SOIL ATLAS
SIVAGANGAI DISTRICT

SOIL SURVEY AND LAND USE ORGANISATION
(DEPARTMENT OF AGRICULTURE TAMIL NADU)
THANJAVUR 613 001
1998

"CONSERVE SOIL FOR SUSTAINABLE PRODUCTION"

"மண் வளம் காப்போம்"

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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 தொகுப்பேடுஒன்று 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 உடுபட்ட அனைத்து அலுவலர்களுக்கும் எனது பாராட்டுக்களையும், வாழ்த்துக்களையும் தெரிவித்துக் கொள்கிறேன்.

அன்புடன்,

வீ. ஆறுமுகம்
29.4.98

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 மனிதச்சரீரதையின் பிரதிபலிப்பு ஆகும். ஏனெனில் அதுவே மனித நாகரீகத்தின் மாட்சியையும் வீழ்ச்சியையும் எடுத்துரைப்பதாக இருந்து வந்துள்ளது. இதற்குச் சரித்திரச் சான்றுகளும் பல உண்டு. இப்படித்தான் பெருமை படைத்த மண்வளம் பற்றிய விவரங்களை நெறிப்படுத்தி அண்டியோர்க்குப் பயன் அளிக்கும் வகையில் அமையச் செய்வது காலத்தின் கட்டாயமாகும். அதிலும் குறிப்பாக ஒன்பதாவது ஐந்தாண்டுத் திட்டத்தின் துவக்கத்திலேயே இப்பணி நடைபெறுவது சாலச்சிறந்தது ஆகும். ஏனெனில் இத்திட்டப் பெரு நோக்கங்களில் ஒன்றாக மண்வளம் சார்ந்த இனங்களை 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. ஓரிடத்தில் நிலவும் தட்பவெப்ப நிலை, பாசன வளம், பயிர் சாகுபடி விவரங்கள், மண் வகைகள் அவற்றின் விளைதிறன், ஏற்புடைய பயிர்கள் பற்றிய விளக்கங்கள் இடம்பெற்றுள்ளன. ஆக இவற்றின் அடிப்படையில் அமுல்படுத்தப்படும் உற்பத்திப் பெருக்குத் திட்டங்கள் அபரிமித வெற்றி அளிப்பதில் ஆச்சரியமில்லை. உதாரணமாக அண்மையில் மணிகண்டம் ஒன்றியத்தில் நிறைவேற்றப்பட்ட வேளாண் வானியியல் வளிமண்டலத் திட்டத்தினைச் சொல்லலாம். இத்திட்டத்தின் முதன்மைச் செயல் அம்சமாக இப்பகுதி நிலங்கள் நெறிப்படுத்தப்பட்டன. இத்தகைய அணுகுமுறையினால் களர்த்தன்மை உடைய இப்பகுதி நிலங்களில் சீர்த்திருத்தம் மேற்கொண்டபின் மகசூலானது எக்டேருக்கு 400 கிலோ முதல் 700 கிலோ வரை உயர்ந்துள்ளது என்பது பெருமைக்குரியதாகும்.

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

> வாரிப்பெருக்கி வளம்கூட்டு உற்றவை
> 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 துறையின் 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.

க. அருள்மொழி 30348

சென்னை
30. 3. 1998

வேளாண்மை இயக்குநர்

SIVAGANGAI

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

SIVAGANGAI DISTRICT

Sivagangai is a newly formed inland district of TamilNadu. carved out from erstwhile composite Ramanathapuram district during 1995 with the head quarter at Sivagangai. The landscape of this district is mostly plains with less mountains and hillocks. North and north western parts are undulating and plains in southern and eastern parts.

Sivagangai district is bounded by Pudukkottai on the north east, southeast by Ramanathapuram district, northwest by Thiruchirappalli district, southwest by Madurai and Virudhunagar districts. This district is spread over 4618.62 sq km.

Geocode :

North latitude $9^{o}31'$ to $10^{o}27'$

East longitude $78^{o}8'$ to $79^{o}2'$

Agro Ecological Region :

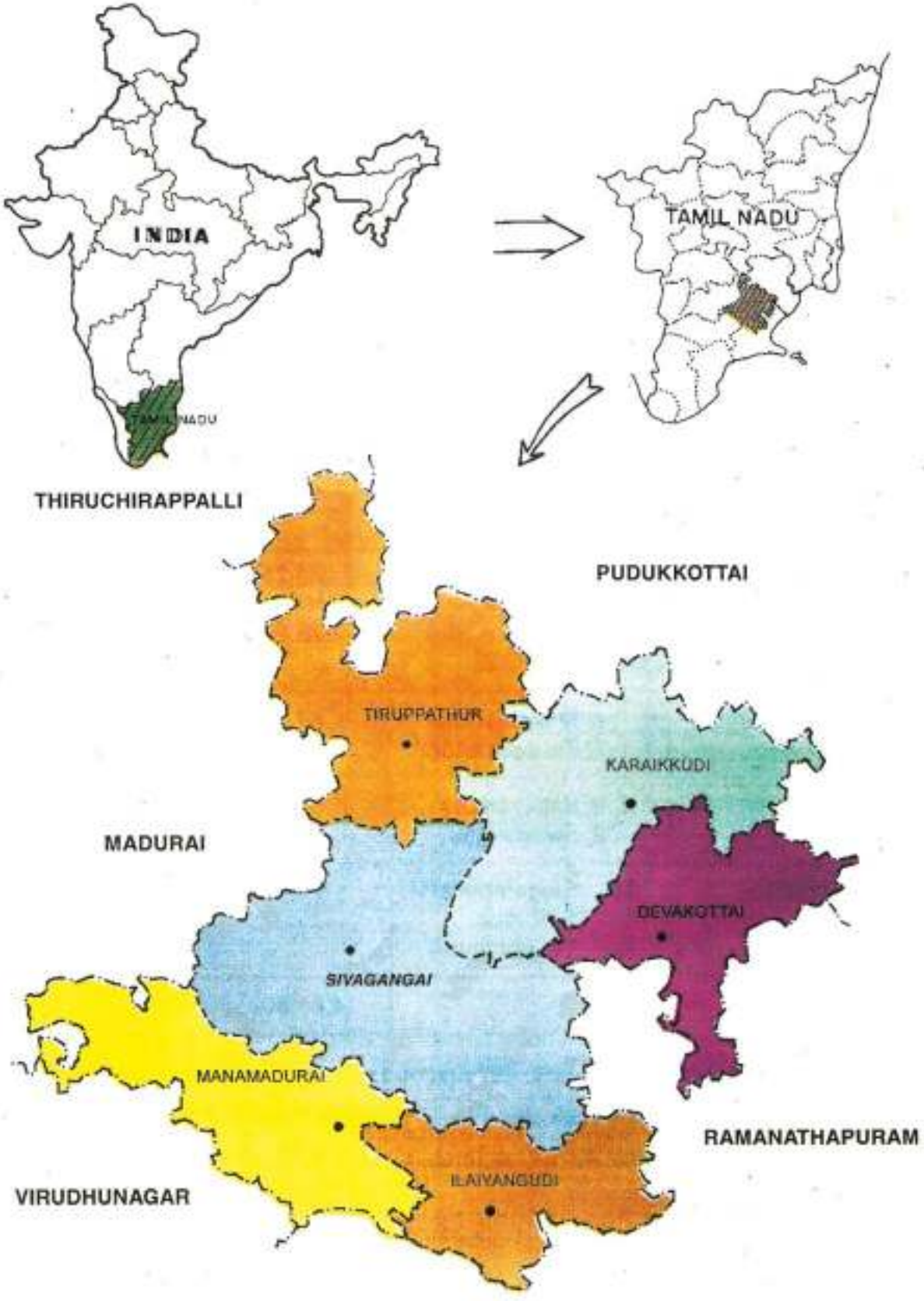
D 3.4 Tamil nadu upland and narrow strip of Tamil nadu plain, gradually merging to south-eastern coastal plain with a little to moderate moisture availability

D 4.4 Hot and dry, moderate moisture availability

Agro climatic zone : Sub zone V. Southern zone.

LOCATION MAP

SIVAGANGAI DISTRICT



TALUKS AND PANCHAYAT UNIONS

SIVAGANGAI DISTRICT

Sivagangai district consists of six taluks and twelve panchayat unions. The details of taluks, panchayat unions and the number of revenue villages are given below.

Taluks	Panchayat union	Extent of taluks (ha)	Percent to total	No. of Revenue villages
1. Devakottai	1. Devakottai 2. Kannangudi	48,182	10.43	68
2. Ilaiyangudi	3. Ilaiyangudi	43,784	9.48	52
3. Karaikkudi	4. Kallal 5. Sakkottai	73,068	15.82	64
4. Manamadurai	6. Manamadurai 7. Tiruppuvanam	67,515	14.62	84
5. Sivagangai	8. Kalaiyarkovil 9. Sivagangai	1,59,077	34.44	129
6. Tiruppathur	10. Singampunari 11. S. Pudur 12. Tiruppathur	70,236	15.21	100
		4,61,862	100.00	497

The six taluks are spreadover in 497 revenue villages covering an extent of 461862 hectares of land. Sivagangai taluk alone has the highest extent of land which occupies 1,59,077 hectares as against 43784 hectares in Ilaiyangudi taluk.

SIVAGANGAI DISTRICT

TALUKS & PANCHAYAT UNIONS

REFERENCE

District boundary	———
Taluk boundary	- - - - -
Panchayat union boundary	.....
District Headquarter	◎
Taluk & Union Headquarter	○

ROADS AND RAILWAYS

SIVAGANGAI DISTRICT

This district is well connected by roads and to a lesser extent by rail. The major roads connects Sivagangai with Pudukottai, Madurai, Virudhunagar, Thanjavur and Ramanathapuram districts.

National Highway No : 49

Manamadurai to Tiruppuvanam	-	25.6 Km

State Highway :

Sivagangai to Tiruppatthur	-	38.2 km.

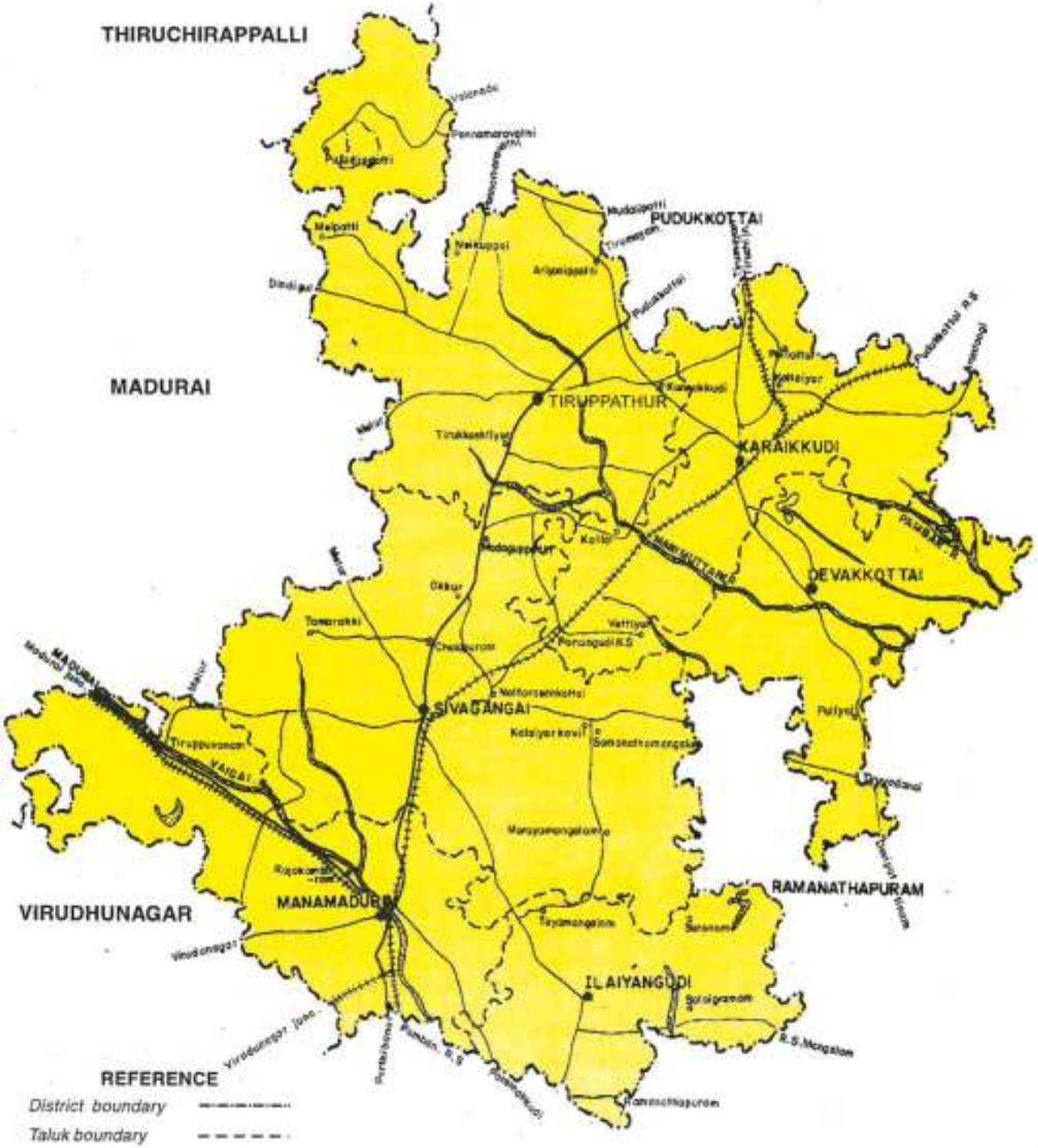
District roads :

Sivagangai to Ilaiyangudi	-	33.2 km
Sivagangai to Karaikkudi	-	40.0 km
Sivagangai to Devakotti	-	30.5 km

The district is served by metre - gauge railway (Southern railway) which runs to a distance of 52.0km from Manamadurai to Karaikkudi via Sivagangai. Chennai is connected by rail from Karaikkudi via Pattukkottai.

ROADS & RAILWAYS

SIVAGANGAI DISTRICT



GEOLOGY

SIVAGANGAI DISTRICT

Geological formation of the district is varying. The northern part of Sivagangai and Tiruppathur taluks are occupied by rocks of Archean age belonging to the charnockite - khondalite super group. This group of rocks comprises of (i) Charnockite (ii) garnetifierous silmonite - gneiss and composite gneisses such as amphibolite, pyroxene, biotite - schist etc.,

(ii) Quartzite

(iii) Crystalline limestone, calciphyres, calc-granulites etc., and intruded by thin veins of pegmatite and quartz.

In Sivagangai taluk, soft sedimentary rocks of upper Gondwana age consisting of basal bounder bed and conglomerate, micaceous sand stone and alternating shales and grits unconformably overlie Archean rocks. Similar rocks are also present in certain parts of Tiruppathur taluk. The Gondwana rocks are seen to be overlain by coarse, soft, gritty sand stones, occasionally conglomeritic at a fewer places around Kovilur, Kuttalur etc., in Tiruppathur taluk. Laterite and reddish brown laterite soil of sub recent age occur covering wide area in parts of Sivagangai and Manamadurai.

Geohydrology :

The ground water potential of this district 101519 hectares metre out of which 8516 hectares metre are tapped and 93003 hectare metre are unutilized. Based on the origin of soil and ground water potential, the type of wells may be preferred. For charnokite, kondalite and Gondwana areas, open dugwells and dug cum borewells are preferable. The dug wells should be square or rectangular but not round. For tertiary and sedimentary rock areas open dug wells, dug cum borewells and bore wells are preferable.

Mineral resources : Sivagangai district has got considerable mineral deposits.

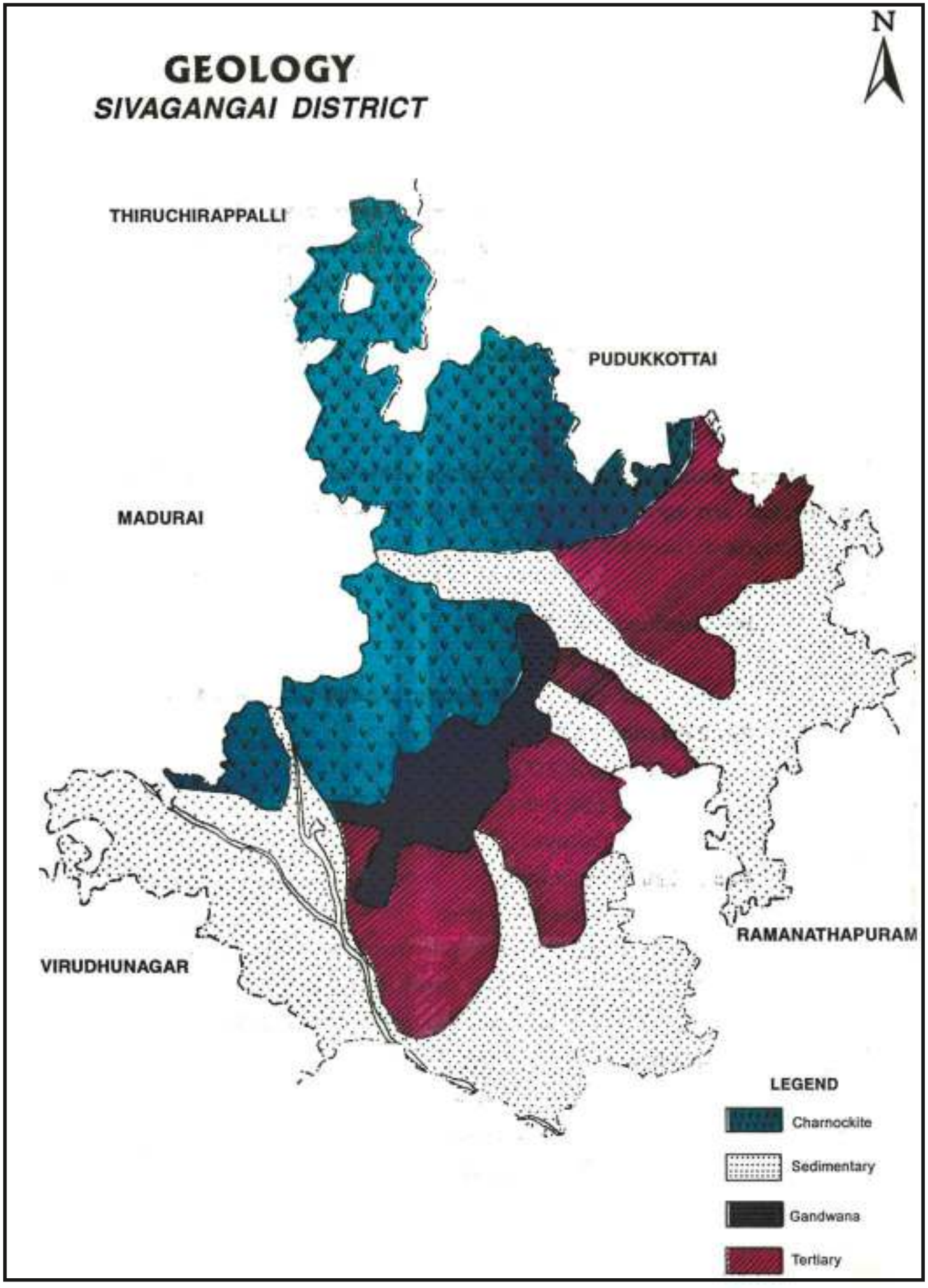
1. Graphite : Graphite is available in the villages of Senthiudayanathapuram Pudupatti, Kumarapatti and Arasanur of Sivagangai taluk. Graphite deposit is available to an area of 16km length in Enathi and Poovanthi village of Manamadurai taluk. The estimated quantity of graphite is 102.5 lakh tonnes.

2. Lime : The estimated amount of lime deposit available in Pappanpatti and Poovanthi villages may run to 39,000 tonnes.

3. White clay : An estimated deposit of 1.57 million tonnes of lime stone is available in Nattarasankottai, Kusavanvaippu, Uruli, Manambakki, Muthupatti and Panagudi villages of Tiruppathur taluk.

4. Colour oxides : In Manampakki, Nathapurakki and Uruli villages 40,000 tonnes of colour oxides are available.

GEOLOGY
SIVAGANGAI DISTRICT



PHYSIOGRAPHY

The district is physiographically divided into (i) the black soil plains on the portions of Sivagangai, Ilaiyangudi and Devakottai taluks. (ii) The sandy soil region of Tiruppathur taluk and northern portions of Sivagangai and Devakottai taluks, called Chettinad, drained by river Virusuli, Manimuthanadhi and Pambar river. Scattered hillocks can be seen at Kunnakudi, Piranpatti, Madugupatti, Pillaiyarpatti, Eriyur, Araliparai and Tirukkalakudi.

Using available thernatic maps on geology, physiography, geomorphology, study of literature and agroclimatic regions and differences in local conditions following physiographic divisions are also made.

