcane Banana, Chillies, Groundnut, Onion and Cotton	Millets, Groundnut, Chillies, Redgram, Castor and Sunflower	6	Solampatti and Thinnakonam
4.	Rice, Millets Redgram and Chillies	Cumbu Gingelly and Castor	7	Kallanpatti
5.	Groundnut and Tapioca	Groundnut, Tapioca, Castor and Cholam	11	Tholurpatti

CROPS GROWN
THOTTIYAM TALUK

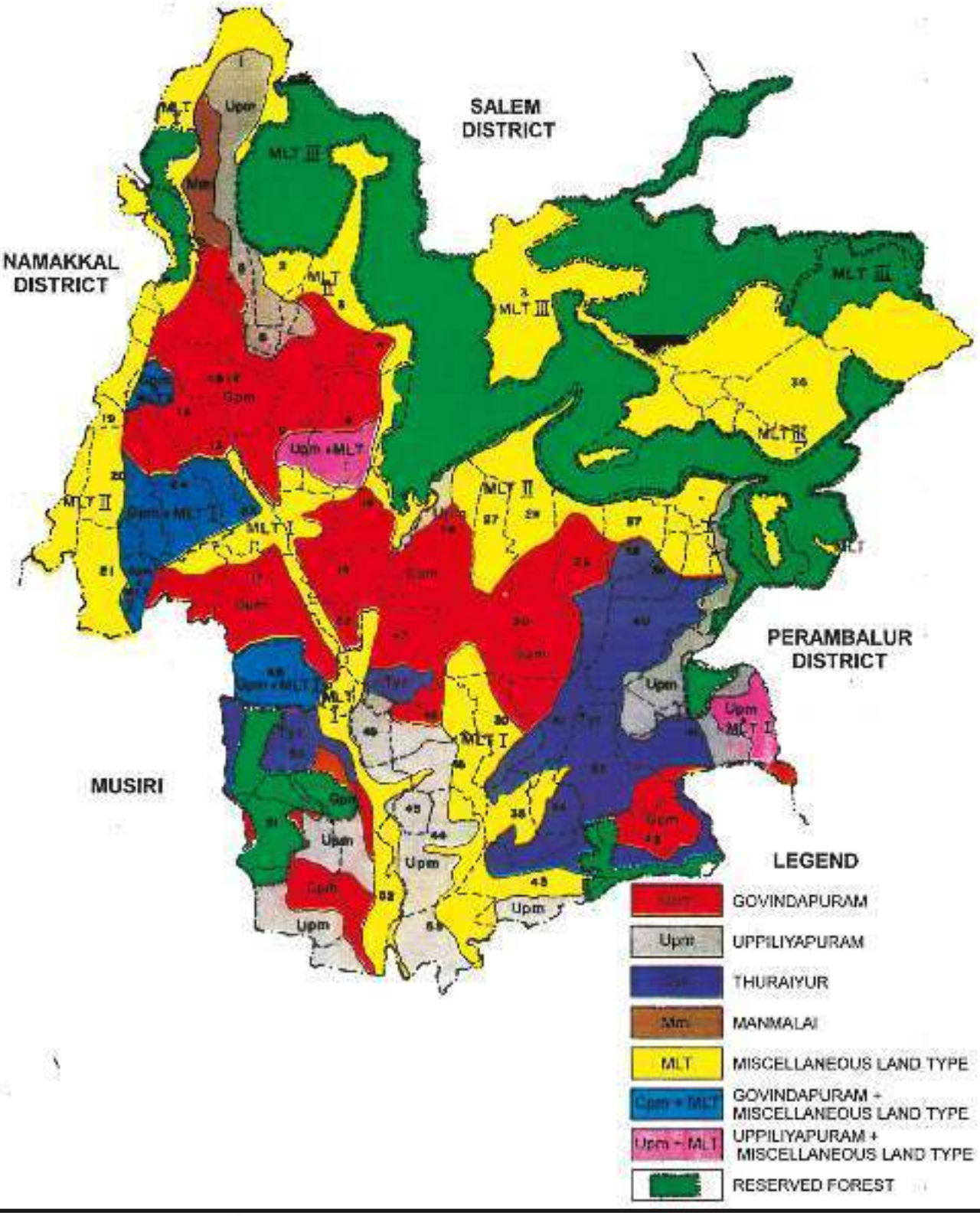


DISTRIBUTION OF SOIL SERIES

THURAIYUR TALUK

S.No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Govindapuram	Gpm	15,494	19.17
2.	Uppiliyapuram	Upm	8,302	10.27
3.	Thuraiyur	Tyr	7,014	8.68
4.	Manmalai	Mmi	666	0.82
	Others	—	20,529	25.39
	Reserve Forest	RF	28,837	35.67
		Total	**80,842**	**100.00**

SOILS
THURAIYUR TALUK



VILLAGE WISE DISTRIBUTION OF SOIL SERIES AND FERTILITY INDICES

THURAIYUR TALUK

Sl. No.	Revenue village	Village No.	Distribution of Soil series in Percentage	Fertility Indices (kg/ac)		
				Nitrogen	Phosphorus	Potassium
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Azhagapuri	21	MLT-II 70, Gpm-MLT-II 20, Gpm-MLT-I 10	—	—	—
2.	Alathudaiyanpatti	42	Gpm-MLT 60	108	7	123
3.	Ammapatti	34	Tyr 60, MLT 40	88	—	94
4.	Athanur	53	Upm 50, MLT-I 40, Gpm 10	79	23	196
5.	Balakrishnampatti East	13	Gpm 80, Gpm-MLT-I 10	113	86	202
6.	Balakrishnampatti West	14	Gpm 90, Gpm-MLT I 10	113	86	202
7.	Chokkanathapuram	45	Upm 100	105	12	149
8.	E.Patherpatti	15	Gpm 80, MLT I 20	88	11	187
9	Erakudi North	17	Gpm 80, MLT I 20	116	48	152
10.	Erakudi South	18	Gpm 80, MLT I 20	116	48	152