Hec Tamilnadu uplands :

121 - Low hills

162, 163, 164 - Undulating to gently sloping foot slopes

Pec 2 Riverine landform :

211, 212, 217 - Alluvial plain

232, 234, 235 236, 238, 2391, 2395 - Flat lands

241 - valleys

Pec 3 - Laterite land form :

311 - Laterite out crop

321, 322, 323, 324, 327 - Gently sloping to undulating lands

331, 332, 333, 339 - Gently sloping lands

351, 352, 353, 357 - Low lands - taluk irrigated areas

Pec 4 Inland plains :

412 - Isolated hills, hillocks

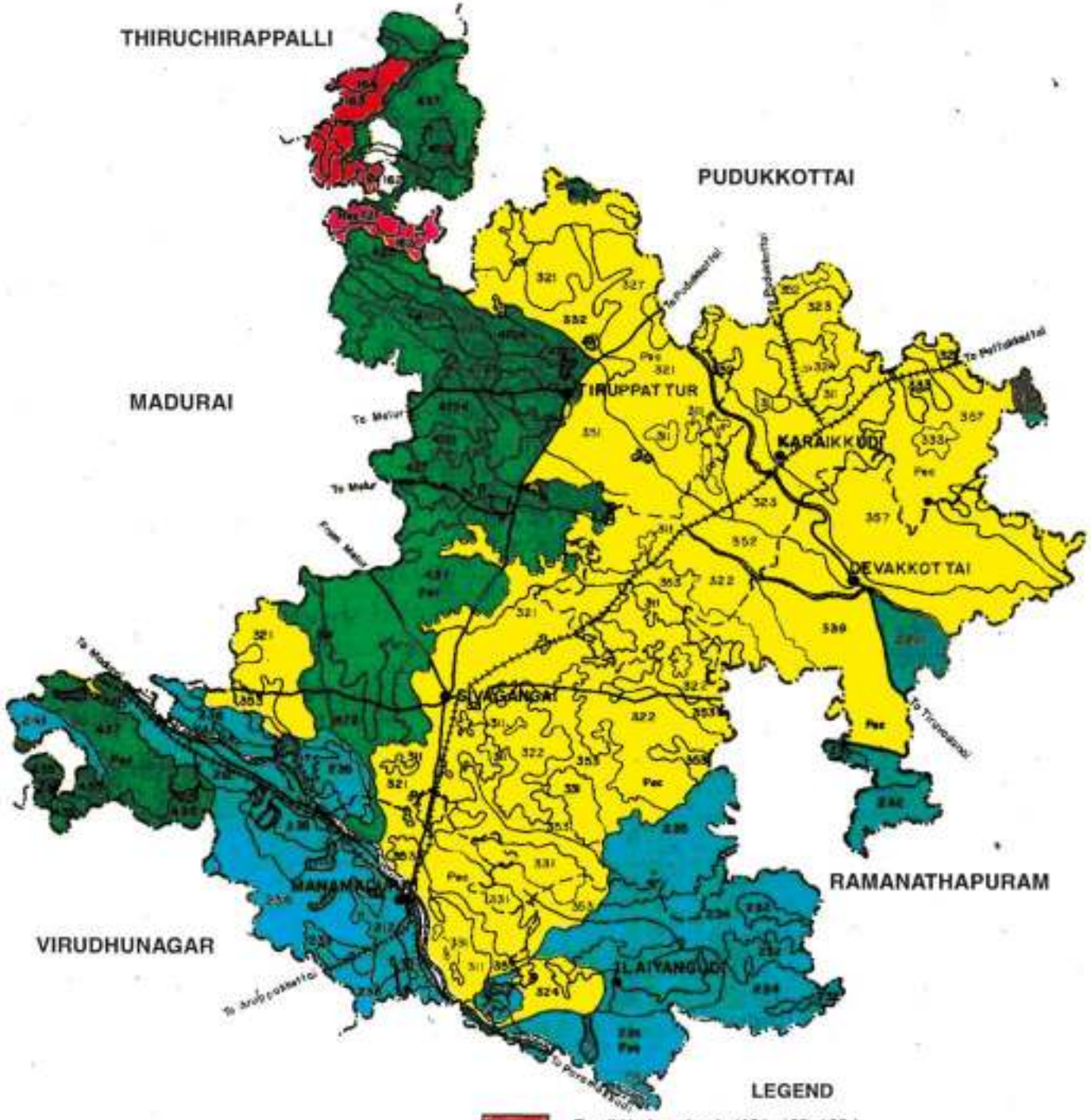
425 - Undulating upland

435, 437 - Gently sloping to undulatig upland

472, 4722, 4724, 4725, 4727 - Low lands

PHYSIOGRAPHY

SIVAGANGAI DISTRICT



RIVER BASINS AND WATERSHEDS

SIVAGANGAI DISTRICT

There are four river basins namely Pambar, Manimuthar, Kattakarai and Vaigai. The rivers Manimutha nadhi irrigating Tiruppatthur taluk, crosses Karaikkudi and Devakottai taluks. River Kottakarai originating Sivagangai taluk crosses Karaikkudi taluk. The river Vaigai crossing Manamadurai taluk and touches Tiruppuvanam. There are five minor basins namely Kottakudi, Thanar, Manimuthar, Uppanar and Paralikidamal. There are two other river basins namely Sarugani and Vaigai river basins.

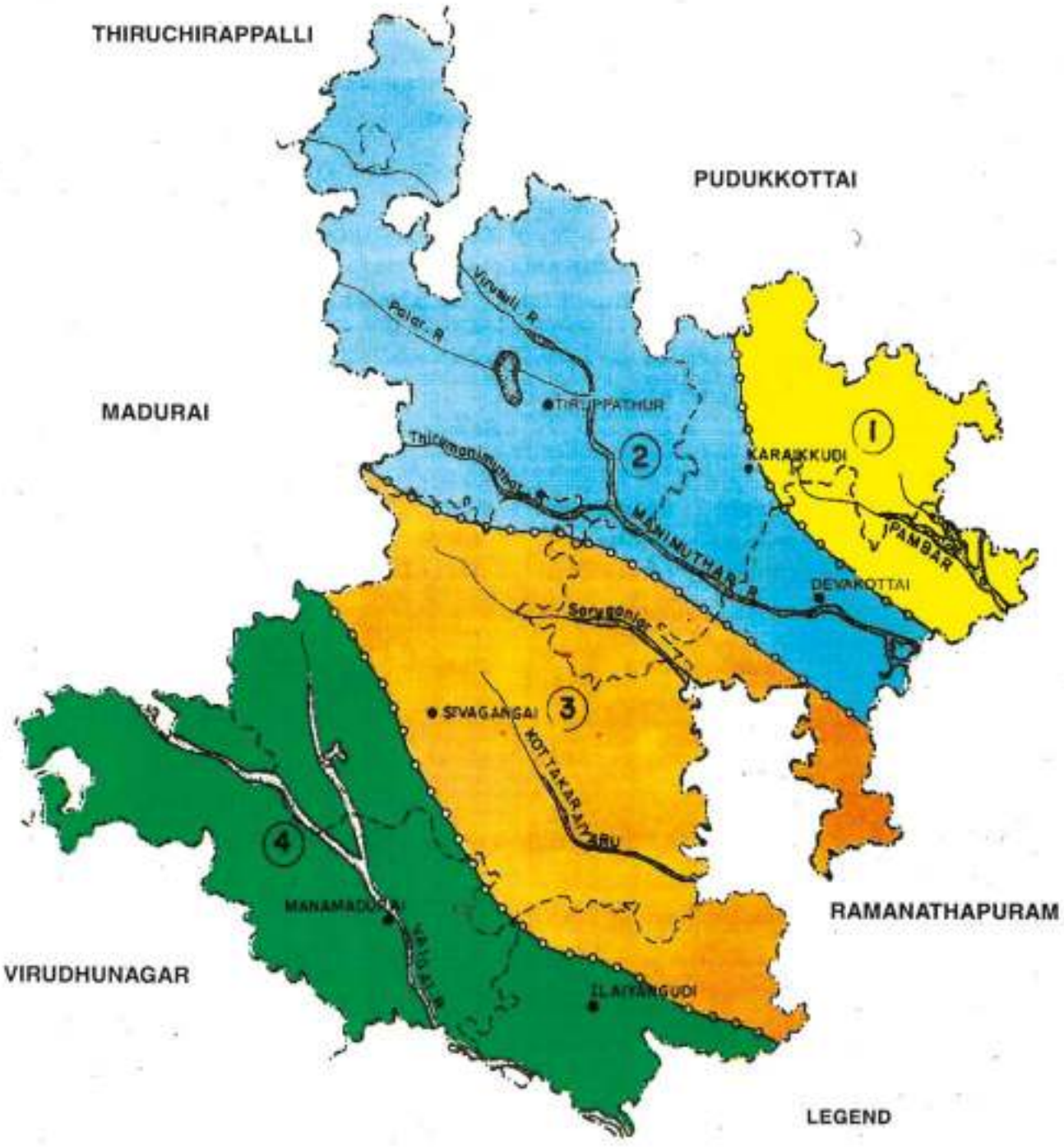
A part from rivers and canals, tanks and wells also constitute the irrigation sources of this district.

The details of number of tanks and the Ayacut area are given below.

S. No.	Abstract of P.W.D. tanks			Details of Vaigai fed tanks			
	Name of panchayat unions	Number of tanks	Ayacut (ha)	Right main canal		Left main canal	
				No. of tanks	Ayacut (ha)	No. of tanks	Ayacut (ha)
1.	Kalaiyarkoil	101	6,170	—	—	—	—
2.	Sivagangai	68	4,620	—	—	—	—
3.	Manamadurai	73	9,620	14	3,384	8	2,176
4.	Tiruppuvanam	79	12,910	36	6,841	10	2,722
5.	Ilaiyangudi	65	7,205	—	—	30	4,427
6.	Devakottai	26	1,931	—	—	—	—
7.	Kannangudi	29	2,469	—	—	—	—
8.	Kallal	57	3,666	—	—	—	—
9.	Sakkottai	32	1,786	—	—	—	—
10.	Tiruppathur	47	4,268	—	—	—	—
11.	Singampunari	24	2,023	—	—	—	—
12.	S. Pudur	8	518	—	—	—	—
	Total	**609**	**57,186**	**50**	**10,265**	**48**	**9,325**

DRAINAGE & RIVER BASINS

SIVAGANGAI DISTRICT



RAINFALL DISTRIBUTION

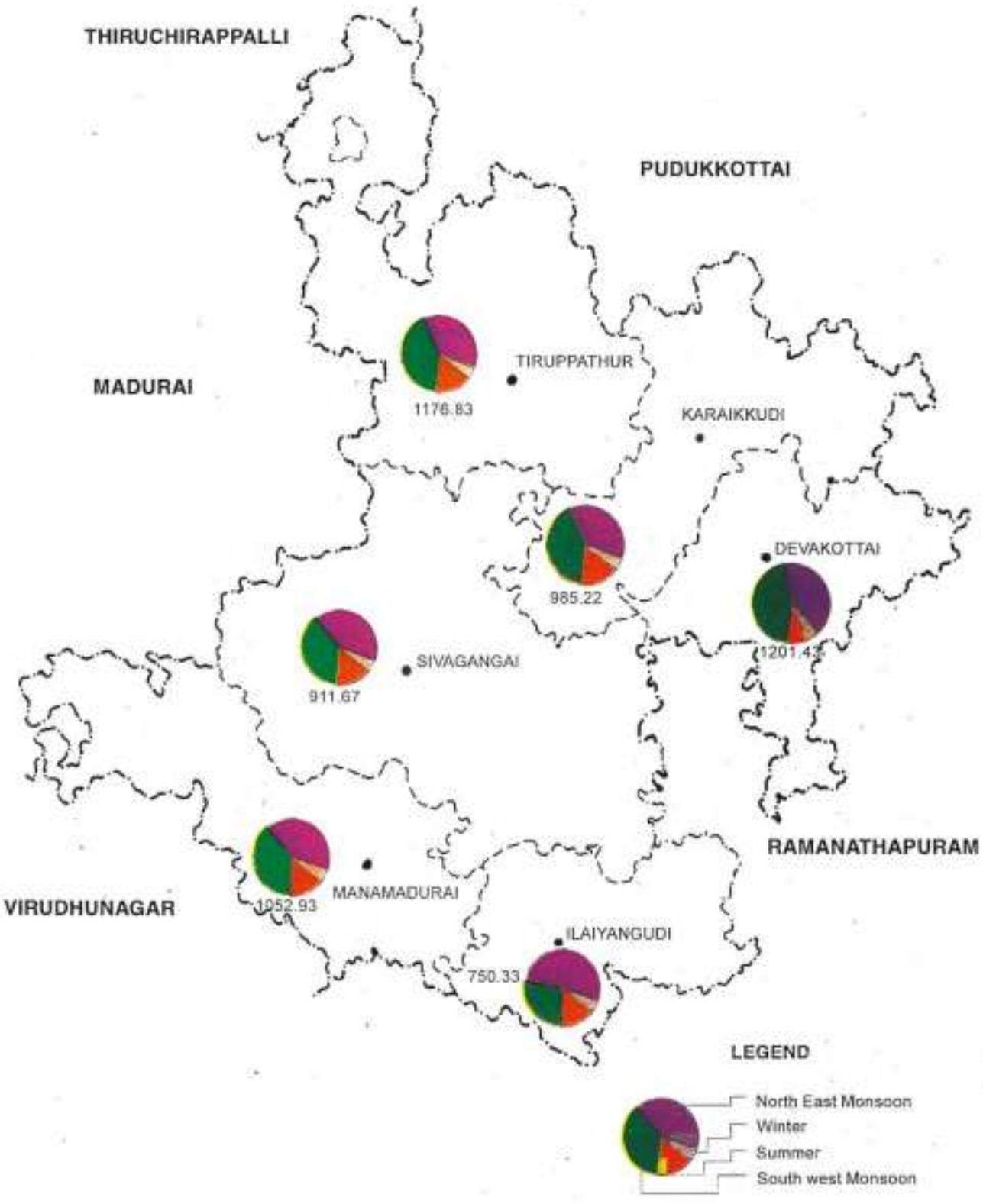
SIVAGANGAI DISTRICT

The distribution pattern of rainfall in the different taluks of Sivagangai district over a period of 70 years (1926 - 1955) is furnished below.

In all the six taluks of Sivagangai district, North-East monsoon and south-west monsoon are the main sources of water both for agricultural and drinking purposes . If they fail to bringabout considerable quantity of water, then drought occurs which is quite often happening in this district. The mean annual rainfall is maximum in Devakottai taluk (1201.43mm) and minimum in Ilaiyangudi taluk (750.33mm)

Taluks	Seasonal rainfall								
	Mean annual rainfall	South-west monsoon (Jun - Sep)		North-east monsoon (Oct - Dec)		Winter (Jan - Feb)		Summer (Mar - May)	
	mm	mm	Per -cent	mm	Per -cent	mm	Per -cent	mm	Per -cent
1. Devakottai	1201.43	500.33	41.6	555.22	46.2	47.48	4.0	98.40	8.2
2. Ilaiyangudi	750.33	197.37	26.3	414.79	55.3	28.17	3.7	110.00	14.7
3. Karaikkudi	985.22	390.16	39.6	425.03	43.1	35.32	3.6	134.71	13.7
4. Manamadurai	1052.93	402.63	38.2	430.02	40.8	46.08	4.5	174.20	16.5
5. Sivagangai	911.67	348.04	38.2	410.59	45.0	28.69	3.2	124.35	13.6
6. Tiruppathur	1176.83	496.42	42.2	441.23	37.5	40.78	3.4	198.38	16.9
Mean for the district	**1013.07**	**389.16**	**37.68**	446.15	44.65	**37.81**	**3.73**	140.00	13.93

RAINFALL
SIVAGANGAI DISTRICT



TEMPERATURE

SIVAGANGAI DISTRICT

The atmospheric temperature is the primary source of soil temperature. The atmospheric temperature was used for the calculation of soil temperature by deducing 5°c. 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 vegetation 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. Nitrification process through micro organisms are at the maximum between 80-90°F. If the soil temperature is 35°C and above, root growth and germination of most of the plant are severely restricted.

From the atmospheric temperature data of Sivagangai district recorded over a period of 70 years (1926-1995), the soil temperature during hot months (March to September) were not above 35°c (Atmospheric temperature - 5°C = soil temperature) However sowing of heat sensitive crops should be done with utmost care. Soil mulching will reduce the soil temperature to some extent. For this district temperature tolerant crops and varieties may be recommended. Temperature will help to predict the maturity dates.

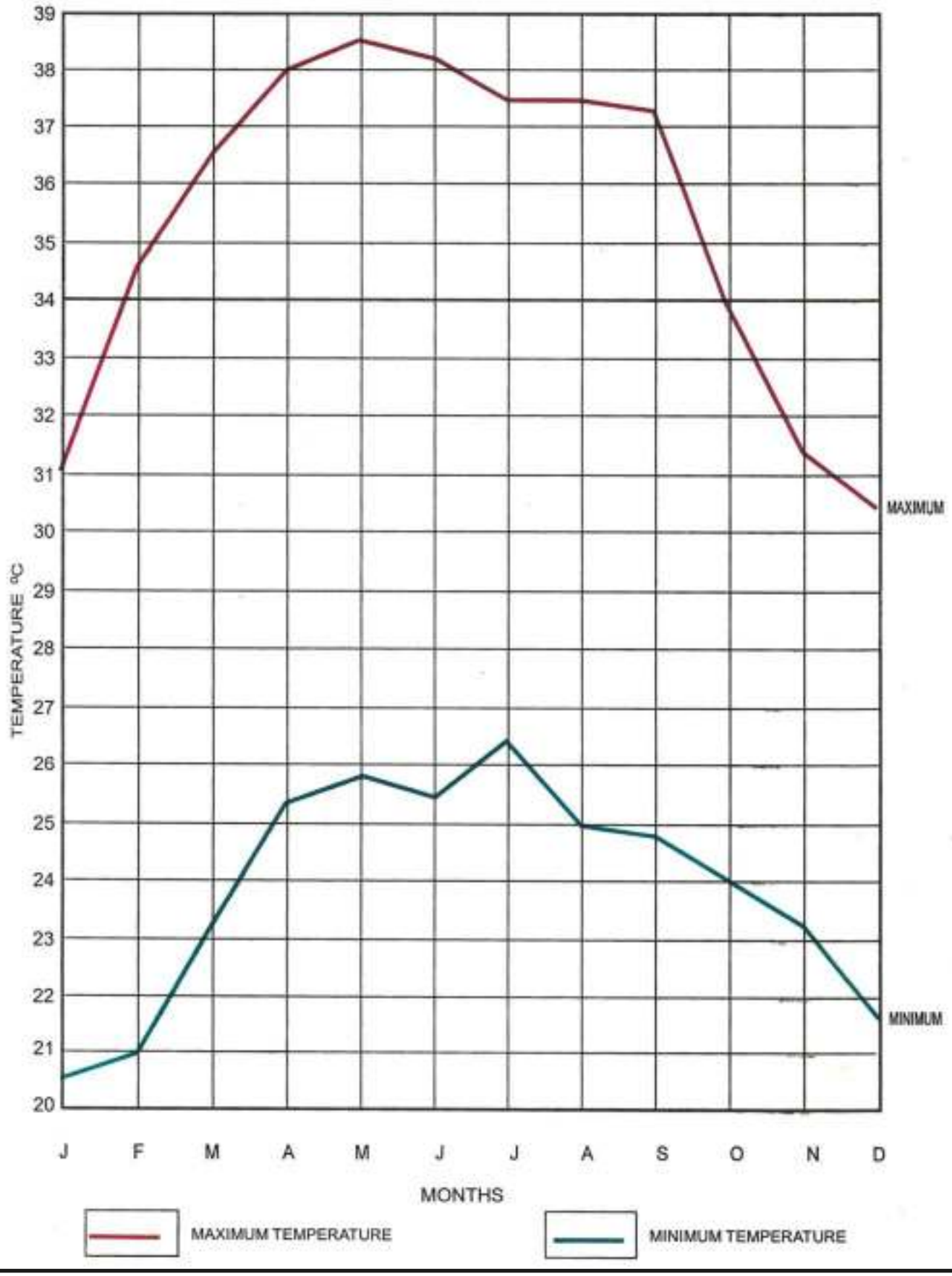
Months	Maximum temperature (°C)	Minimum temperature (°C)	Mean temperature (°C)
January	31	20	25.5
February	34	21	27.5
March	37	23	30.0
April	38	25	31.5
May	38	25	31.5
June	38	25	31.5
July	37	26	31.5
August	37	25	31.0
September	37	25	31.0
October	34	24	29.0
November	31	23	27.0

Soil moisture regime : USTIC.

USTIC moisture regime : The Ustic (L-ustus - burnt, implying aryness) moisture regime is one that is limited but is present at a time when conditions are suitable for plantgrowth. The soil is dry in some or all parts for 90 or more cumulative days per year. But the moisture control section is moist on some part either for more than 180 cumulative days per yar or for 90 or more consecutive days. In tropical and subtropical regions, the moisture regime is USTIC if there is atleast one rainy season of three months or more.

TEMPERATURE

SIVAGANGAI DISTRICT



OMBROTHERMIC DATA

Dry spell is most common and the wet period lasts for two months only.

Month	Mean rainfall (mm)	Mean temperature (°C)
January	29.91	25.5
February	7.85	27.5
March	17.70	30.0
April	51.24	31.5
May	71.06	31.5
June	65.56	31.5
July	68.39	31.5
August	100.12	31.0
September	154.76	31.0
October	241.21	29.0
November	148.74	27.0
December	56.19	26.0
	Total mm	**Mean**

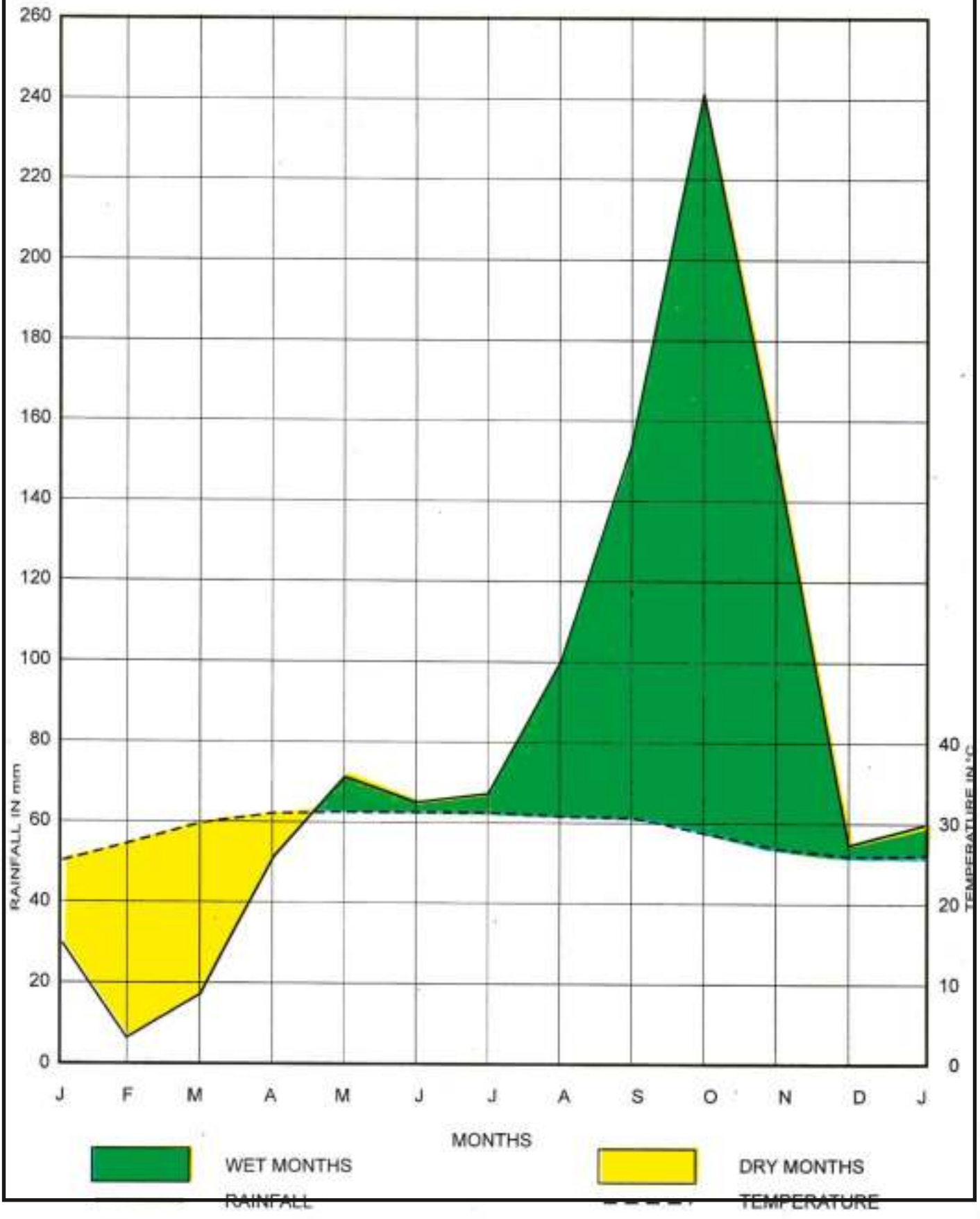
Season (mm)

Winter (January & February)	:	37.8
Summer (March & May)	:	140.0
South West Monsoon (June to September)	:	388.8
North East Monsoon (October to December)	:	446.1
Moisture region : Ustic **Total**		**1012.7**

Temperature Regine : Isomegathermic

OMBROTHERMIC DIAGRAM

SIVAGANGAI DISTRICT



TALUK WISE LAND USE PATTERN

SIVAGANGAI DISTRICT

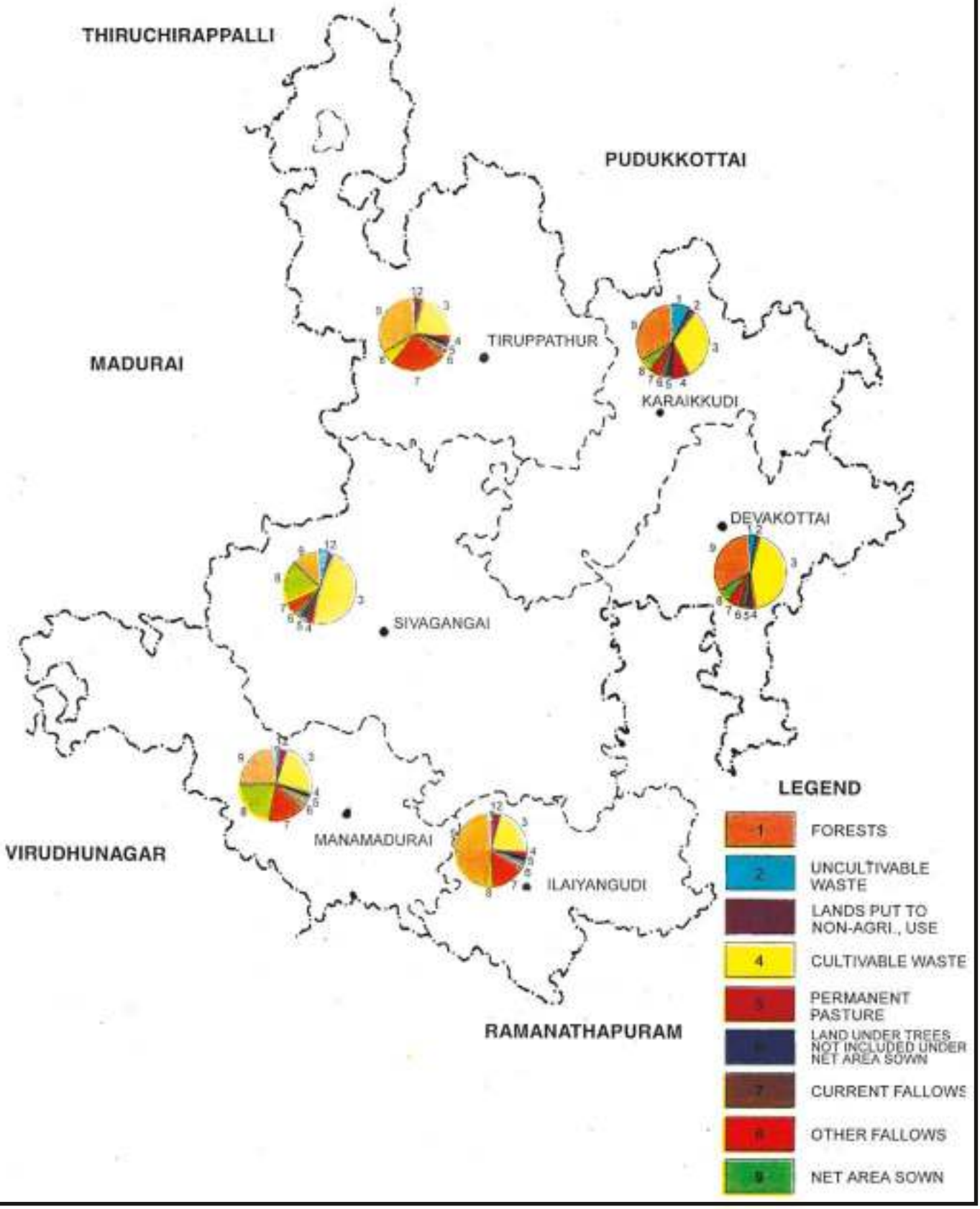
In this district, out of the total geographical extent of 461862 hectores only 1,20,480 hectares (26.08%) are used for regular agricultural purposes. A total of 1,08,145 hectares (23.42%) are fallow lands. The lands put to non-agricultural purposes occupy 1,76,811 hectares (38.28%). The cultivable waste lands of 17581 hectares can be brought into agricultural uses by suitable package of practices.

Sl. No.	Land use	Taluks with extent (ha)						
		Devakottai	Ilaiyangudi	Karaikkudi	Manamadurai	Sivagangai	Tiruppathur	Total Extent (ha)
	Total geographical extent	48,182 (100)	43,784 (100)	73,068 (100)	67,515 (100)	1,59,077 (100)	70,236 (100)	4,61,862 (100)
1.	Forest	1924 (3.99)	12 (0.03)	10030 (13.73)	950 (1.41)	2,420 (1.52)	1,959 (2.79)	17,295 (3.74)
2.	Barren and uncultivable land	435 (0.91)	1,824 (4.17)	1,106 (1.52)	968 (1.44)	412 (0.26)	2,924 (4.17)	7,669 (1.66)
3.	Land put to non agricultural use	20,694 (42.95)	8,675 (19.81)	25,319 (34.65)	21,511 (31.86)	81,388 (51.16)	19,224 (27.37)	1,76,811 (38.28)
4.	Cultivable waste	1,972 (4.09)	828 (1.89)	4,349 (5.95)	2,230 (3.30)	4,134 (2.60)	4,068 (5.79)	17,581 (3.81)
5.	Permanent pastures and grazing land	816 (1.69)	1,738 (3.97)	833 (1.14)	105 (0.16)	41 (0.03)	247 (0.35)	3,780 (0.82)
6.	Miscellaneous tree crops and groves	1,393 (2.89)	50 (0.11)	2,384 (3.26)	2,776 (4.11)	1,509 (0.95)	1980 (2.82)	10,092 (2.18)
7.	Current fallow	2,243 (4.66)	7,755 (17.71)	2,647 (3.62)	9,670 (14.32)	8,604 (5.40)	13,170 (18.75)	44,089 (9.55)
8.	Other fallow land	2,413 (5.01)	1,313 (3.00)	5,688 (7.79)	14,896 (22.06)	34,564 (21.73)	5,182 (7.38)	64,056 (13.87)
9.	Net area sown	16,292 (33.81)	21,589 (49.31)	20,712 (28.34)	14,409 (21.34)	26,005 (16.35)	21,482 (30.58)	1,20,489 (26.09)

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

LAND USE PATTERN

SIVAGANGAI DISTRICT



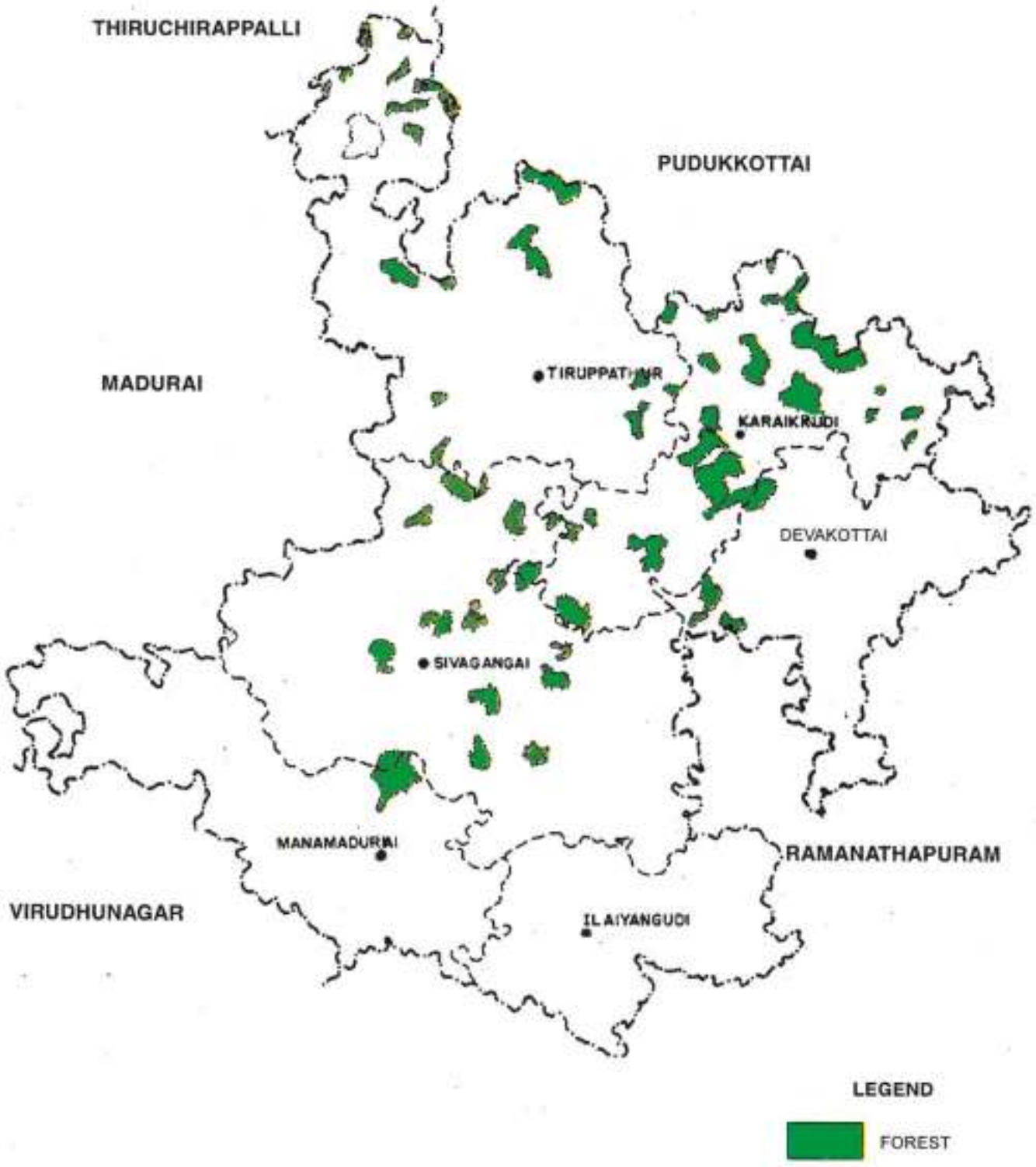
FOREST

SIVAGANGAI DISTRICT

The extent of forest wealth is 17,295 hectares which accounts for 3.74% of the total geographical extent (461862 ha) of this district. Karaikkudi taluk alone accounts for 10,030 hectares which is 57.99% of the total forest area. In social and village foresty, neem and tamarind plants are grown. In dry tracts, casurina and palmyrah trees, are commonly seen.

Sl. No.	Taluks	Total Extent (ha) of forest	Percent to total
1.	Devakottai	1,924	11.13
2.	Ilaiyangudi	12	0.07
3.	Karaikkudi	10,030	57.99
4.	Manamadurai	950	5.49
5.	Sivagangai	2,420	13.99
6.	Tiruppathur	1,959	11.33
	Total	**17,295**	100.00

FOREST
SIVAGANGAI DISTRICT



CROP AREA

SIVAGANGAI DISTRICT

Rice is the principal crop in this district. Among the rice growing taluks, Sivagangai alone accounts for 20470 hectares (22.13%) Oil seeds. Millets, Pulses and Cotton are grown under both irrigated and rainfed conditions.

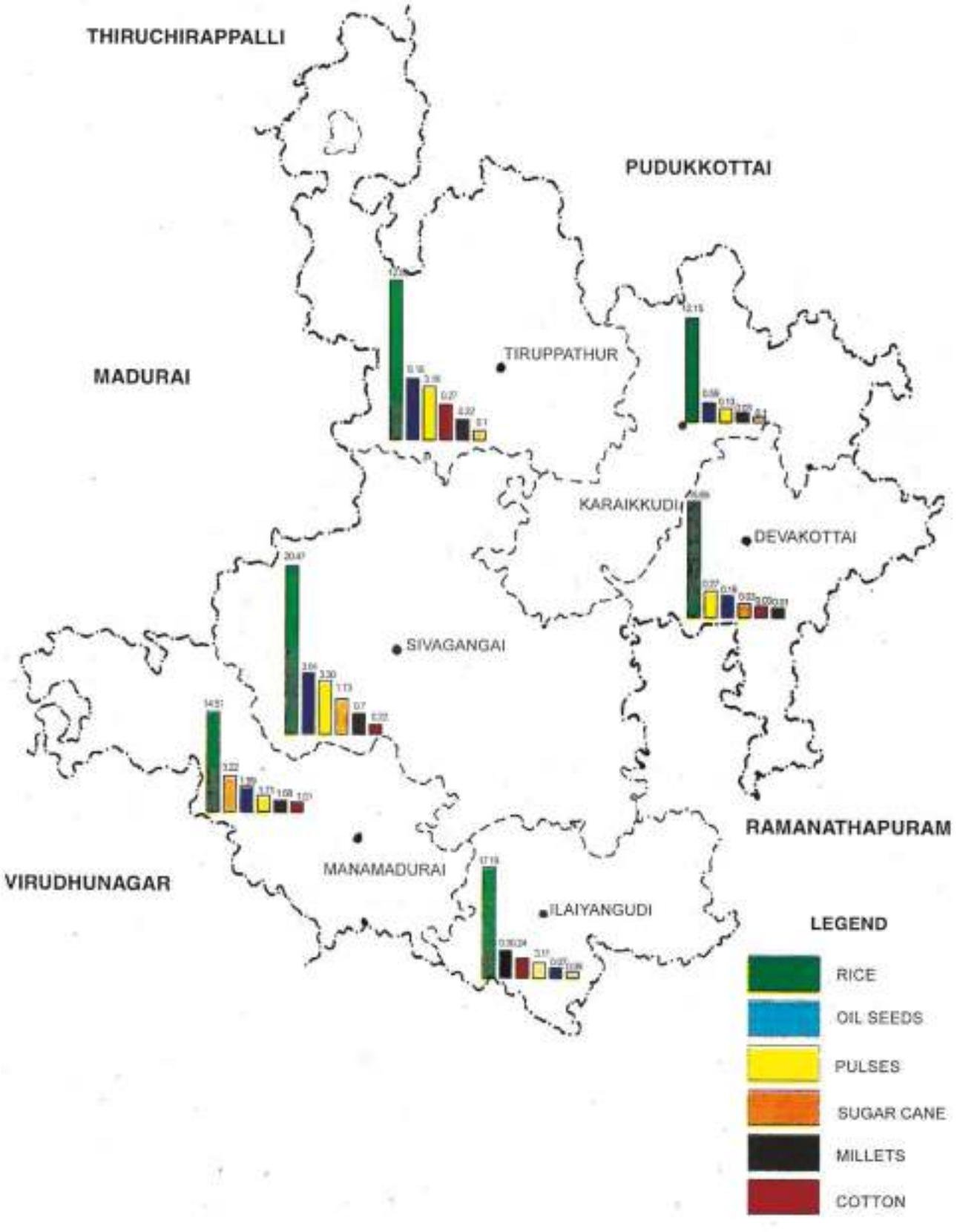
In Sivagangai district out of the total cropping area of 1,23,390 hectares Sivagangai, Manamadurai and Tiruppathur taluks account for 29,730 (24.09%), 24120 (19.55%) and 22,480 (18.22%) hectares respectively. Karaikkudi taluk finds the last place in cropping area (12920ha)

Extent under different crops is given below.

(In thousand hectares)

Sl. No.	Crop	Siva-gangai	Mana madurai	Ilaiyan-gudi	Deva-kottai	Karaik-kudi	Tiruppa-thur	Total	Percent to total cropping area
1.	Rice	20.47	14.51	17.19	15.65	12.15	12.53	**92.50**	**74.96**
2.	Millets	0.70	1.68	0.30	0.01	0.03	0.22	**2.94**	**2.38**
3.	Pulses	3.30	1.71	0.11	0.27	0.13	3.18	**8.70**	**7.05**
4.	Oil seeds	3.91	1.99	0.07	0.18	0.59	6.18	**12.92**	**10.47**
5.	Sugarcane	1.13	3.22	0.06	0.03	0.02	0.10	**4.56**	**3.70**
6.	Cotton	0.22	1.01	0.24	0.03	—	0.27	**1.77**	**1.44**
	Total	**29.73**	24.12	17.97	**16.17**	12.92	**22.48**	**123.39**	**100.00**

CROP AREA
SIVAGANGAI DISTRICT



CROPPING CALENDAR

SIVAGANGAI DISTRICT

Rice is the major crop in Sivagangai district (92500 hectares), cultivated both under irrigated and rainfed conditions during August to December. Groundnut is the principal oil seed crop, grown under irrigated and rainfed conditions throughout the year.

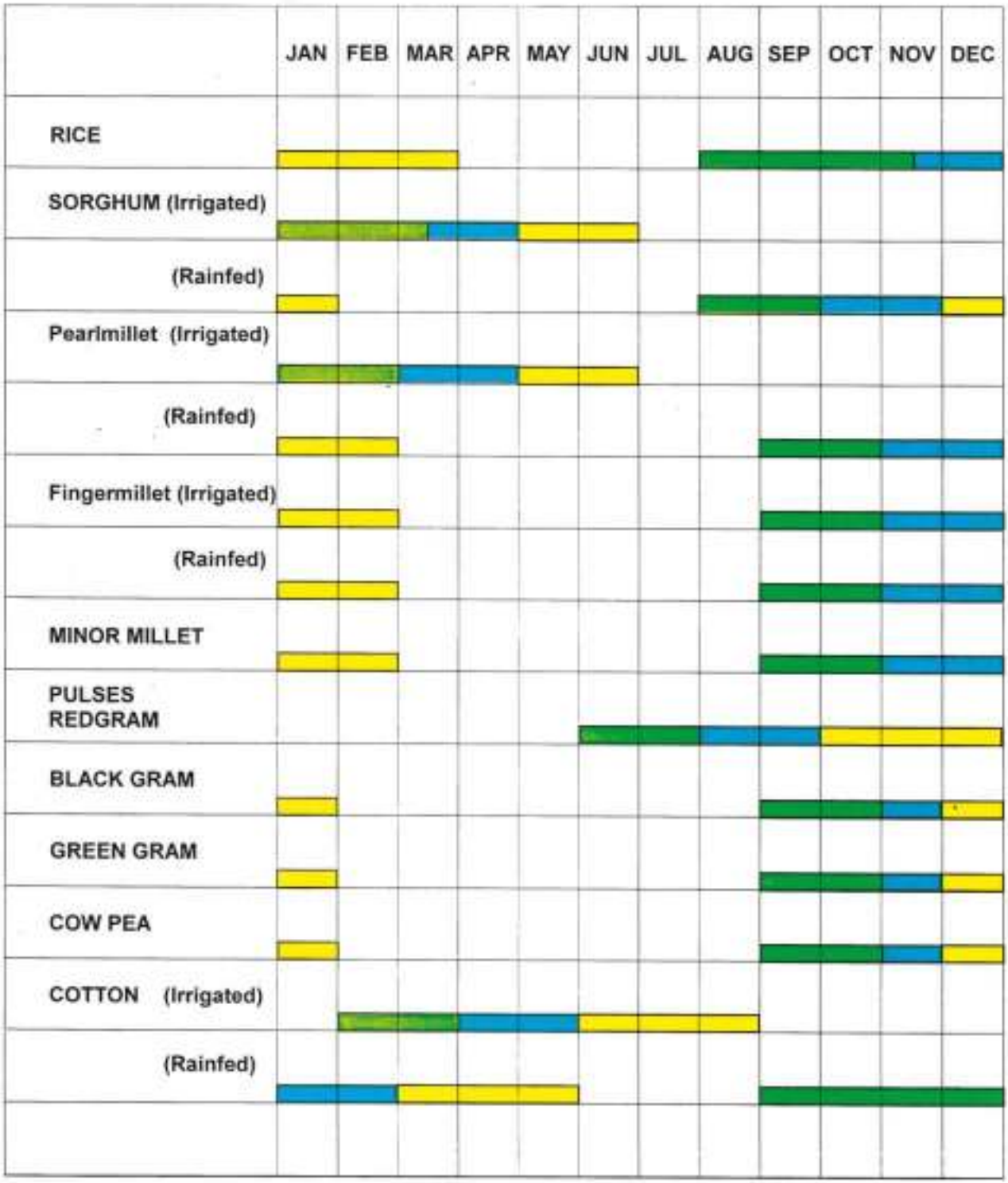
Pulses (Redgram, Black gram, green gram etc.,) are grown under irrigated conditions throughout the year. Black gram and green gram are also grown in rice fallows.

The sowing seasons for the major crops of the district are as follows :

Rice :	Irrigated	:	August to December
	Rainfed	:	August to October
Oil seeds :	Irrigated	:	Throughout the year
	Rainfed	:	
Sorghum :	Irrigated	:	January to May
	Rainfed	:	August to September
Pearl millet :	Irrigated	:	January to July
	Rainfed	:	September to November
Finger millet :	Irrigated	:	December to January
	Rainfed	:	September to October
Minormillets :	September to October		
Maize :	August to September		
Pulses :	Redgram Blackgram, Greengram and cow pea	:	June to August
	Irrigated	:	Throughout the year
	Rainfed	:	September to November
Cotton :	Irrigated	:	February to March
	Rainfed	:	September to October

CROPPING CALENDAR

SIVAGANGAI DISTRICT



SOURCES OF IRRIGATION

SIVAGANGAI DISTRICT

Manimutha nadhi, Sarugani and Vaigai rivers constitute the main source of river irrigation. The river Vaigai is the main source of irrigation for Manamadurai taluk. Manimutha nadhi provides sources of irrigation for Karaikkudi, Devakottai and Tiruppathur taluks. The river Kottakarai constitute the least source of river irrigation to Karaikkudi and Sivagangai taluks.