11.	Kalingamudaiyan patti	46	Upm 35, MLT-I 35, Gpm 30	74	32	138
12.	Kamatchipuram	22	Gpm 65, MLT-I 35	85	26	157

(1)	(2)	(3)	(4)	(5)	(6)	(7)
13.	Kannanur	52	MLT-I 50, Upm 40, Gpm 10	54	10	270
14.	Karapudaiyanpatti	6	Upm 100	—	—	—
15.	Keerambur	40	Tyr 95, Upm 5	84	—	224
16.	Kombai	37	MLT-II 100	—	—	—
17.	Koppampatti	2	Upm 55, MLT-II 45	78	19	210
18.	Koppamapuri	5	Upm 95, Mmi 5	123	10	144
19.	Kottaiyur	47	Gpm 60	—	—	—
20.	Kottapalaiyam East	12	Gpm 100	49	10	243
21.	Kottapalaiyam West	11	Gpm 100	49	10	243
22.	Maruvathur	29	Gpm 60, MLT-II 20, Tyr 20	81	—	336
23.	Murukoor	30	Gpm 85, MLT-I 10, Tyr 5	68	10	99
24.	Muthaiyampalaiyam	33	Tyr 75, Gpm 20, MLT-I 5	83	26	222
25.	Naduvalur	42	Gpm 60, Tyr 40	85	26	222
26.	Nagalapuram	41	Tyr 40, Upm-MLT-I 35, Upm 20, Gpm 5	67	18	152

(1)	(2)	(3)	(4)	(5)	(6)	(7)
27.	Okkarai	16	Gpm 70, MLT-II 20, MLT-I 10	80	10	310
28.	Pachaperumalpatti North	19	MLT-II 40, Gpm-MLT-I 40, Upm 20	114	34	184
29.	Pachaperumalpatti South	20	MLT-II 40, Gpm-MLT-I 40, Upm 20	114	34	184
30.	Pagalavaadi	43	MLT-I 55, Upm 35, Tyr 10	133	8	128
31.	Ponnusangampatti	51	Gpm 45, Upm 35, Tyr 15	71	9	97
32.	Senkattupatti	39	Tyr 65, MLT-II-35	49	11	94
33.	Senappanallur	49	Upm 90, MLT-I 10	66	10	175
34.	Singalanthapuram	35	MLT-I 55, Tyr 45	—	—	—
35.	Sirunatham	27	MLT-II 90, Gpm 10	—	—	—
36.	Sirunavalur	23	MLT-I 50, Gpm-MLT-I 40, Gpm 10	110	8	184
37.	Sikkathambur North	25	Gpm 40, MLT-II 40, Upm 20	69	24	332
38.	Sikkathambur South	26	Gpm 100	69	24	332
39.	Sopanapuram	3	MLT-II 70, Gpm 20, Upm 10	85	—	115

(1)	(2)	(3)	(4)	(5)	(6)	(7)
40.	T.Ranganathapuram	28	MLT-II 75, Gpm 25	99	16	199
41.	Thalugai	1	MLT-II 40, Gpm 35 Mmi 25	—	—	—
42.	Thenparanadu	4	Gpm 50, MLT-II 50	—	—	—
43.	Thuraiyur	32	Tyr 65, Gpm 30, MLT-I 5	63	33	284
44.	Upliliyapuram North	9	Gpm 70, Upm-MLT-I 20, MLT-I 10	89	19	144
45.	Uppiliyapuram South	10	Gpm 70, Upm-MLT-I 20, MLT I - 10	89	19	144
46.	Vadakkuveli	44	Upm 60, MLT-I 40	48	22	202
47.	Vairichettipalaiyam	7	Upm 40, Mmi 40, MLT-II 20	—	—	—
48.	Vannadu	36	MLT-III 100	—	—	—
49.	Veeramachanpatti	50	Tyr 50, Gpm 30, MLT-I 20	—	—	—
50.	Venkatachalapurm	8	Gpm 40, Upm-MLT-I 30 MLT-II 20, MLT-III 10	75	19	129
51.	Venkatathanur	38	Tyr 60, MLT-II 30, Gpm 10	102	10	173
52.	Venkatesapuram	31	MLT-I 55, Tyr 45	—	—	—
53.	Visalatchiammal samuthiram	48	Gpm-MLT-I 100	—	—	—

LAND CAPABILITY CLASSIFICATION

THURAIYUR TALUK

S.No.	Class Sub - Class	Soil series	Extent (ha)	Per cent to total	Limitation	Needs
1.	II e - Lands that have moderate limitations for sustained use under agriculture	Uppiliyapuram	8,302	10.27	Erosion and depth	Soil conservation
2.	II s- Lands that have moderate limitations for sustained use under agriculture	Manmalai	666	0.82	Alkalinity	Soil reclamation and drainage improvement
3.	III s - Lands that have severe limitations for sustained use under agriculture	Govindapuram and Thuraiyur	22,508	27.85	Slow permeability and alkalinity	Soil conservation drainage improvement and cultivation of suitable crops
		Others	20,529	25.39	—	—
		Reserve Forest	28,837	35.67	—	—
		Total	**80,842**	**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*