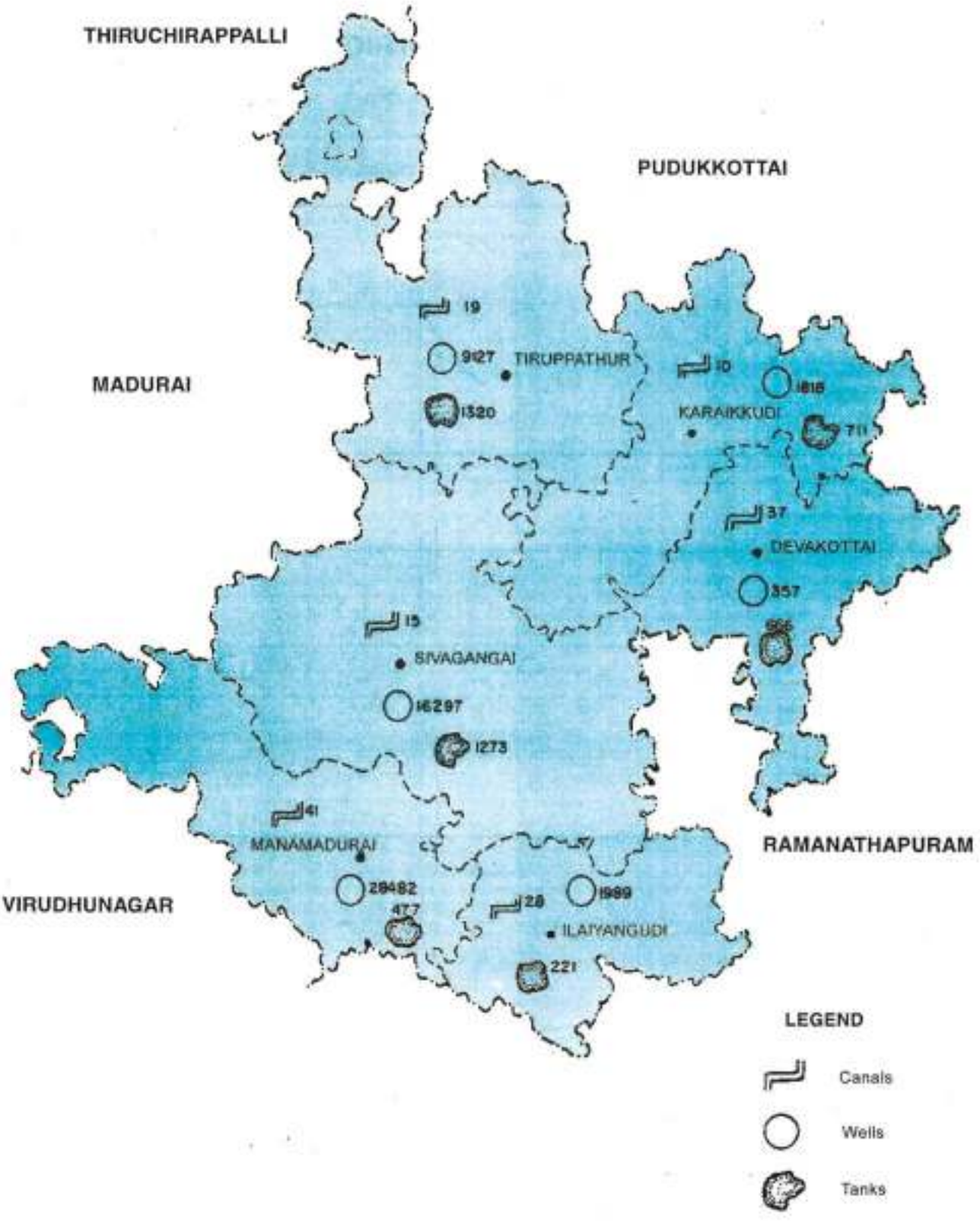
Apart from the above source of river irrigation, canals, tanks and wells are also the sources of irrigation.

In this district there are 4668 tanks, out of which 410 only are benefited by 150 canals. There are 58070 numbers of wells, which have to depend upon North - east monsoon for recharging.

Taluks	Sources of irrigation		
	Canals (Nos.)	Wells (Nos.)	Tanks (Nos.)
1. Devakottai	37	357	666
2. Ilaiyangudi	28	1,989	221
3. Karaikkudi	10	1,818	711
4. Manamadurai	41	28,482	477
5. Sivagangai	15	16,297	1,273
6. Tiruppathur	19	9,127	1,320
Total	**150**	58,070	**4,668**

SOURCES OF IRRIGATION

SIVAGANGAI DISTRICT



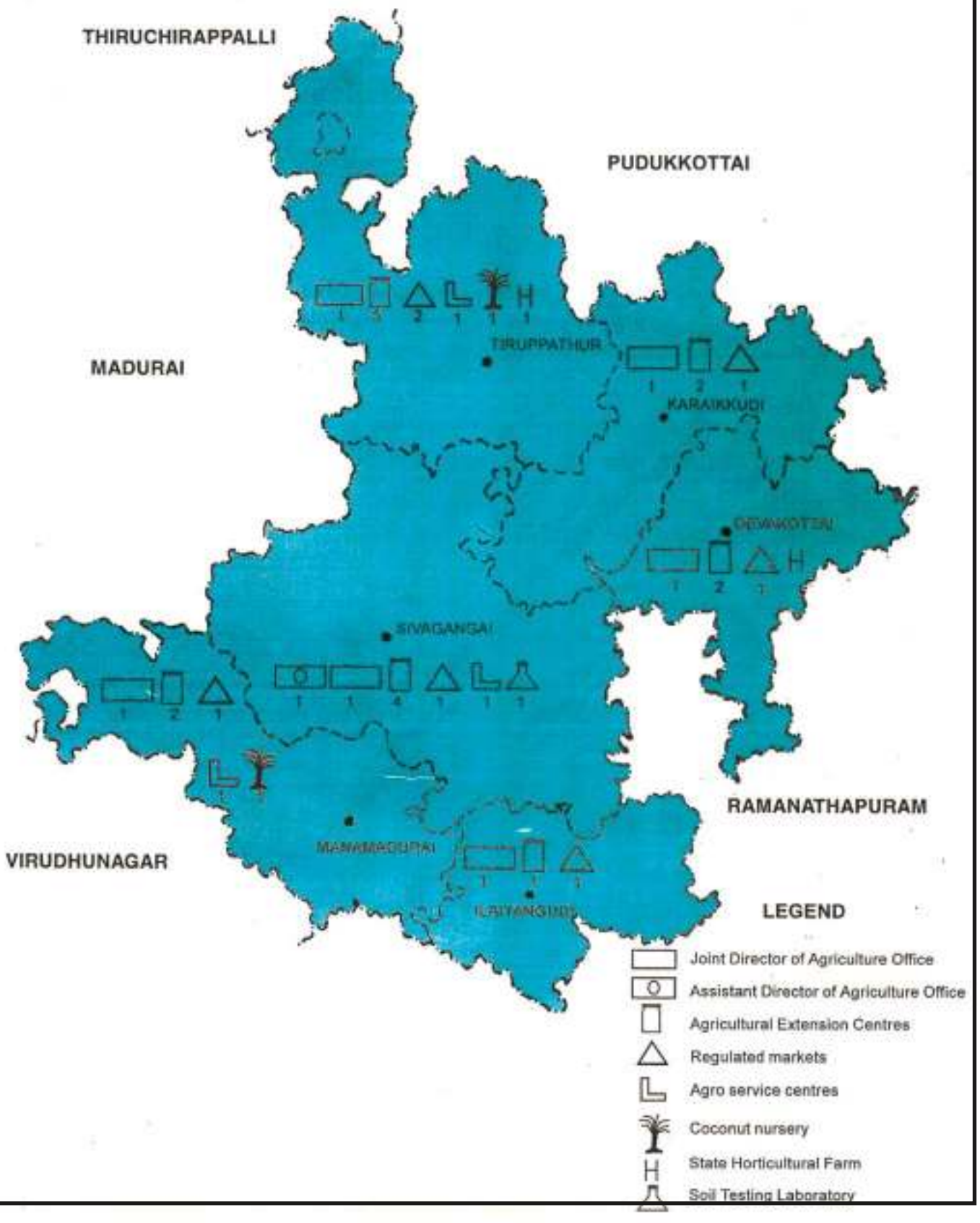
AGRICULTURAL INSTITUTIONS

SIVAGANGAI DISTRICT

INSTITUTIONS	Sivagangai	Manamadurai	Ilaiyangudi	Devakottai	Karaikkudi	Tiruppatthur	Total
1. Office of the Joint Director of Agriculture	1	—	—	—	—	—	**1**
2. Office of the Asst. Director of Agriculture	1	1	1	1	1	1	**6**
3. Agricultural extension centres	4	2	1	2	2	5	**16**
4. Agro service centres	1	1	—	—	—	1	**3**
5. Coconut nursery	—	1	—	—	—	1	**2**
6. State Horticultural farm	—	—	—	1	—	1	**2**
7. Soil testing laboratory	1	—	—	—	—	—	**1**
8. Regulated market	1	1	1	1	1	2	7
Total	**9**	6	3	**5**	**4**	**11**	**38**

AGRICULTURAL INSTITUTION

SIVAGANGAI DISTRICT



AGRO INDUSTRIES

SIVAGANGAI DISTRICT

Industries	Siva-gangai	Tiruppa-thur	Karai-kkudi	Deva-kottai	Mana-madurai	Ilaiyan-gudi	Total
1. Flour mills	—	—	—	—	2	—	**2**
2. Oil mills	4	7	3	—	1	—	**15**
3. Catte and poultry feed unit	—	—	1	—	—	—	**1**
4. Paddy Hulling Industries	15	9	7	9	—	1	**41**
5. Pickle Industries	—	—	1	—	—	—	**1**
6. Sugar mills	1	—	—	—	—	—	**1**
7. Others	6	2	2	2	—	—	**12**
Total	**26**	18	14	11	**3**	1	73

AGRO INDUSTRIES

SIVAGANGAI DISTRICT

ANIMAL HUSBANDRY INSTITUTIONS

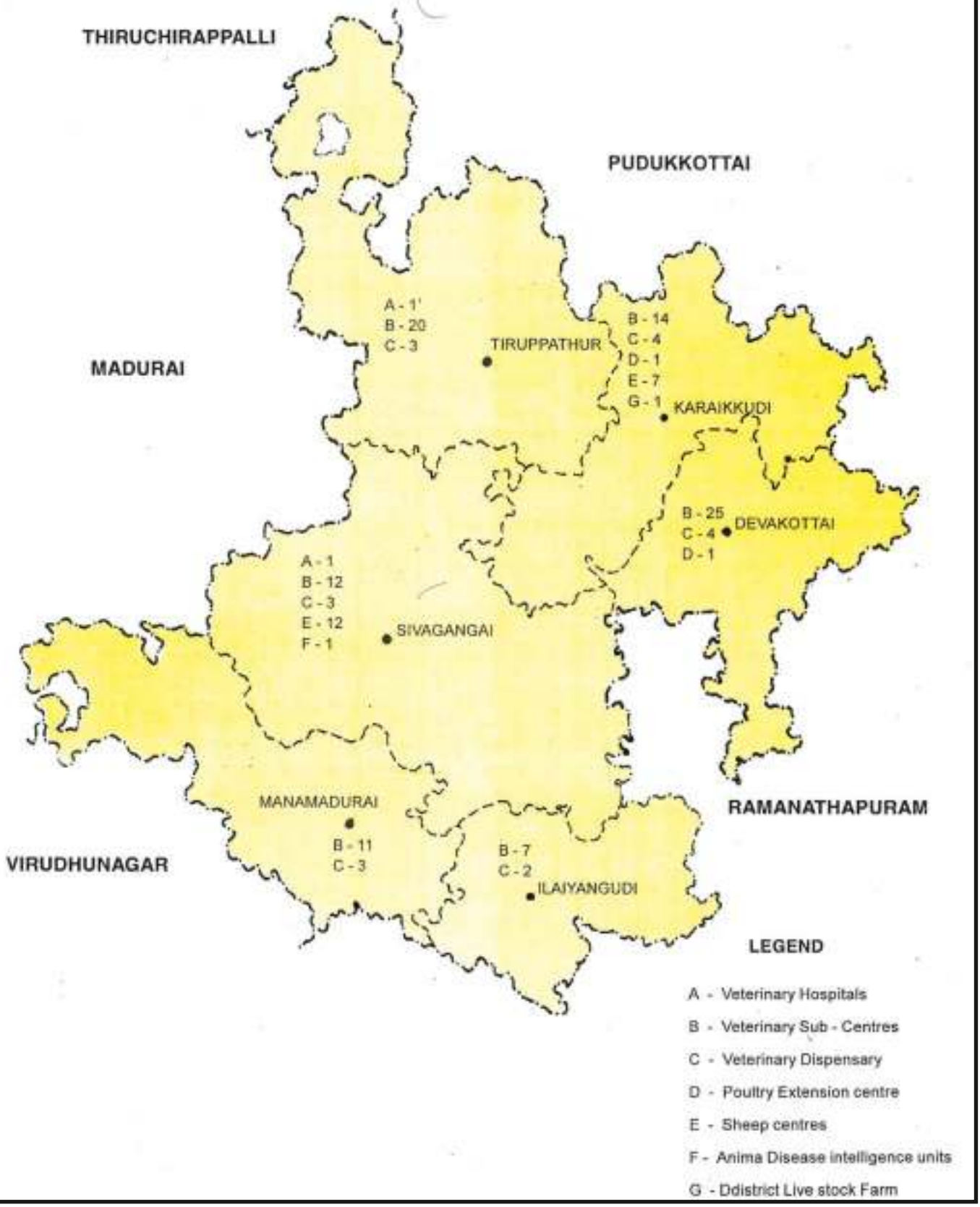
SIVAGANGAI DISTRICT

In this district, 19 sheep centres are functioning. Sheep penning is quite common and people are depending on sheeps for their income. A total of 110 veterinary centres are effectively functioning, to protect the sheeps from health disorders and diseases, and in multiplication of sheeps. Animal disease intelligence unit is functioning in this district to prevent the animals particularly sheeps from sporadic diseases.

Taluk	Veterinary hospital	Veterinary Subcentres	Veterinary Dispensary	Poultry extension centre	Sheep centres	Animal disease intelligence units	District live stock farm
1. Sivagangai	1	12	3	—	12	1	—
2. Tiruppathur	1	20	3	—	—	—	—
3. Karaikkudi	—	14	4	1	7	—	1
4. Devakottai	—	25	4	1	—	—	—
5. Manamadurai	—	11	3	—	—	—	—
6. Ilaiyangudi	—	7	2	—	—	—	—
Total	**2**	89	19	**2**	**19**	**1**	**1**

ANIMAL HUSBANDARY INSTITUTIONS

SIVAGANGAI DISTRICT

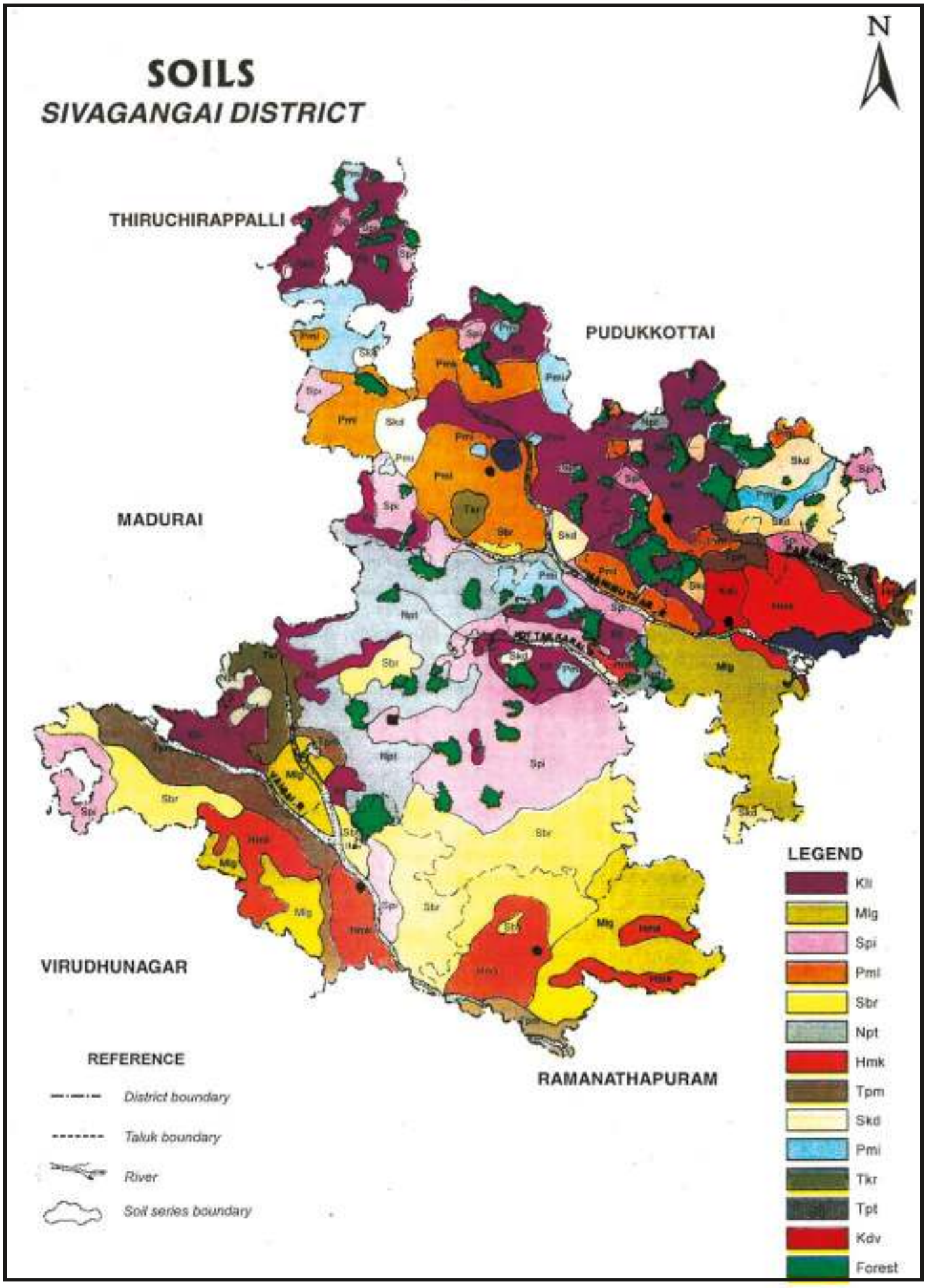


DISTRIBUTION OF SOILS

SIVAGANGAI DISTRICT

Soil series is a grouping of soil having similar profile characteristics developed from similar parent materials under the same climatic conditions. In Sivagangai district 13 soil series have been identified and scattered over in six taluks. The taluk wise distribution of different soil series are given below. With all the soil series, Kallal alone had occupied 68,336 hectares of the total geographical extent (4,61,862 ha) followed by Singampunari (66450 ha) and Sembanor (63943 ha). On the other hand Tiruppathur and Thirukkoshityur series had an extent of 3545 and 9380 hectares of soil respectively.

Sl. No.	Name of the soil series	Symbol of soil series	Extent (ha)						Total (ha)	Percent to total
			Deva -kottai	Ilaiyan -gudi	Karaik -kudi	Mana -madurai	Siva -gangai	Tiruppa -thur		
1.	Hanumanthakudi	Hmk	10,890	14,526	—	13,464	—	—	38,880	8.42
2.	Kallal	Kll	1,300	—	25,520	4,780	13,035	23,701	68,336	14.70
3.	Kondadevi	Kdv	2,777	—	—	—	—	—	2,777	0.60
4.	Milaganur	Mlg	17,083	17,142	—	7,435	8,891	—	50,551	10.94
5.	Nerupugapatti	Npt	1,232	—	800	265	49,738	—	52,035	11.27
6.	Pattamangalam	Pml	—	—	8,430	—	—	21,681	30,111	6.52
7.	Piranmalai	Pmi	—	—	7,150	—	—	9,126	16,276	3.53
8.	Sembanor	Sbr	—	9,284	—	21,046	33,613	—	63,943	13.84
9.	Singampunari	Spi	—	—	9,370	8,300	41,820	6,960	66,450	14.39
10	surakkudi	Skd	3,892	—	11,768	—	—	4,641	20,301	4.40
11.	Thirukkoshtiyar	Tkr	—	—	—	—	7,918	1,462	9,380	2.03
12.	Tiruppathur	Tpt	2,839	—	—	—	—	706	3,545	0.77
13.	Tiruppuvanam	Tpm	6,245	2,820	—	11,275	1,642	—	21,982	4.76
	Forests	—	1,924	12	10,030	950	2,420	1,959	17,295	3.74
	Total geographical extent	—	48,182	43,784	73,068	67,515	159077	70,236	461862	100.00


SOILS
SIVAGANGAI DISTRICT
N
THIRUCHIRAPPALLI
PUDUKKOTTAI
MADURAI
VIRUDHUNAGAR
RAMANATHAPURAM
LEGEND
Klt
Mlg
Spi
Pml
Sbr
Npt
Hmk
Tpm
Skd
Pmi
Tkr
Tpt
Kdv
Forest
REFERENCE
District boundary
Taluk boundary
River
Soil series boundary

HANUMANTHAKUDI SOIL SERIES (Hmk)

Brief description : These are dark brown to very dark brown, fine textured, calcareous and very deep soils. The soils are slightly alkaline and have argillic horizon. Crack of 1cm wide are present at a depth of 50cm.

Physiography : Gently sloping terrain

Drainage : Moderately drained, moderately rapid permeable

Taxonomy : Fine, mixed, isohyperthermic, very deep, vertic Haplustalfs.

Typifying pedon : Hanumanthakudi - sandy clay - cultivated.

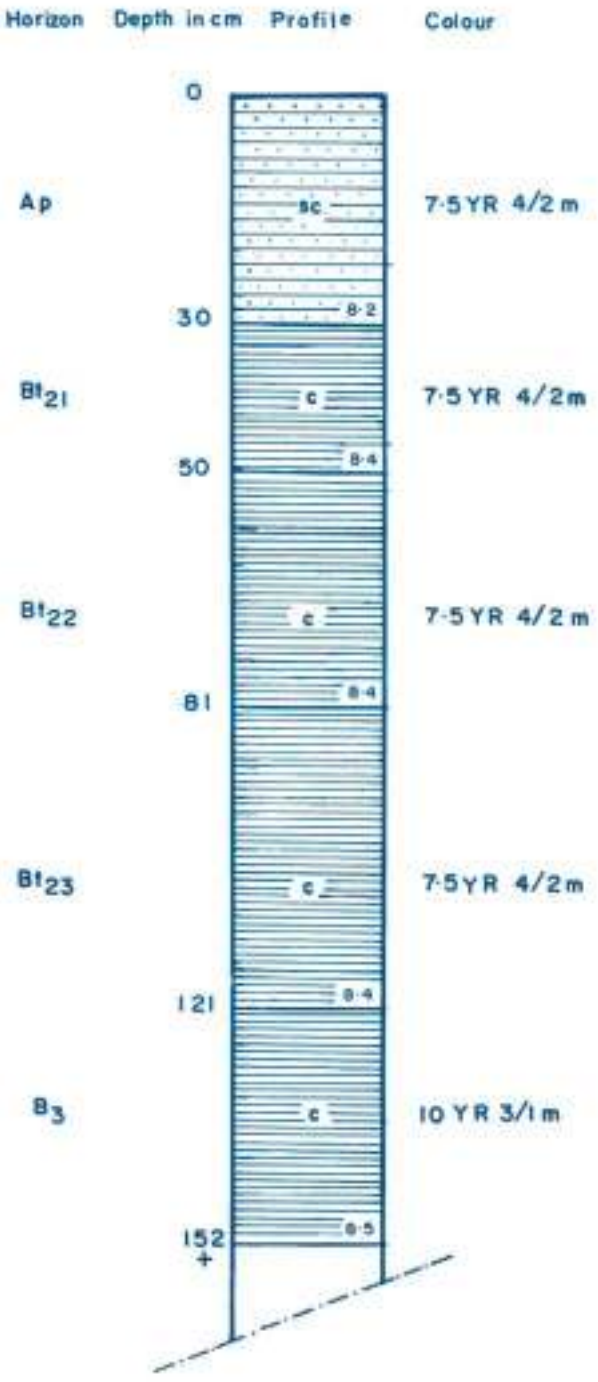
Profile description :

Horizon	Depth (cm)	Description
Ap	0-30	Dark brown (7.5 YR 4/2m); sandy clay; strong very coarse subangular blocky; hard firm sticky and plastic; common small Fe, Mn concretions; many fine and very fine roots; common very fine roots; common very fine to medium pores; cracks 1.8cm; moderately slow permeability; clear smooth boundary; pH 8.2.
$Bt_{2.1}$	30-50	Dark brown (7.5 YR 4/2m); clay; strong medium subangular blocky; hard firm sticky and plastic; few small Fe, Mn concretion; very thin patchy clay films on ped faces; very few, very fine roots; few very fine pores; moderately slow permeability; diffuse smooth boundary; pH 8.4.
$Bt_{2.2}$	50-81	Dark brown (7.5 YR 4/2m); clay; strong medium sub angular blocky; hard firm sticky and plastic; few small Fe, Mn concretions and conca; thin patchy clay films on ped faces; very few very fine roots; few very fine pores; moderately slow permeability; diffuse smooth boundary; pH 8.4.
$Bt_{2.3}$	81-121	Dark brown (7.5 YR 4/2m); clay; strong medium sub angular blocky; hard (dry), firm (moist), sticky and plastic; few small Fe-Mn concretions and conca; thin patchy clay films; very few very fine roots; few very fine pores; moderately slow permeability; diffuse boundary; pH 8.4.
B_3	121-152$^+$	Very dark grey (10 YR3/1m); clay; strong medium sub angular blocky; hard firm sticky and plastic; few small Fe- Mn concretions and conca; few very fine roots; few very fine pores; slow permeability; pH 8.5.

Potentials and limitations of Hanumanthakudi soil series:

Potentials :	Limitations :
- Very deep solum	- Prone to moderate erosion
- Loamy surface texture	- Surface salinity
- Neutral soil reaction	- Low permability; poor interal drainage.
- Good permeability	- Alkalinity; high ESP
- Non - saline	- Heavy texture; cracking
- Non - calcareous	- Run off loss of water and nutrient
	- Low organic matter and nutrient content

HANUMANTHAKUDI SERIES



Hmk

KALLAL SOIL SERIES (KII)

Brief description : These soils are yellowish red to dark red, comparatively recent, non-calcareous soil, derived from gneissic rock overlain by elterite. Quartz gravels varying sizes are scattered over the surface and invariably with in the profile. This clearly shows the absence of diagnostic horizon. Texture is finer than loamy fine sand below the Ap-horizon.

Physiography : Gently sloping

Drainage : Well drained

Taxonomy : Coarse loamy, kaolinitic, isohyperthermic shallow, Typic Ustorthent.

Typifying pedon : Kallal - loamy sand - cultivated

Profile description :

Horizon	Depth (cm)	Description
Ap	0 - 10	Yellowish red (5 YR 5/8 D), (5 YR 4/6 M); loamy sandy; single grained; loose friable; many small to large, hard irregular Fe & Mn-quartz concretions; few fine pores; fine and medium, plenty roots; rapid permeability; clear smooth boundary; pH 7.0.
A_2	10 - 25	Dark red (2.5 YR 3/6 D); dark reddish brown (2.5 YR 3/4 M); sand clay loam; fine moderate sub angular blocky; slightly hard friable, slightly sticky; non plastic; hard irregular Fe & Mn and quartz concretions; few fine pores; fine few roots; moderately rapid permeability; gradual wavy boundary; pH 6.5.
C_1	25 - 65	Weathered parent material.
C_2	65^+	Laterite over gneiss.

Potentials and limitations of Kallal soil series:

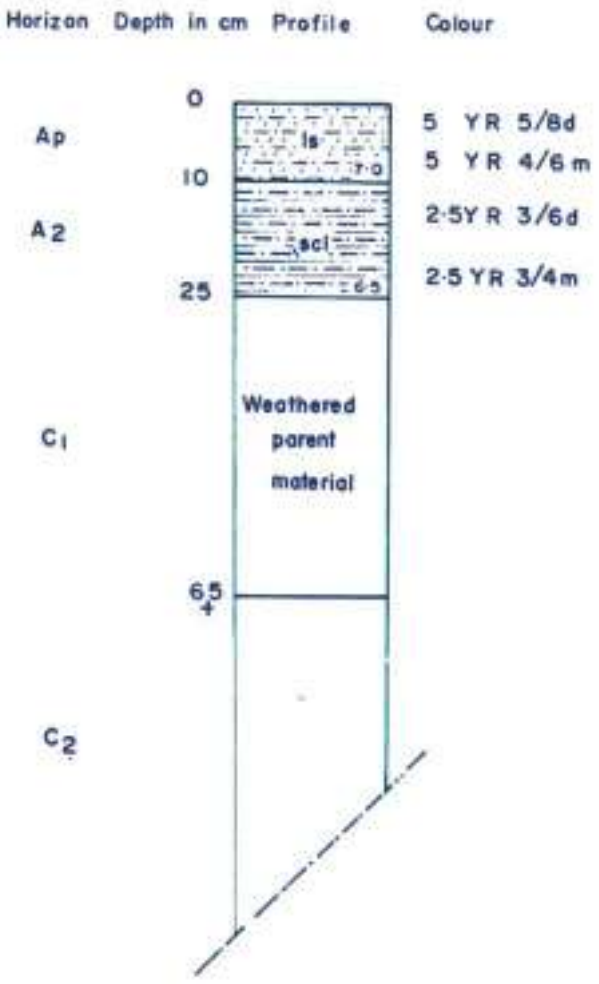
Potentials :

-Well drained due to open texturedness of the surface soil
- Good permeability
- Non - calcareous
- Neutral soil reaction
- Non - saline

Limitations:

- Shallow solum depth
- Coarse surface texture
- Gravelliness
- Low CEC, low water and nutrient holding capacities
- Low organic matter and nutrient content
- Prone to erosion
- Loss of nutrient through leaching.
- Surface hardiness and droughtiness.
- Narrow Ca-mg ratio.

KALLAL SERIES



KII

KONDADEVI SOIL SERIES (Kdv)

Brief description : These are light yellowish brown to strong brown, acidic and deep soils non calcareous with moderete structural and textural development in the subsurface

Physiography : Very gently sloping terrain

Drainage : Moderately well drained

Taxonomy : Fine loamy, mixed, isohyperthermic, very deep, Udic Ustropepts.

Typifying pedon : Kondadevi - Sandy loam - cultivated

Profile description :

Horizon	Depth (cm)	Description
Ap	0-23	Light yellowish brown (10 YR 6/4m); sandy loam; weak medium sub angular blocky; loose friable non sticky and non plastic; common fine and very fine roots; few fine and common very fine pores; rapid permeability; diffuse smooth boundary; pH 4.5.
A_2	23-68	Yellowish brown (10 YR 5/4m); sandy clay loam; weak medium sub angular blocky; loose friable non sticky and non plastic; few fine and common very fine roots; common fine and very fine pores; moderately raid permeability; diffuse smooth boundary; pH 4.6.
Bw_{21}	68-107	Yellowish brown (10 YR 5/6m); sandy clay; moderate medium sub angular blocky; slightly hard friable slightly sticky and slightly plastic; few fine and very fine roots; common fine and very fine pores; moderately rapid permeability; clear smooth boundary; pH 4.6.
Bw_{22}	107-152	Light yellowish brown (10 YR 6/4m); sandy clay; moderate medium sub angular blocky; slightly hard friable slightly sticky and slightly plastic; few fine and very fine roots; common fine and very fine pores; moderately rapid permeability; clear smooth boundary; pH 4.6.
C	152^+	Gravels.

Potentials and limitations of Kondadevi soil series:

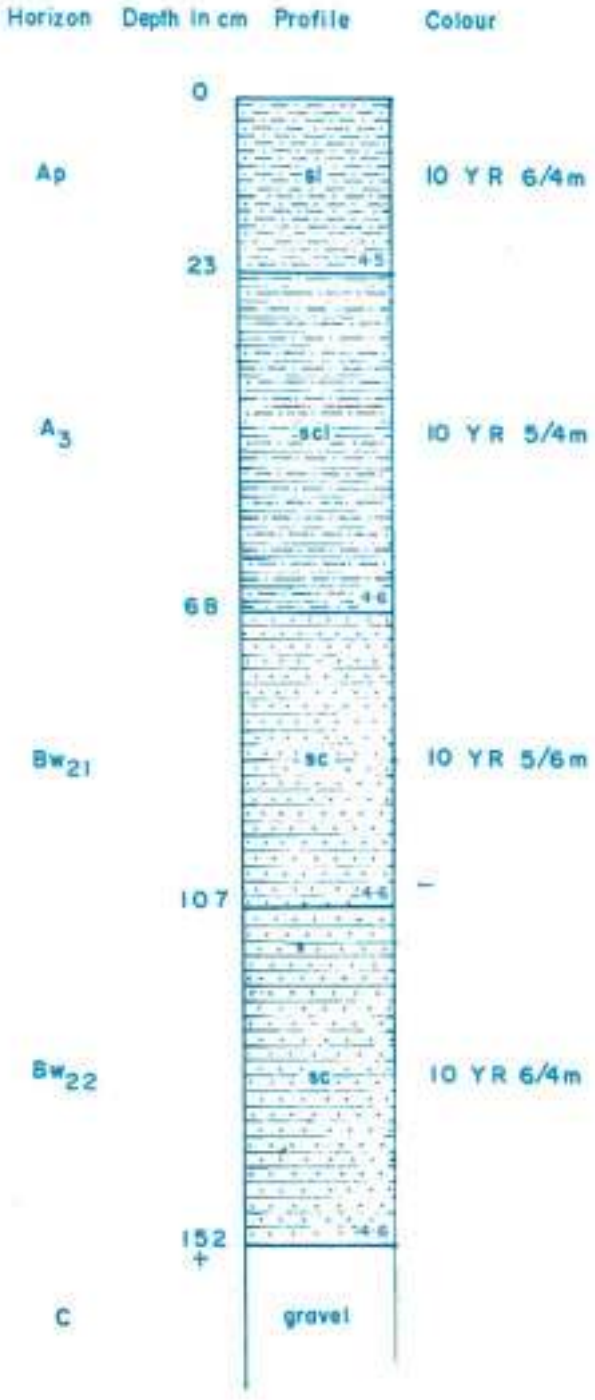
Potentials :

- Very deep solum
- Loamy surface texture
- Good internal drainage
- Good internal drainage
- Non - saline, Non - alkaline and non calcareous

-LImitations :

- Suscestible for erosion
- Acidic in reaction
- Loss of N, fixation of P.
- Low CEC
- Low nutrient and water holding capacities
- Good permeability-Toxicity of Fe and Mn
- Poor soil N status
- Narrow Ca - Mg ratio

KONDADEVI SERIES



Kdv

MILAGANUR SOIL SERIES (Mlg)

Brief description : These soils consist of dark grey to dark greyish brown, fine textured, very deep, slowly permeable calcareous soils and are alkaline in nature exhibits vertic character

Physiography : Flat or almost flat

Drainage : Moderately drained.

Taxonomy : Fine, montmorillonitic, isohyperthermic, very deep Typic chromusterts.

Typifying pedon : Milaganur - sandy clay - cultivated

Profile description :

Horizon	Depth (cm)	Description
Ap	0 - 10	Very dark grey (10 YR 3/1 m); sandy clay; moderate medium subangular blocky; hard (dry), firm (moist), sticky and plastic; many fine and very fine few medium roots; few fine and very fine pores; moderately rapid permeability; clear smooth boundary; pH 8.2.
A_3	10 - 22	Dark greyish brown (10 YR 4/2 m); clay; strong coarse angular blocky; hard (dry), firm (moist), sticky and plastic; few medium conca; common fine to medium roots; few very fine and fine pores; moderately slow permeability; gradual smooth boundary; pH 8.6.
Bss_2	22 - 66	Dark gray (10 YR 4/1 m); clay; strong coarse angular blocky; hard dry, firm moist, very sticky and very plastic; few medium conca; prominent slickensides; few, fine and very fine roots; few very fine pores; slow permeability; diffuse smooth boundary; pH 8.7.
Bss_{22}	66 - 122^+	Dark grayish brown (10 YR 4/2 m); clay; strong medium angular blocky; hard (dry), firm (moist), very sticky and plastic; few small conca; prominent slickensides; very few fine roots; few very fine pores; slow permeability; pH 8.7.

Potentials and limitations of Milaganur soil series:

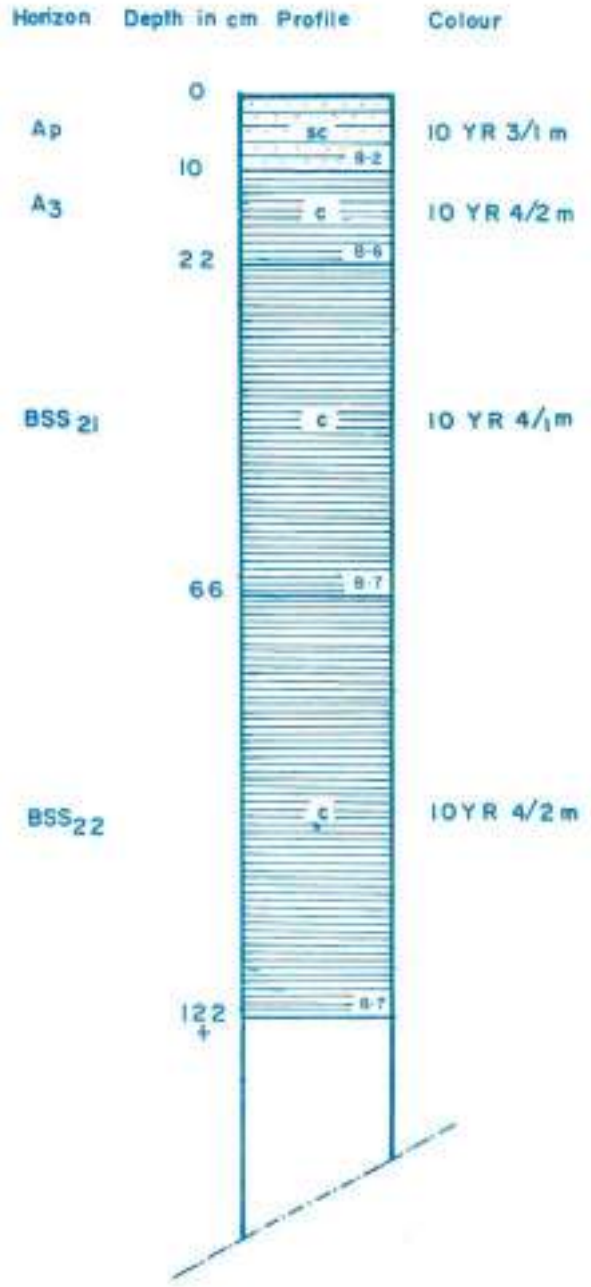
Potentials :

- Very deep soil
- High water and nutrient holding capacity
- High CEC

Limitations :

- Alkalinity
- Medium subsurface salinity
- Mild calcareousness
- Slow permeability
- Surface run off losses
- Sodicity due to high ESP
- Poor internal drainage
- Cracking during summer
- Loss of N through volatilization
- Fixation of P and K.
- Narrow Ca. Mg ratio

MILAGANUR SERIES



Mlg

NERUPUGAPATTI SOIL SERIES (Npt)

Brief description : These are red, fine loamy textured very deep non -calcareous soils, derived from laterite parent material, illuviation is very common with argillic horizon.

Physiography : Very gently sloping

Drainage : Poorly drained

Taxonomy : Fine loamy, kaolinitic, isohyperthermic, very deep, Udic Rhodul stalfs.

Typifying Pedon : Nerupugapatti-sandy loam-cultivated.

Profile description :

Horizon	Depth (cm)	Description
Ap	0-14	Reddish brown (5 YR 4/6m); sandy loam; fine weak crumb; friable non sticky and non plastic; few fine discontinuous oblique tubular pores; fine to medium abundant roots; moderately rapid permeability; clear smooth boundary; pH 6.7.
B_1	14-55	Dark (2.5 YR 3/6m); sandy clay; medium moderate subangular blocky; firm slightly sticky and plastic; thin patchy cutans; very few small to large hard irregular concretions; few fine to medium discontinuous random tubular pores; medium to coarse common roots; charcoal pieces (artefacts); moderately permeable; diffuse smooth boundary; pH 6.4.
Bt_2	$55\text{-}101^+$	Dark red (2.5 YR 3/6m); clay; coarse strong subangular blocky; very firm very sticky and plastic; moderately thick broken cutans; few small to large irregular concretions; few fine discontinuous random tubular pores; fine to coarse few roots; moderately slow permeability; pH 6.7.

Potentials and limitations of Nerupugapatti soil series:

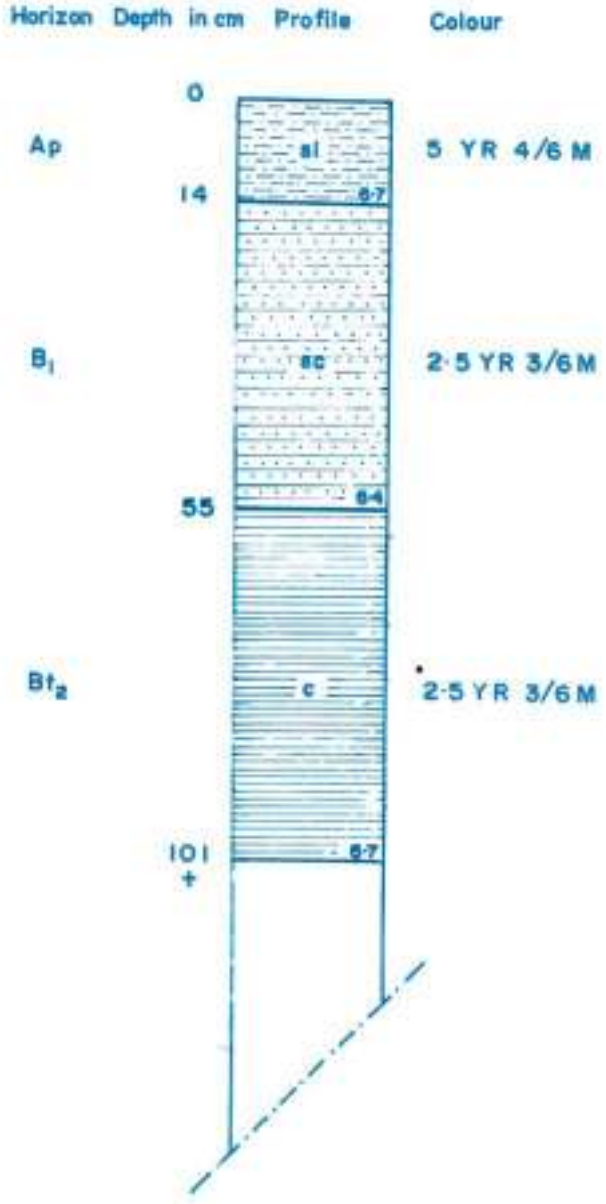
Potentials :

- Very deep solum
- Loamy surface texture
- Neutral soil reaction
- Good permeability
- Non - saline
- Non - Calcareousness

Limitations :

- Prone to moderate erosion
- Surface droughtiness
- Surface crusting
- Very low CEC
- Low organic matter and fertility status
- Poor water and nutrient holding capacities
- Poor organic matter, N and P status
- Narrow Ca-Mg ratio.

NERUPUGAPATTI SERIES



Npl

PATTAMANGALAM SOIL SERIES (PmI)

Brief description : Soil developed from laterite over gneiss. The soil is very deep, well developed, medium textured with argillic horizon under neath. Illuviation of clay is prominent.

Physiography : very gently sloping

Drainage : Moderately drained

Taxonomy : Fine loamy, mixed, isohyperthermic, verydeep. Typic Haplustalfs.

Typifying pedon : Pattamangalam - loamy sand - cultivated

Profile description :

Horizon	Depth (cm)	Description
Ap	0-14	Yellowish brown (10 YR 5/4 d); dark brown (10 YR 3/3 m); loamy sand; weak granular (dry), loose (moist), friable non sticky and plastic when wet; few very fine discontinuous random tubular pores; fine roots common; mild effervescence; rapidly permeable; clear smooth boundary; pH 7.8.
Bt_{21}	14 - 95	Yellowish red (5 YR 4/6 d); dark yellowish brown (5 YR 3/4 m); sandy clay loam; coarse strong subangular blocky; few fine faint mottlings; patchy thin cutans on ped faces; fine to medium small to large hard irregular (conca) concretions; dry, hard (moist), firm; sticky and plastic when wet; many very fine continuous horizontal and random tubular pores; very few fine roots; mild effervescence; moderately permeable; clear irregular boundary; pH 8.0.
Bt_{22}	95 - 150^{+}	Dark brown (7.5 YR 4/4 m); clay loam; coarse strong subangular blocky; fine to medium distinct mottlings; common many small to large hard irregular concretions (conca); moist, firm very sticky and plastic when wet; very few very fine roots; mild effervescence; moderately slow permeability; pH 8.7.