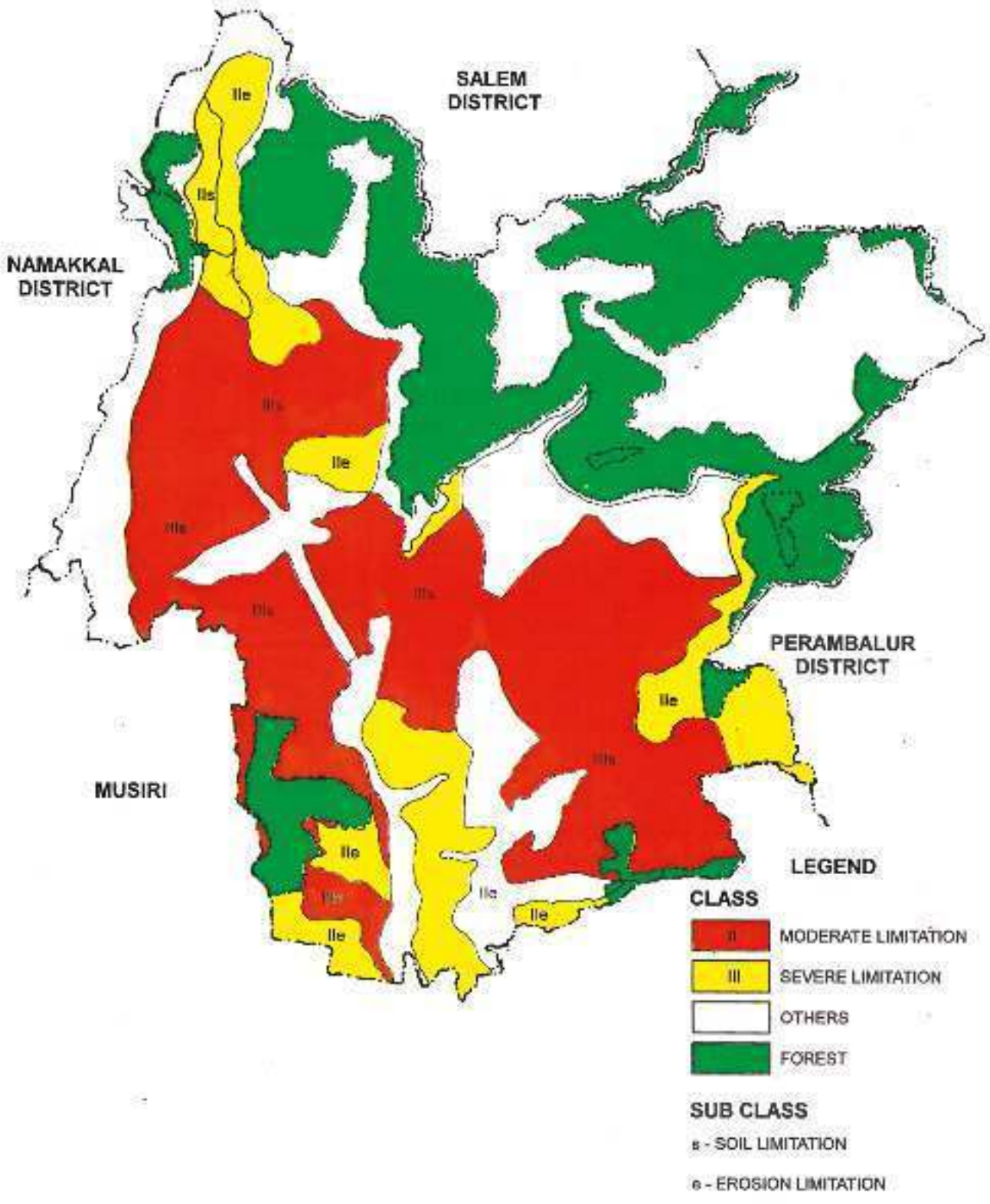
Sub class

e *Erosion and run off*

s *Soil limitation*

w *Wetness*

LAND CAPABILITY
THURAIYUR TALUK



LAND IRRIGABILITY CLASSIFICATION

THURAIYUR 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	Manmalai	666	0.82	Light texture and poor depth
2.	2 st - Lands that have moderate limitations for sustained use under irrigation	Uppiliyapuram	8,302	10.27	Topography light texture and poor depth
3.	3 sd - Lands that have severe limitations for sustained use under irrigation	Govindapuram and Thuraiyur	22,508	27.85	Alkalinity and poor drainage
		Others	20,529	25.39	—
		Reserve Forest	28,837	35.67	—
		Total	**80,842**	**100.00**	