Potentials and limitations of Pattamangalam soil series:

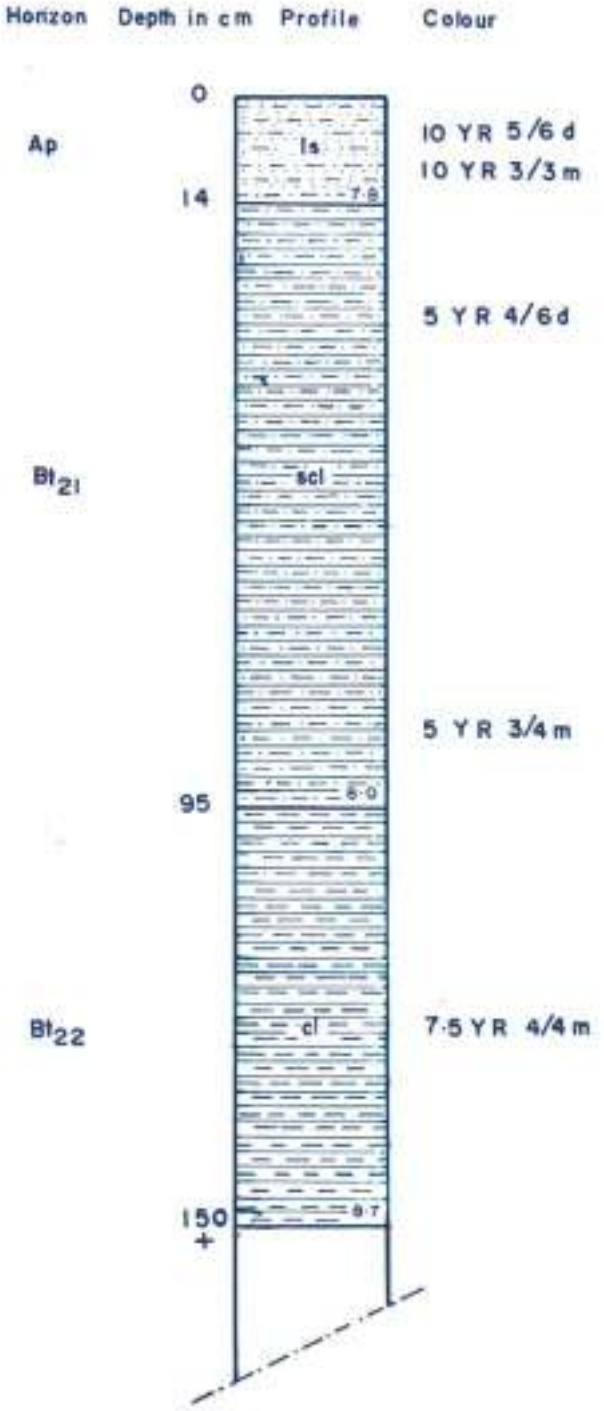
Potentials :

- Very deep solum
- Good permeability
- Non - alkaline (surface)
- Non - saline
- Non - calcareous

Limitations :

- Moderate erosion hazard.
- Alkalinity (sub - surface)
- Low CEC (surface)
- Surface crusting
- Low nutrient and water holding capacities
- Low organic matter and nutrient content
- Narrow Ca-Mg ratio

PATTAMANGALAM SERIES



Pmt

PIRANMALAI SOIL SERIES (Pmi)

Brief description : These are red, very deep, calcareous soils derived from laterite material with argillic diagnostic horizon.

Physiography : Gently sloping

Drainage : Moderately well drained

Taxonomy : Fine loamy, Kaolinitic, isohyperthermic, calcareous very deep, Typic Rhodustalfs.

Typifying pedon : Piranmalai - sandy loam - cultivated

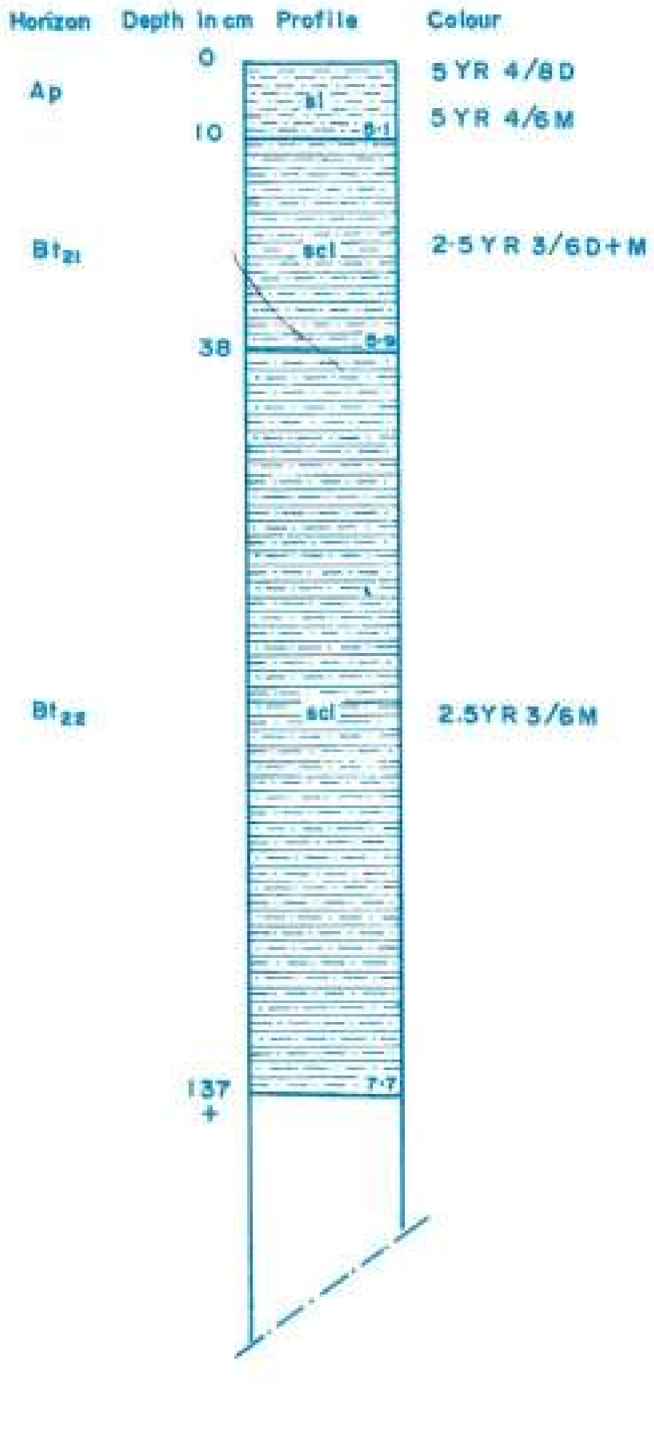
Profile description :

Horizon	Depth (cm)	Description
Ap	0-10	Yellowish red (5 YR 4/8d); and reddish brown (5 YR 4/6m); sandy loam; medium moderate sub angular blocky; slightly hard, firm, and non plastic; few small irregular concretions; many fine discontinuous oblique tubular pores; medium to coarse common roots; rapidly permeable; clear smooth boundary; pH 5.1.
Bt_{21}	10-38	Dark red (2.5 YR 3/6d&m); sandy clay loam; coarse strong sub angular blocky; hard firm; slightly sticky and plastic; thin patchy cutans; many small to large hard irregular concretions; many fine discontinuous, oblique tubular pores; mild effervescence; moderately rapid permeability; clear smooth boundary; pH 5.9.
Bt_{22}	38 - 137+	dark red (2.5 Yr 3/6m); sandy clay loam; coarse strong sub angular blocky; firm sticky and plastic; thin broken cutans; few small, hard irregular concretions; many fine discontinuous oblique tubular pores; fine to medium few roots; termite burrows; strong effervescence; moderately rapid permeability; pH 7.7.

Potentials and limitations of Piranmalai soil series:

Potentials :	Limitations :
- Loamy surface texture	- Moderate to severe erosion hazard
- Very deep solum	- Surface crusting
- Non - saline	- Slight acidity in the surface
	- Poor water and nutrient holding capacities
	- Poor organic matter, N and K content
	- Fixation of P
	- Narrow Ca - Mg ratio

PIRANMALAI SERIES



Pmi

SEMBANOR SOIL SERIES (Sbr)

Brief description : These soils are strong brown to reddish brown, fine loamy textured, acidic and very deep. The texture is sandy loam in the surface and sandy clay loam to clay in the subsurface. The soil are non-calcareous, moderately permeable.

Physiography : Very gently sloping land

Drainage : Moderately well drained

Taxonomy : Fine loamy, mixed, isohyperthermic, verydeep Ultic Haplustalfs.

Typifying pedon : Sembanor-sandy loam - cultivated

Profile description :

Horizon	Depth (cm)	Description
Ap	0 - 10	Yellowish red (5 YR 5/6 m); sandy loam; weak medium subangular blocky; soft friable nonplastic slightly sticky; few very fine Fe, Mn concretions; few fine and very fine roots; common fine and very fine pores; rapid permeability; clear smooth boundary; pH 5.7.
A_3	10 - 50	Yellowish red (5 YR 4/6 m); sandy clay loam; moderate medium subangular blocky; slightly hard slightly firm slightly sticky and slightly plastic; few small Fe, Mn concretions; few fine and very fine roots; common very fine, few fine pores; moderately rapid permeability; clear smooth boundary; pH 5.0.
$Bt_{2.1}$	50 - 88	Reddish brown (5 YR 4/4 m); sandy clay loam; strong medium subangular blocky; hard firm sticky and plastic; few small Fe, Mn concretions; thin patchy clay film on ped faces; few fine and very fine roots; few fine and very fine roots; few fine and very fine pores; moderately rapid permeability; clear smooth boundary; pH 5.0.
$Bt_{2.2}$	88 - 125	Brown (7.5 YR 5/2 m); sandy clay strong coarse subangular blocky; hard firm sticky and plastic; thin patchy clay films on ped faces; common coarse distinct mottlings; few very fine roots; few fine and very fine pores; moderately slow permeability; clear smooth boundary; pH 5.0.
$Bt_{2.3}$	125 - 153$^+$	Brown (7.5 YR 5/2 m); clay; strong coarse subangular blocky; hard firm sticky and plastic; common coarse distinct mottling; few small Fe, Mn concretions; few very fine pores; slow permeability; pH 5.7.

Potentials and limitations of Sembanor soil series:

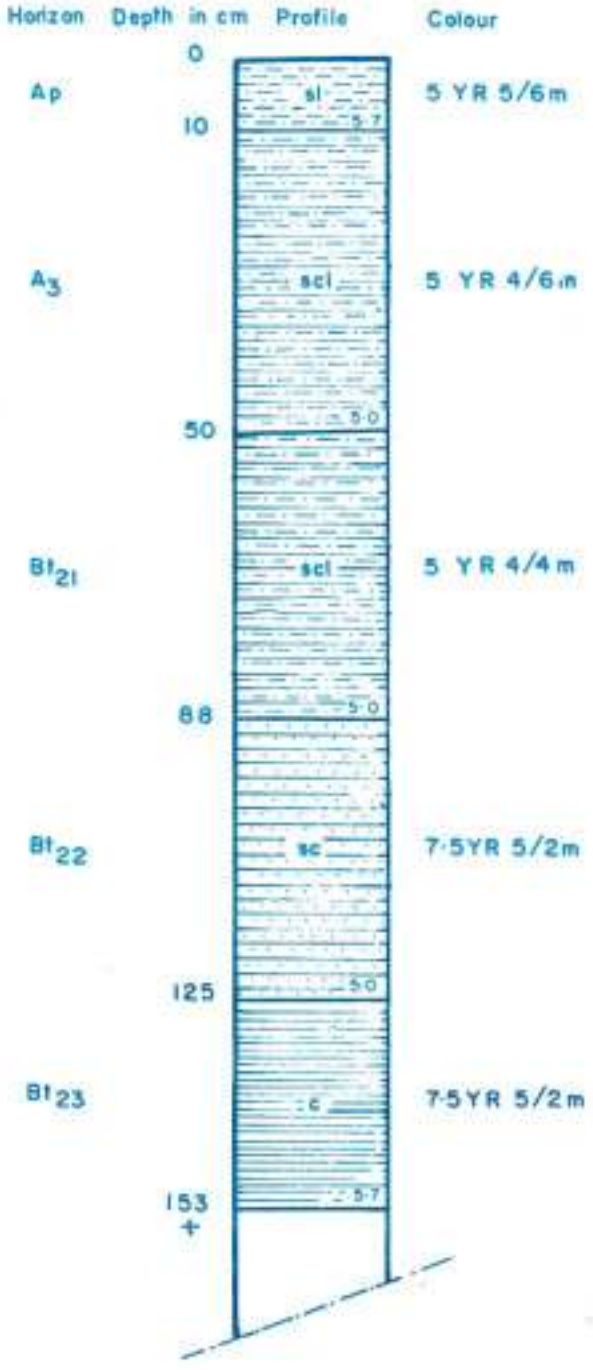
Potentials :

- Very deep solum
- Loamy surface texture
- Good permeability

Limitations :

- Surface crusting
- Acidic in reaction
- Low CEC
- Unavailability of nutrients
- Loss of nutrients
- Fixation of P
- Poor organic matter, N and P status
- Narrow Ca-Mg ratio.

SEMBANUR SERIES



Sbr

SINGAMPUNARI SOIL SERIES (Spi)

Brief description : Brown calcareous soil having slight structural development. This soil has anochric epipedon and cambic subsurface horizon. Calcic horizon is found in association with Ustic moisture regime. very deep and calcareous

Physiography : Flat or almost flat

Drainage : Moderately well drained

Taxonomy : Coarse, loamy, mixed, siohyperthermic, calcareous, very deep, Typic ustropepts.

Typifying pedon : Singampunari - clay loam - cultivated.

Profile description :

Horizon	Depth (cm)	Description
Ap	0 - 14	Brown (10 YR 5/3 m); clay loam, coarse strong subangular blocky; firm (moist), sticky and plastic (wet); few fine faint (10 YR 2.5/1) black mottlings; many fine discontinuous random tubular pores; fine common roots; mild effervescence; slowly permeable; clear smooth boundary; pH 7.9.
Bw_1	14 - 41	Yellowish brown (10 YR 5/4 m); sandy clay loam; coarse strong subangular blocky; firm (moist), slightly sticky and plastic (wet); thin broken cutans; common fine to medium distinct black (10 YR 2.5/1) mottlings; few small to large soft and hard irregular concretions (conca & conir; random tubular pores; very fine few roots; strong effervescence; moderately slow permeability; clear smooth boundary; pH 8.7.
Bw_2	41 - 102^+	Brownish yellow (10 YR 6/8 m); sandy loam; medium moderate subangular blocky; friable (moist), slightly sticky and non plastic (wet); many coarse prominent black (10 YR 2.5/1) mottlings; few small to large hard and soft irregular concretions (conca and conir); no roots; many fine to medium discontinuous random tubular pores; strong effervescence; rapidly permeable; pH 9.2.

Potentials and limitations of Singampunari soil series:

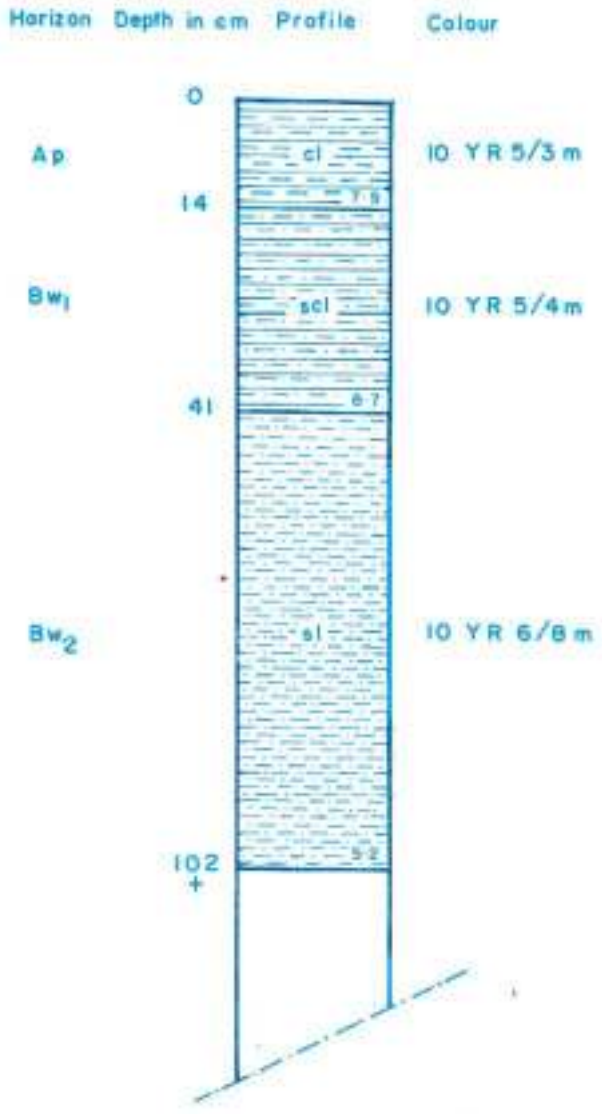
Potentials :

- Very deep soil
- Well drained
- Rapid permeability
- Non - saline

Limitations :

- -Alkalinity in the sub-surface
- Low CEC
- Coarse surface texture
- High ESP
- Fixation of nutrients
- Leaching loss of nutrients
- Narrow Ca-Mg ratio (sub - surface)

SINGAMPUNARI SERIES



Spi

SURAKKUDI SOIL SERIES (Skd)

Brief description : These soils are very deep, well developed, medium textured with an argillilc horizon developed from laterite over gneiss.

Physiography : Gently sloping terrain

Drainage : Moderately drained

Topography : Flat land

Taxonomy : Fine loamy, mixed, isohyperthermic very deep, Udic Haplustalfs.

Typifying pedon : Surakkudi - sandy clay loam - cultivated.

Profile description :

Horizon	Depth (cm)	Description
Ap	0-23	Brown (7.5 YR 5/4 d); dark brown (7.5 YR 4/4 m); sandy clay loam; coarse medium sub angular blocky; very hard firm slightly sticky and plastic; few fine faint (7.5 YR 7/6) reddish yellow mottlings; many fine discontinuous tubular oblique pores; abundant fine roots; moderately rapid permeability; clear smooth boundary; pH 6.5.
B_1	23-66	Brown (7.5 YR 5/4 d); dark brown (7.5 YR 4/4 m); sandy clay; coarse medium sub angular blocky; hard firm sticky and plastic; few fine faint (7.5 YR 7/6) reddish yellow mottlings; patchy thin cutans on ped faces; few very fine discontinuous tubular random pores; few fine to coarse roots; moderately permeable; clear smooth boundary; pH 8.0.
Bt_{21}	66-103	Reddish brown (5 YR 4/4 d&m); sandy clay; coarse strong sub angular blocky; hard firm sticky and plastic; patchy continuous clay skins on ped faces; few very fine continuous random tubular pores; many small soft irregular Fe-Mn concretions; few coarse roots; moderately rapid permeability; diffuse smooth boundary; pH 8.2.
Bt_{22}	103-140	Reddish brown (5 YR 4/4m); sandy clay loam; coarse strong sub angular blocky; very hard very firm sticky and plastic; patchy thin cutans on ped faces; few small soft and hard irregular Fe - Mn concretions; few very fine continuous random tubular pores; few coarse roots; moderately slow permeability; pH 8.1.

Potentials and limitations of Surakkudi soil series

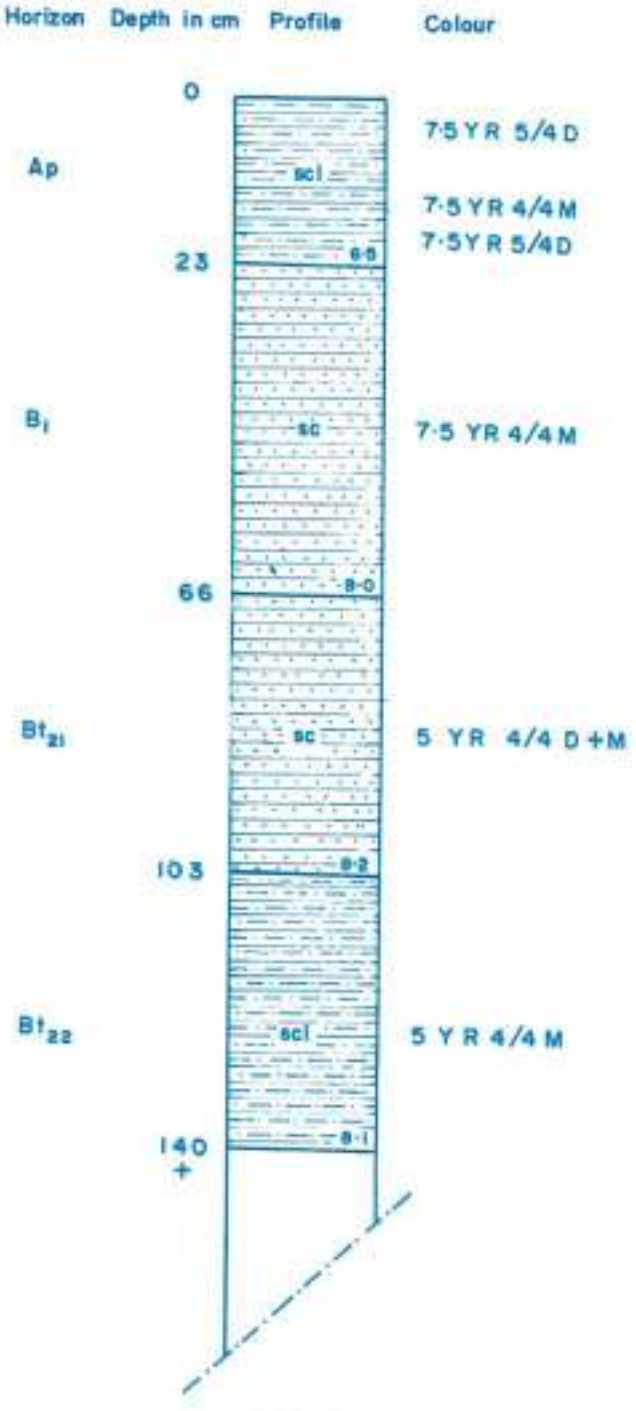
Potentials :

- Very deep solum
- High water and nutrient holding capacities
- Medium CEC
- Medium to high available P status
- High soil K status
- Non - sodic

Limitations :

- Moderate erosion
- Probability to become alkaline.
- Low organic matter and soil N content
- Neutral to mild alkaline reaction
- Low Ca-Mg ratio

SURAKKUDI SERIES



Skd

THIRÜKKOSHTIYUR SOIL SERIES (Tkr)

Brief description : Very deep soils having inpermeable calci layer deep and wide. Crackes are very common. These soils occur along the rivers.

Physiography : Almost flat terrain

Drainage : Poorly drained

Taxonomy : Fine loamy mixed, isohyperthermic, calcareous, very deep, vertic ustropet

Typifying pedon : Thirukkoshtiyur - Sandy clay loam - cultivated.

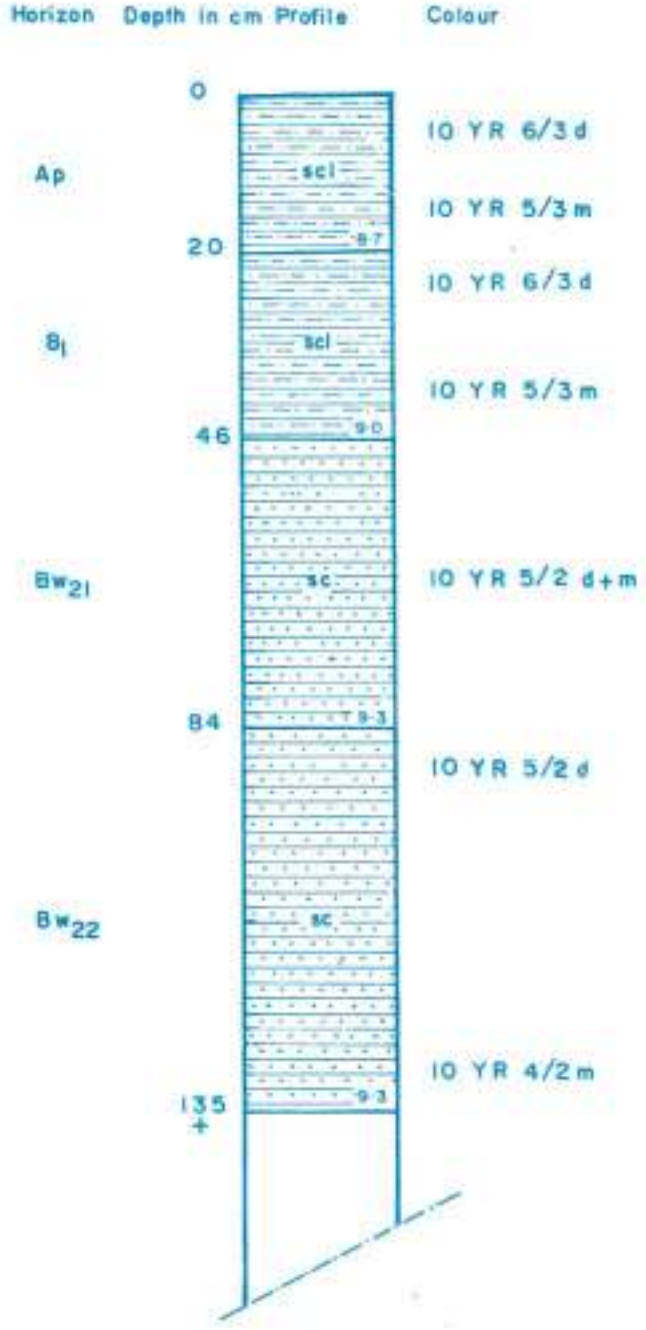
Profile description :

Horizon	Depth (cm)	Description
Ap	0-20	Pale brown (10 Yr 6/3 d) and brown (10 Yr 5/3 m) sandy clay loam; coarse strong sub angular blocky; very hard firm slightly sticky and plastic; few fine to medium pores; abundant medium to coarse roots; many small hard irregular conca; artefacts (pot pieces) seen; mild effervescence; cracks; moderately slowly permeable; clear smooth boundary; pH 8.7.
Bw_1	20-46	Pale brown (10 YR 6/3d); brown (10 YR 5/3m); sandy clay loam; coarse strong sub angular blocky; hard firm sticky and plastic; few small hard irregular conca; few very fine pores; cracks; fine few roots; strong effervescence; slow permeability; sand streaks seen; clear smooth boundary; pH 9.0.
Bw_{21}	46-84	Greyish brown (10 YR 5/2 d & m); sandy clay; coarse medium sub angular blocky; hard firm slightly sticky and plastic; many small to large hard irregular conca; few very fine pores; few very fine roots; violent effervescence; very slowly permeable;sand streaks seen; diffuse smooth boundary; pH 9.3.
Bw_{22}	$84\text{-}135^{+}$	Greyish brown (10 YR 5/2d); dark greyish brown (10 YR 4/2 m); sandy clay; coarse medium sub angular blocky; hard firm slightly sticky and plastic; few very fine pores; violent effervescence; slowly permeable; sand streaks seen; pH 9.3.

Potentials and limitations of Thirukkoshtiyur soil series.

Potentials :	Limitations:
- Very deep solum	- Heavy texture.
- Meduim CEC	- Alkalinity induced soil crusting
- Medium P and K content	- Calcareousness
- High exchangeable content	- Impeded internal drainage
- Optimum Ca-Mg ratio	- Prone to hard pan formation
	- High ESP
	- Poor soil structure
	- Cracking
	- Loss of nutrients
	- Low N & P status

TIRUKKOSHTIYUR SERIES



Tkr

TIRUPPATHUR SOIL SERIES (Tpt)

Brief description : These soils are dark yellowish brown, calcareous and very deep soil. Occuring over soft weathered gneiss underlain by laterite. These are heavy clay soils with deep and wide crocks. Very deep, Entic chromusterts.

Physiography : Almost flat

Drainage : Poorly drained

Topography : Plain

Taxonomy : Fine, Monomorillonitic, isohyperthermic calcareous

Typifying pedon : Tiruppathur clay loam - cultiivated

Profile description :

Horizon	Depth (cm)	Description
Ap	0-19	Dark yellowish brown (10 YR 4/4d); (10 YR 3/4m); clay loam; coarse strong sub angular blocky; hard firm sticky and plastic; many fine continuous random tubular pores; common fine to medium roots; mild effervescence; moderate permeability; clear smooth boundary; pH8.5
Bss_{21}	19-75	Dark yellowish brown (10 YR 3/4 d&m); clay; coarse strong sub angular blocky; hard firm sticky and plastic; few round to irregular conca; prominent intersecting slickensides; slowly permeable; mild effervescence; few fine roots; few life discontinuous random tubular pores; diffuse smooth boundary; pH 8.6.
Bss_{22}	75-120+	Dark yellowish brown (10 YR 3/4 d&m); clay; coarse strong angular blocky; hard firm very sticky and plastic; many small to hard spherical conca; prominent intersecting slickensides; few fine oblique discontinuous tubular pores; strong effervescence; slowly permeable; pH 8.8.

Potentials and limitations of Tiruppathur soil series.

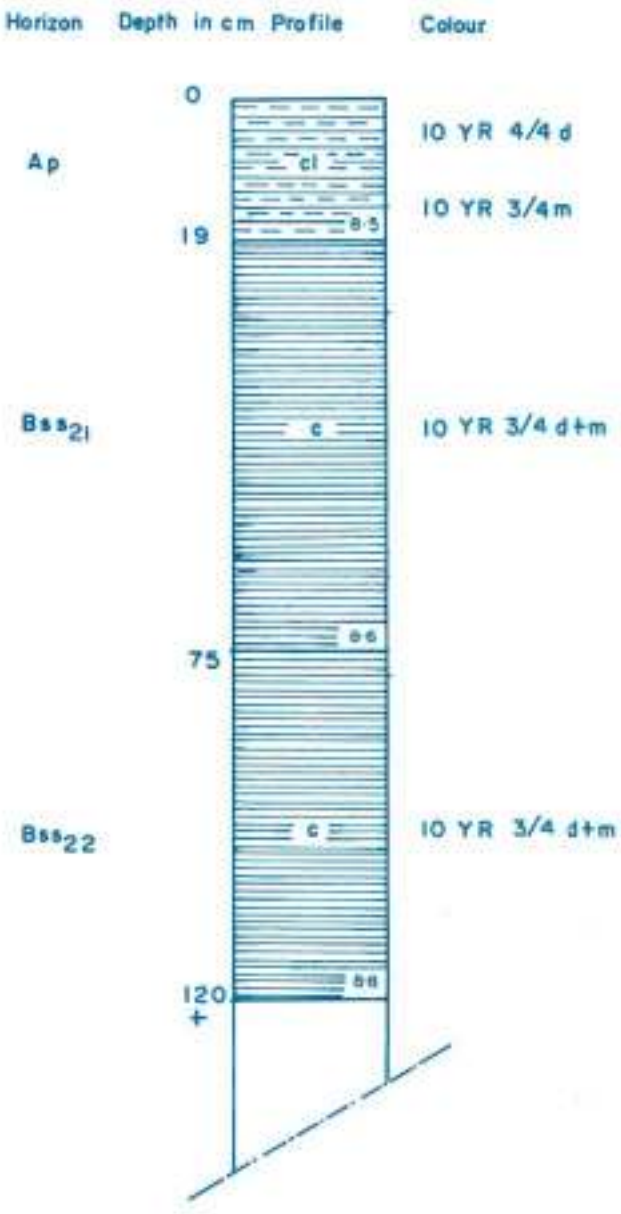
Potentials :

- Very deep solum
- High CEC
- Good nutrient and water holding capacities

LImitations :

- Mild to strong alkalinity
- Calcareousness
- Sub-surface salinity
- Hard pan below ploughdepth
- Low organic matter and N content
- Heavy texture; cracking
- Run off loss off water and nutrient
- Narrow Ca-Mg

TIRUPPATTUR SERIES



Tpt

TIRUPPUVANAM SOIL SERIES (Tpm)

Brief description : These are very dark brown to dark greyish brown, fine loamy textured, calcareous very deep soils and alkaline in reaction. The organic content of the soil decreases irregularly with the depth

Physiography : Basin; undulating

Drainage : Moderately well drained and moderately permeable.

Taxonomy : Fine loamy, mixed, isohyperthemic, very deep, Fluventic Ustropepts.

Typifying pedon : Tiruppuvanam - sandy clay loam - cultivated.

Profile description :

Horizon	Depth (cm)	Description
Ap	0-18	Dark brown (10 YR 3/3m); sandy clay loam; moderate medium sub angular blocky; hard firm slightly sticky and slightly plastic; few small conca; many very fine to medium roots; common fine pores; moderately rapid permeability; abrupt smooth boundary; pH 9.0.
A_3	18-34	Dark brown (10 YR 3/9m); sandy clay loam; strong medium sub angular blocky; hard firm slightly sticky and plastic; very few fine roots; few fine and very fine pores; moderately slow permeability; clear smooth boundary; pH 9.2.
Bw_1	34-70	Dark brown (10 YR 3/3m); sandy clay; strong medium sub angular blocky; hard firm sticky and plastic; few fine roots; few fine and very fine pores; slow permeability; clear wavy boundary; pH 9.3.
$Bw_{2.1}$	70-114	Dark grayish brown (10 YR 3/2m); sandy clay loam; strong medium sub angular blocky; hard firm sticky and plastic; very few very fine roots; few fine pores; moderately slow permeability; diffuse wavy boundary; pH 9.8.
$Bw_{2.2}$	114-158	Yellowish brown (10 YR 5/4m); sandy loam non sticky and non plastic; massive; slightly hard friable; few fine roots; moderately rapid permeability; clear smooth boundary; pH 9.8.
Bw_3	158-162	Dark brown (10 YR 3/3m); sandy loam; non sticky and non plastic; massive; slightly hard friable; few fine roots; moderately rapid permeability; pH 9.6.
C	162+	Laterite with $CaCO_3$.

Potentials and limitations of Tiruppuvanam soil series:

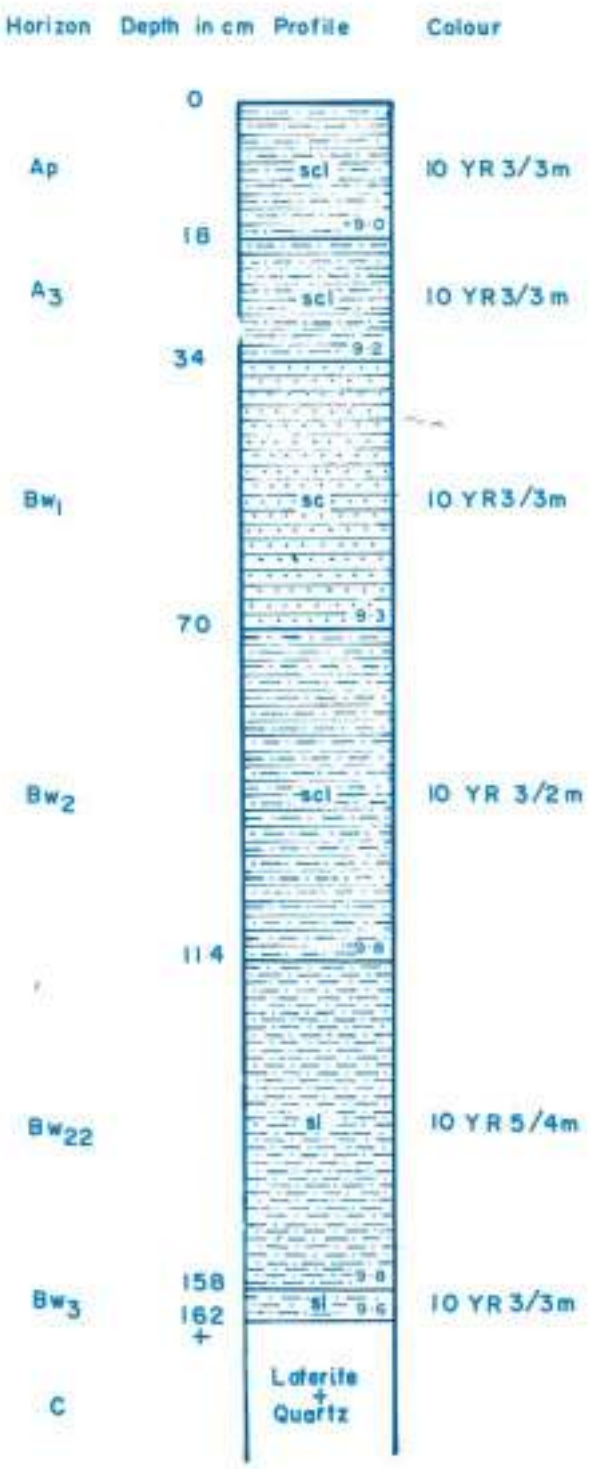
Potentials :

- Very deep solum
- High CEC
- Moderate nutrient and water holding capacities

Limitations :

- Surface crusting due to alkalinity
- Strong alkalinity
- Strong salinity and alkalinity in sub-surface
- Very mild calcareousness

TIRUPPUVANAM SERIES



LAND CAPABILITY CLASSIFICATION

SIVAGANGAI DISTRICT

Land capability classification is an interpretative grouping of soils mainly based on 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, stonniness etc.,) and 3) environmental factors

The groupping 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.

Land capability classification shows the suitability of the soil for agricultural uses. The land capability classes are designated by Roman numerels I to VIII. The sub-classes (limitation) 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 enlable 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 higher cropping potential is developed.

A total of 2,75,400 hectares are having severe limitations for agricultural uses. By suitable cultural practices, the limitations can be overcome.

Land Capability classifications (LCC) :

LCC class and sub-class	Soil series	Extent (ha)	Percent to total	Limitation	Needs
IIe	Sembanor Surakkudi Kondadevi	87,021	1,884	Erosion	Erosion control, Soil conservation and irrigation
IIes	Pattamangalam Nerupugapatti	82,146	17.79	Erosion and texture	Erosion control, Conservation, irrigation and Soil breeding
IIIs	Milaganur Singampunari Tiruppuvanam	1,38,983	30.09	Heavy texture, slowpermeability, alikalinity and infltration	Drainage Improvement, additions of organics and amendments
IIIes	Kallal Hanumanthakudi Piranmalai Thirukkoshtiyur Tirupathur	1,36,417	29.54	Erosion, runoff texture and alkalinity	Soil and water conservation, addition of organics and amendments
—	Forest	17,295	3.74	—	—
	Total	4,61,862	100.00	—	—

Class

II Good cultivable land that have moderate limitations for sustained use under agriculture

III Moderately good cultivable lands that have severe limitations for sustained use under agriculture

Sub Class

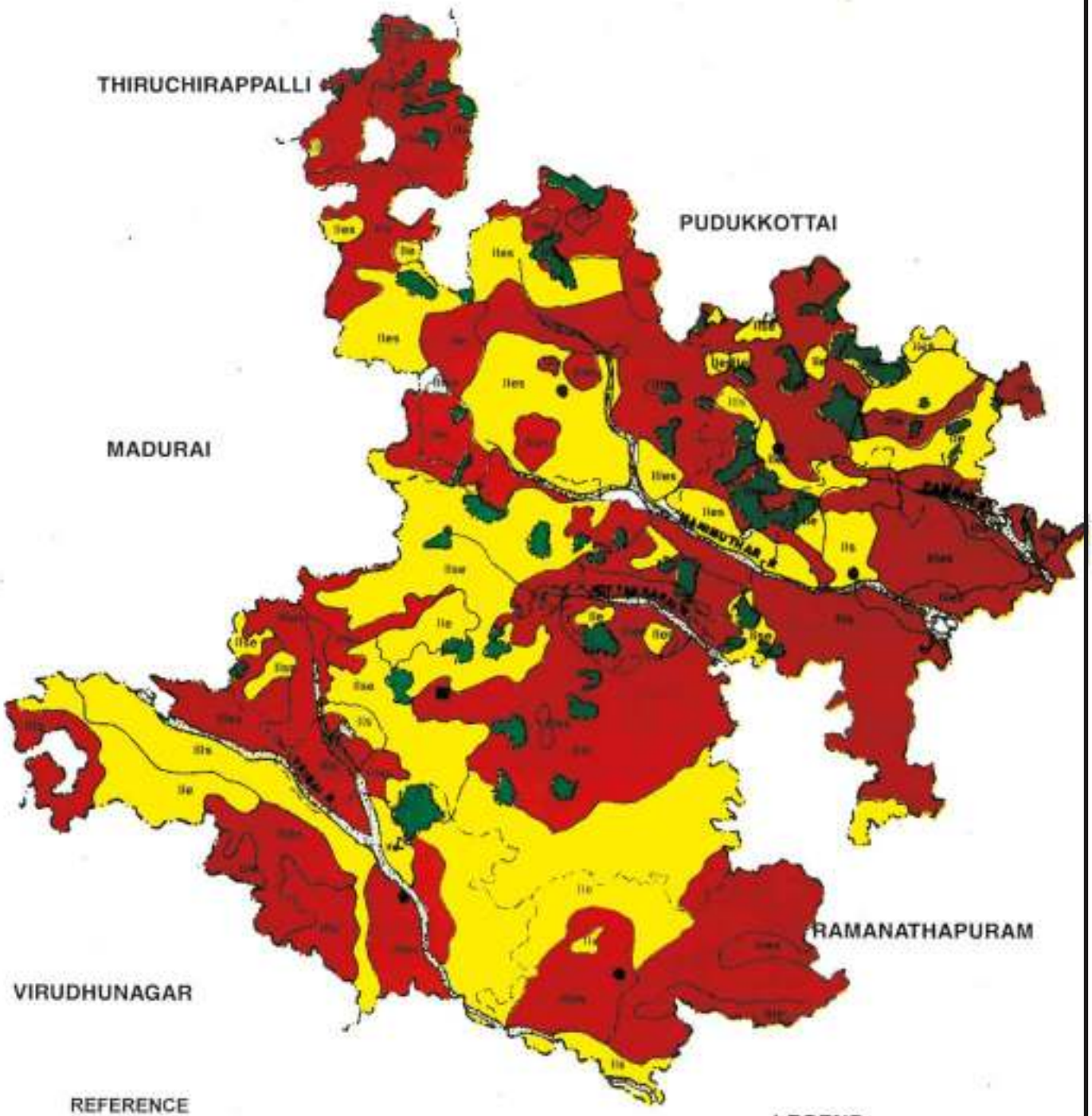
e Erosion and run off

s Root zone limitations

w Wetness

LAND CAPABILITY

SIVAGANGAI DISTRICT



LAND IRRIGABILITY CLASSIFICATION

SIVAGANGAI DISTRICT

The soils for sustained use under irrigation are classified in to Land capability classes according to physical factors and socio- economic consideration. Land features (topography, slope, water- table and drainage) and soil characteristics (depth, textures, permeability, water holding capacity, salinity, alkalinity and erosion) are considered for workingout the irrigability classes. The land irrigability classes are denoted by the numbers from 1 to 6. Limitations are increasing with the progressive advancement of numbers.

Class : 1 to 4 - Irrigable land with limitations increasing progressively for sustained use under irrigation.

Class 5 - Unsuitable temporarily for irrigation

Class 6 - Not suitable for irrigation

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

In this district 275400 hectares (59.63%) of lands have severe irrigable limitations.