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

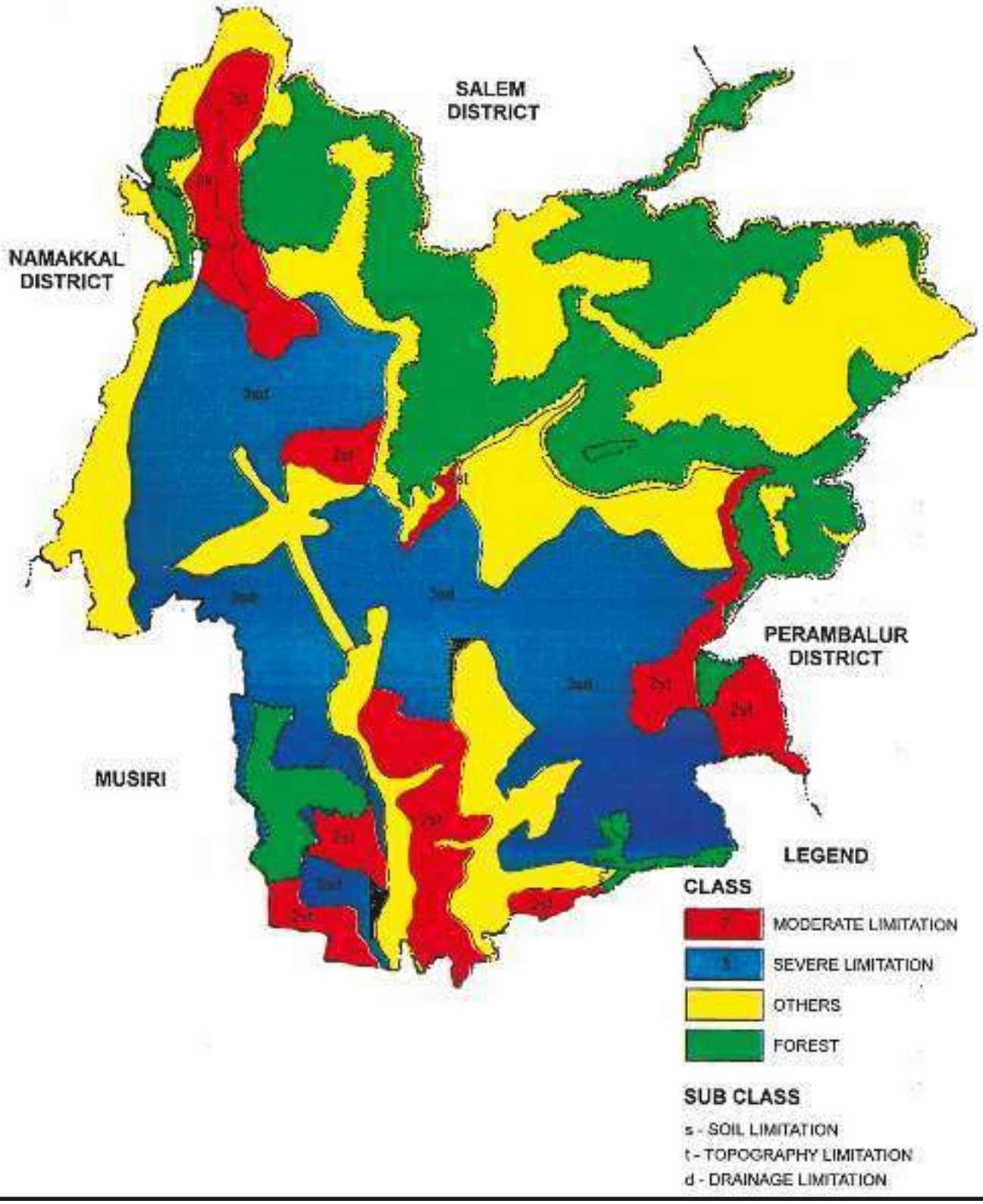
s *soil problem*

t *topography*

d *drainage*

LAND IRRIGABILITY

THURAIYUR TALUK

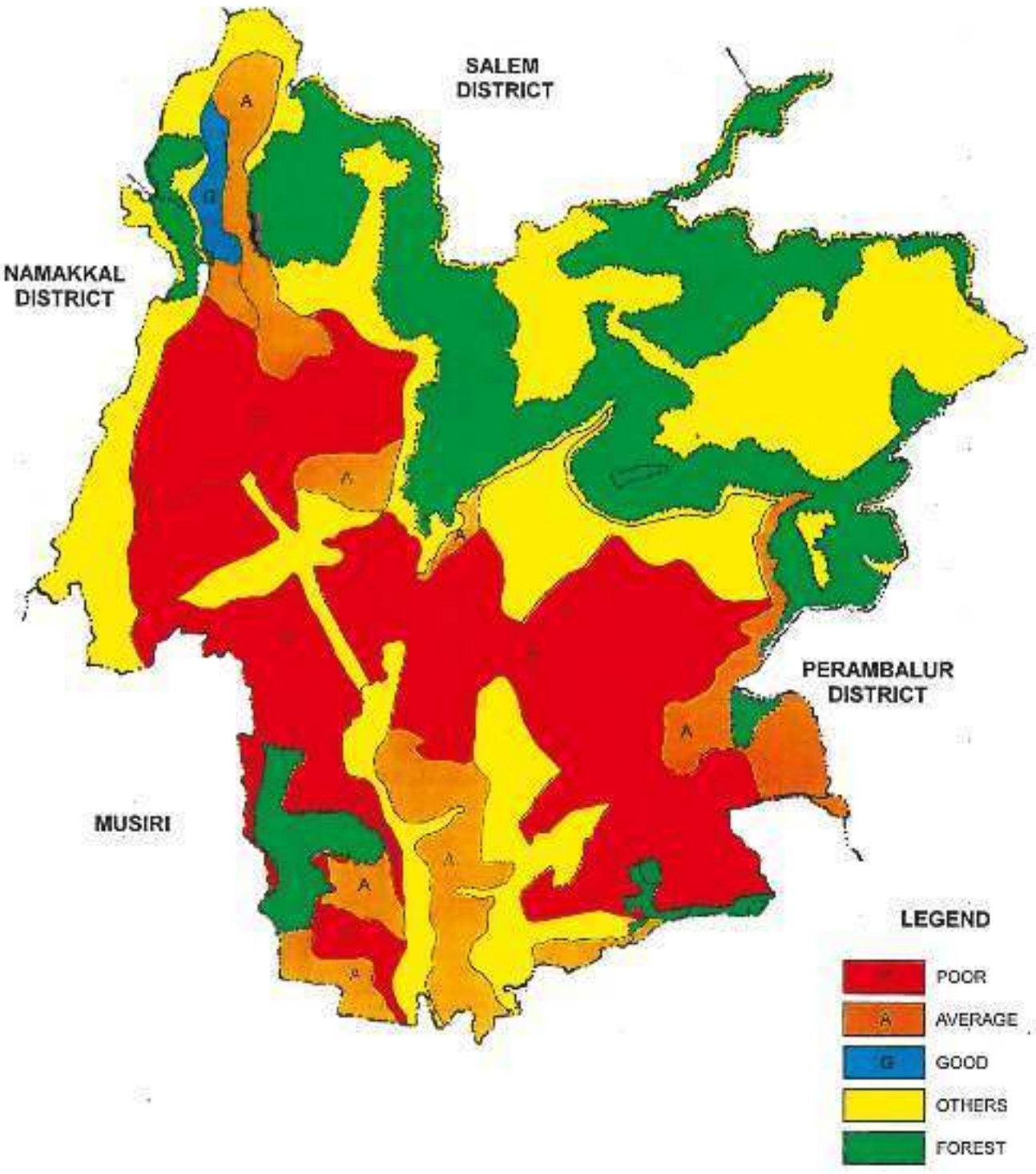


SOIL PRODUCTIVITY

THURAIYUR TALUK

S.No.	Productivity		Soil series	Extent (ha)	Per cent to total
	Rating	Groupings			
1.	8 - 19	Poor (P)	Govindapuram and Thuraiyur	22,508	27.85
2.	20 - 34	Average (A)	Uppiliyapuram	8,302	10.27
3.	35 - 64	Good (G)	Manmalai	666	0.82
			Others	20,529	25.39
			Reserve Forest	28,837	35.67
			Total	**80,842**	**100.00**

SOIL PRODUCTIVITY
THURAIYUR TALUK

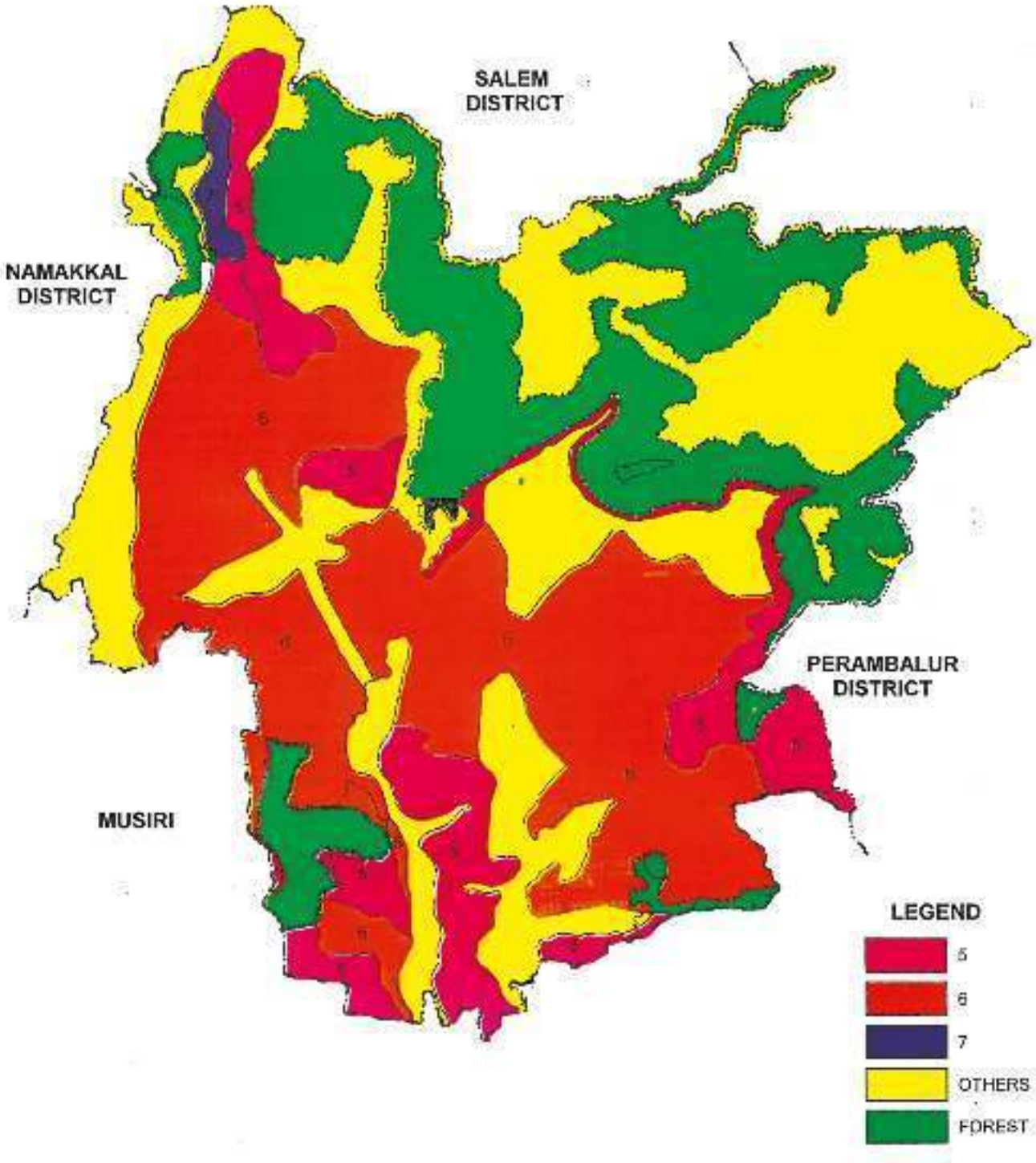


CROPS GROWN

THURAIYUR TALUK

S.No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Rice and Chillies	Rice, Chillies Millets and Groundnut	5	Uppiliyapuram
2.	Rice, Sugarcane, Banana, Chillies, Groundnut, Onion and Cotton	Millets, Groundnut, Chillies, Redgram, Castor and Sunflower	6	Govindapuram and Thuraiyur
3.	Rice, Millets Redgram and Chillies	Cumbu Gingelly and Castor	7	Manmalai

CROPS GROWN
THURAIYUR TALUK



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