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

Land Irrigability classification (LIC)

LCC class and sub-class	Soil series	Limitation	Extent (ha)	Percent to total
2 s	Sembanor and Pattamangalam	Coarse texture and rapid permeability	94,054	20.36
2 d	Surakkudi	Poor drainage	20,301	4.40
2 t	Kondadevi	Topography and low water holding capacity	2,777	0.60
2 st	Nerupugapatti	Topography and texture	52,035	11.27
3 s	Singampunari, Hanumanthakudi and Tiruppuvanam	Drainage and alkalinity	1,27,312	27.56
3 st	Kallal, Piranmalai, Thirukkoshtiyur and Tiruppathur	Topography and texture	97,537	21.12
3 sd	Milaganur	Poor drainage and alkalinity	50,551	10.95
	Forests	—	17,295	3.74
	Total	—	4,61,862	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

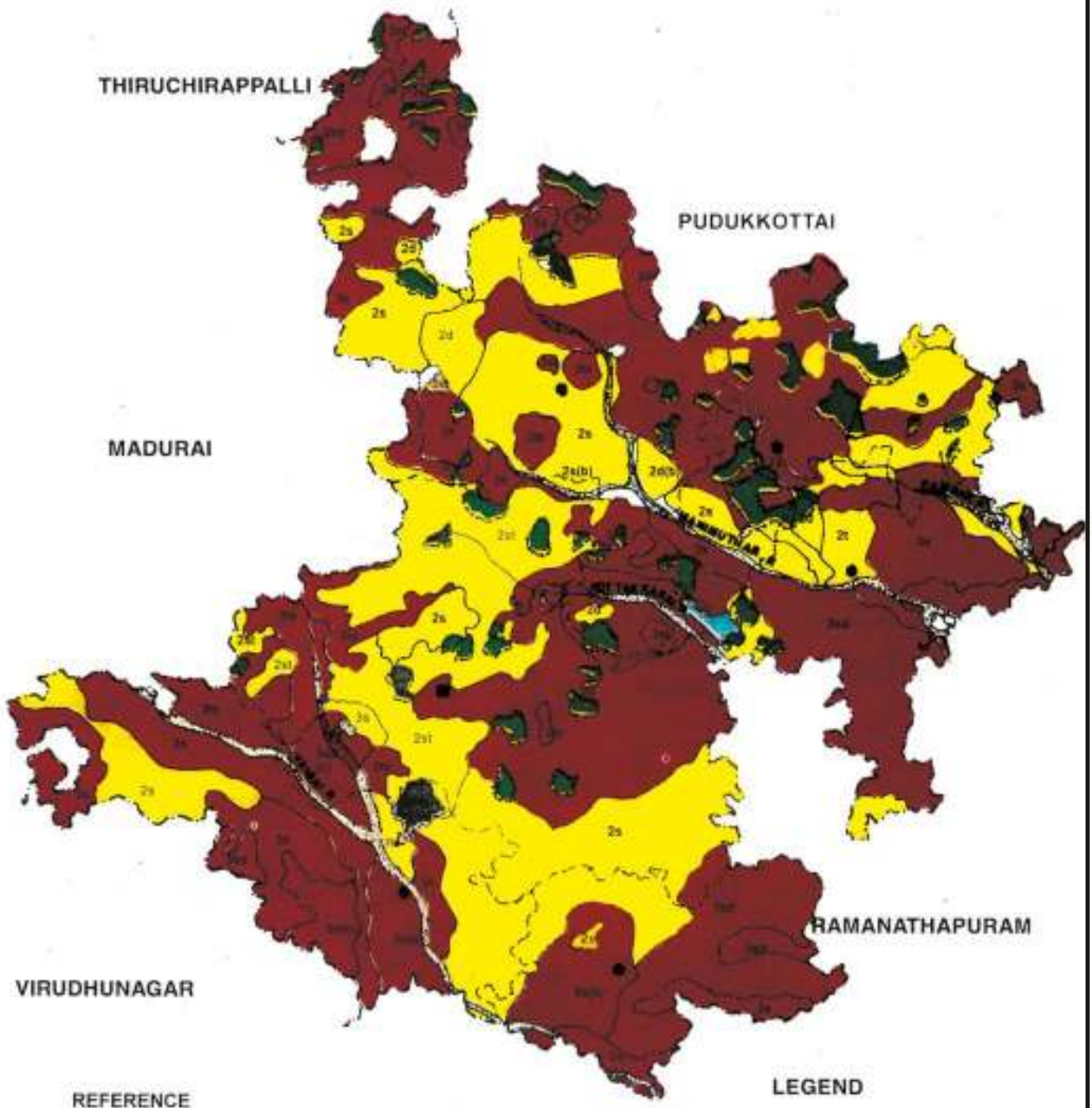
s Soil problem

t Topography

d Drainage

LAND IRRIGABILITY

SIVAGANGAI DISTRICT



SOIL PRODUCTIVITY

SIVAGANGAI DISTRICT

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

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

Based on productivity ratings, five productivity classes are recognised by Riquier et al (1970).

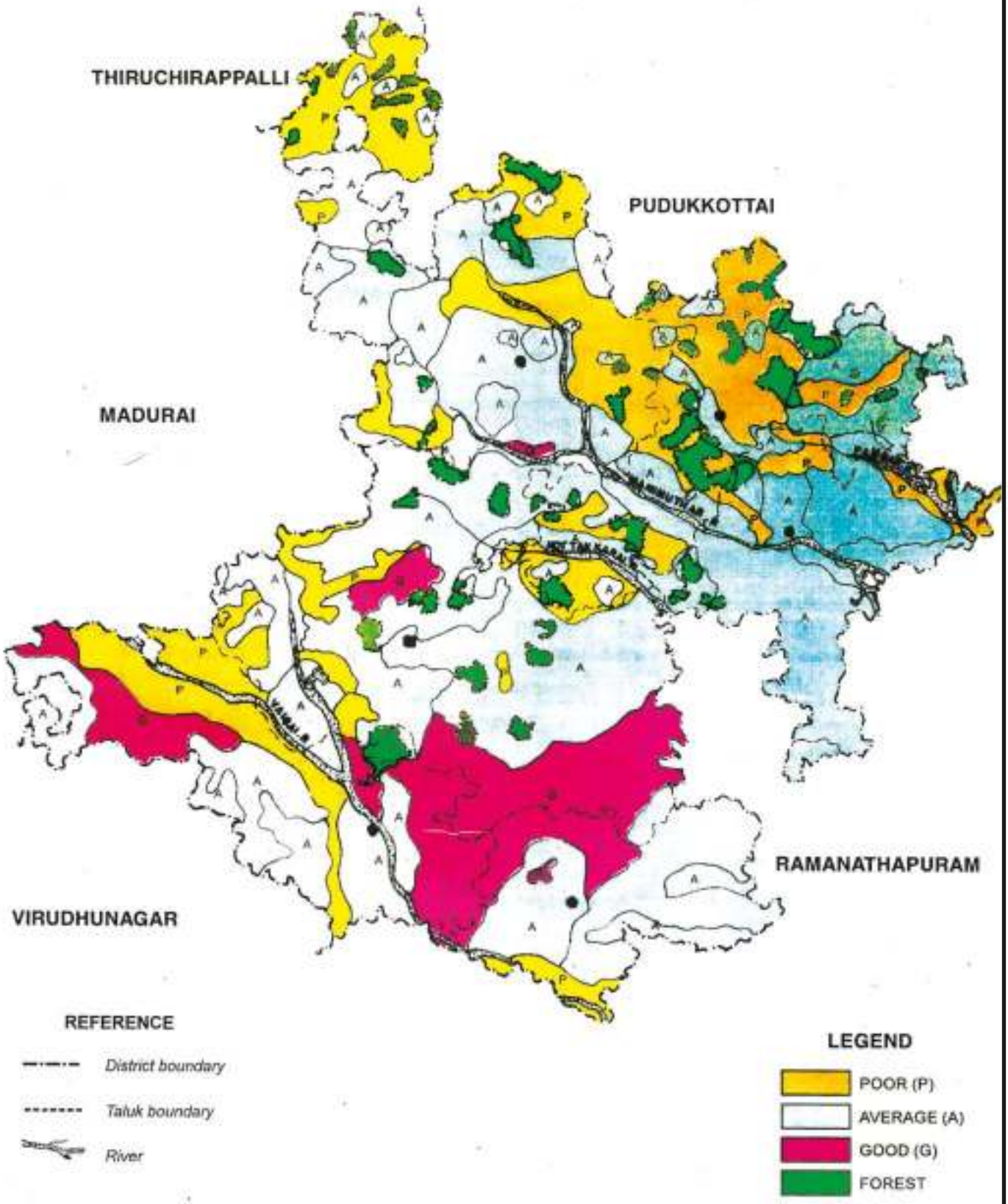
Productivity is poor in Kallal and Tiruppuvanam series (90318 ha). In general, the productivity ratings and classes are not satisfactory in all soil series of Sivagangai district except Sembanor (63943 ha).

PRODUCTIVITY RATINGS FOR THE SOILS OF SIVAGANGAI DISTRICT

Sl. No.	Rating	Productivity Classes	Soil series	Extent (ha)	Percent to total
1.	0 - 7	Extremely poor (EP)	—	—	—
2.	8 - 19	Poor (p)	Kallal and Tiruppuvanam	90,318	19.56
3.	20-34	Average (A)	Milaganur, Singampunari, Pattamangalam, Nerupugapatti, Surakkudi, Piranmalai, Thirukkoshtiyur, Tiruppathur and Kondadevi.	2,90,306	62.85
4.	35-64	Good (G)	Sembanor	63,943	13.85
5.	65-100	Excellent	—	—	—
			Forest	17,295	3.74
			Total	**4,61,862**	**100.00**

SOIL PRODUCTIVITY

SIVAGANGAI DISTRICT



CROPS GROWN

SIVAGANGAI DISTRICT

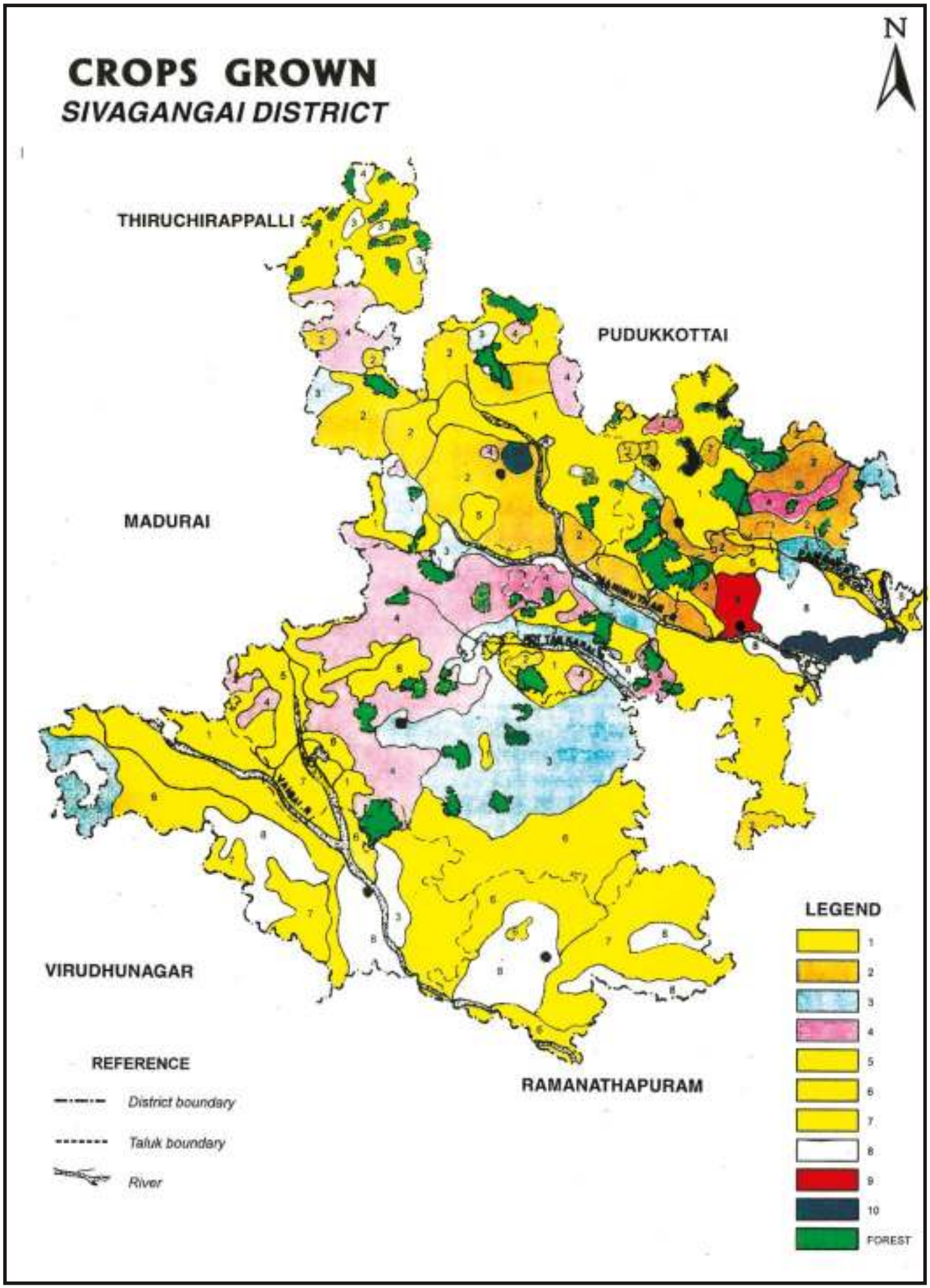
The major crops grown in this district are rice, oil seeds, pulses and millets. Rice crop is grown in Milaganur, Hanumanthakudi and Kondadevi soil series under irrigated condition in a larger extent.

In soil series of Kallal, Pattamangalam and Singampunari, groundnut is grown under irrigated and rainfed conditions.

Sl. No.	Crops grown		Map symbol	Soil series
	Rainfed	Irrigated		
1.	Groundnut and Pulses	Groundnut	1	Kallal
2.	Millets, Groundnut and Pulses	Millets and Groundnut	2	Surakkudi and Pattamangalam
3.	Millets and Pulses	Groundnut Chillies and Banana	3	Singampunari
4.	Millets, Groundnut, Pulses and Fruit crops	Millets and Chillies	4	Nerupugapatti and Piranmalai
5.	Cotton	Cotton	5	Thirukkoshtiyur
6.	Groundnut	Rice and Banana	6	Sembanor and Tiruppuvanam
7.	Millets, Cotton and Pulses	Cotton Millets and Rice	7	Milaganur
8.	Millets	Rice Cotton and Chillies	8	Hanumanthakudi
9.	Millets	Rice Sugarcane and Banana	9	Kondadevi
10.	Millets	Cotton and Millets	10	Tiruppathur

CROPS GROWN

SIVAGANGAI DISTRICT



SOIL COLOUR

SIVAGANGAI DISTRICT

Soil colour provides ready clue to soil conditions and several soil properties. Soil colour are normally related to mineral matter or organic matter or both. Red, yellow or brown colours of soils are related with oxidation, hydration and diffusion of iron oxides in mineral matters of soil.

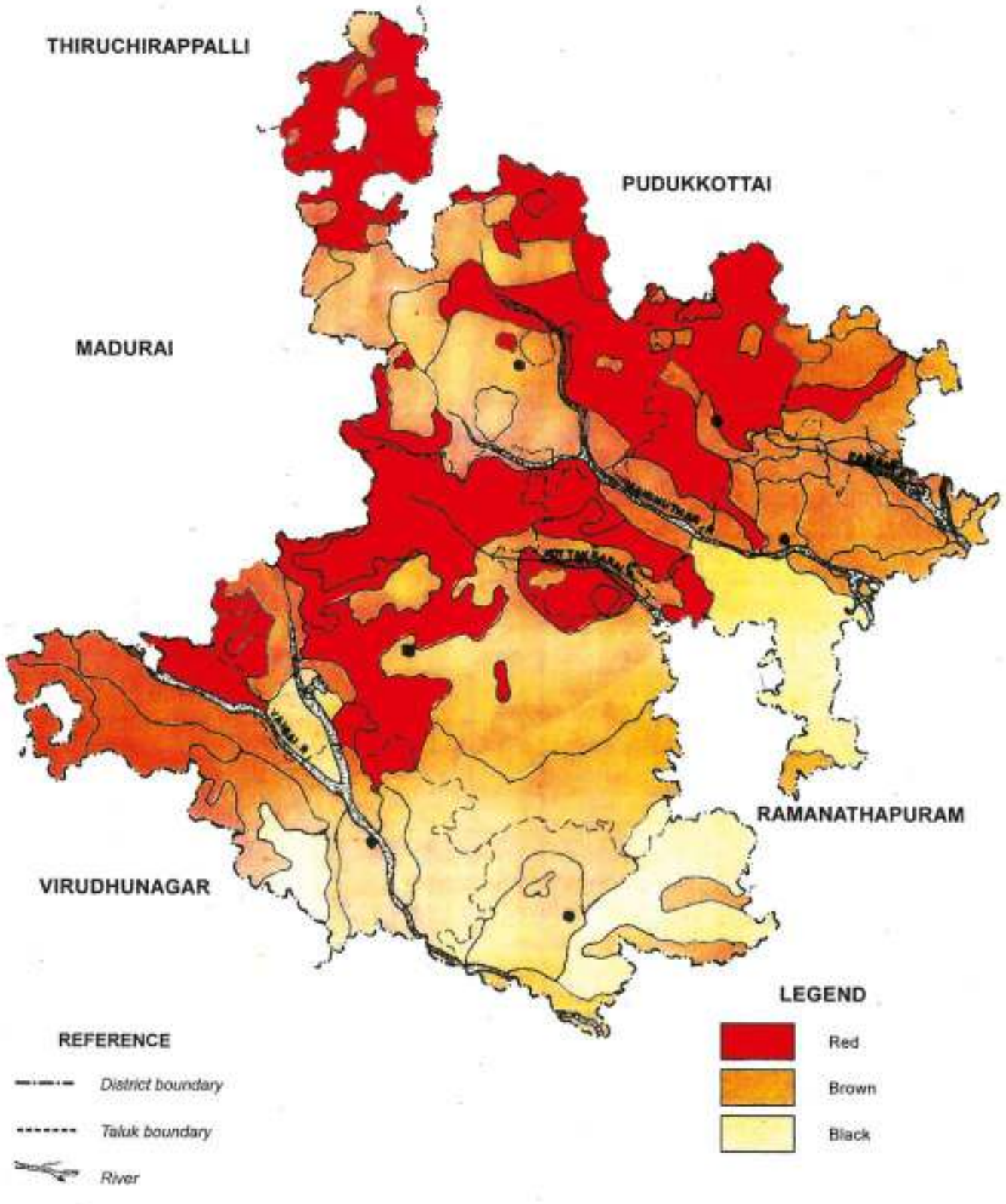
Brown coloured soils are observed in eight soil series of Sivagangai district. Which cover 41.88% of the total extent (4,61,862 ha).

Milaganur series (50551 ha) is black coloured soil. The black colour may be due to decomposed organic matter, impeded drainage or sodium saturation of colloidal complex.

Soil colour	Soil series	Extent (ha)	Percent to total
Red	Kallal, Nerupugapatti, Piranmalai and Sembanor	2,00,590	43.43
Brown	Singampunari, Pattamangalam, Hanumanthakudi, Tiruppuvanam, Surakkudi, Thirukkoshtiyur, Tiruppathur, and Kondadevi.	1,93,426	41.88
Black	Milaganur	50,551	10.95
	Forest	17,295	3.74
	Total	**4,61,862**	**100.00**

SOIL COLOUR

SIVAGANGAI DISTRICT



EFFECTIVE SOIL DEPTH

SIVAGANGAI DISTRICT

Effective soil depth refers to the depth of solum. The depth of solum is restricted by parent material and hardpans, water table, erosion, salinity, alkalinity etc., Soil depth modifies to a great extent the rooting system of plants. When the soil is deep, plant roots can penetrate deep in to soil to meet the moisture and nutrient requirements.

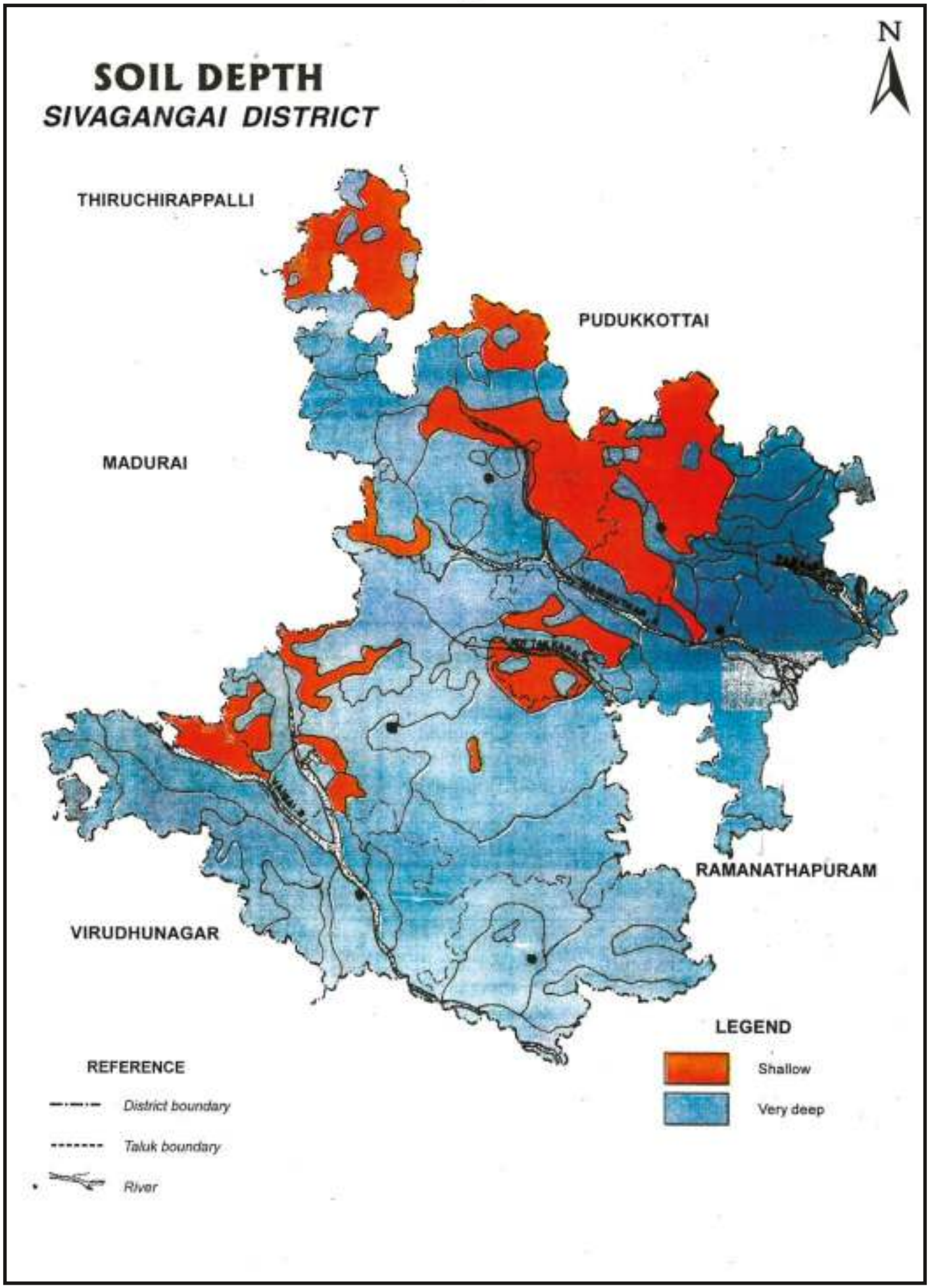
Depth of soil has a bearing on the following.

- good holding of roots
- root contact and soil volume
- moisture content
- quantum of nutrients
- choice of crop varieties

Unfavourable factors like soil texture, landscape, in combination with depth, decreases the capacity.

In this district all soil series except Kallal have deep to very deep (more than 100 cm) soils which occupy 81.46% (376231 ha) of the total extent (461862 ha).

Effective soil depth	Soil series	Extent (ha)	Percent to total
Shallow - d2 (10 - 25 cm)	Kallal	68,336	14.80
Very deep - d5 (more than 100cm)	Milaganur, Singampunari, Pattamangalam, Sembanor, Nerupugapatti, Hanumanthakudi, Tiruppuvanam, Surakkudi, Piranmalai, Thirukkoshtiyur, Tiruppathur, and Kondadevi	3,76,231	81.46
—	Forest	17,295	3.74
	Total	**4,61,862**	**100.00**


SOIL DEPTH
SIVAGANGAI DISTRICT
N
THIRUCHIRAPPALLI
PUDUKKOTTAI
MADURAI
RAMANATHAPURAM
VIRUDHUNAGAR
LEGEND
Shallow
Very deep
REFERENCE
District boundary
Taluk boundary
River

SOIL TEXTURE

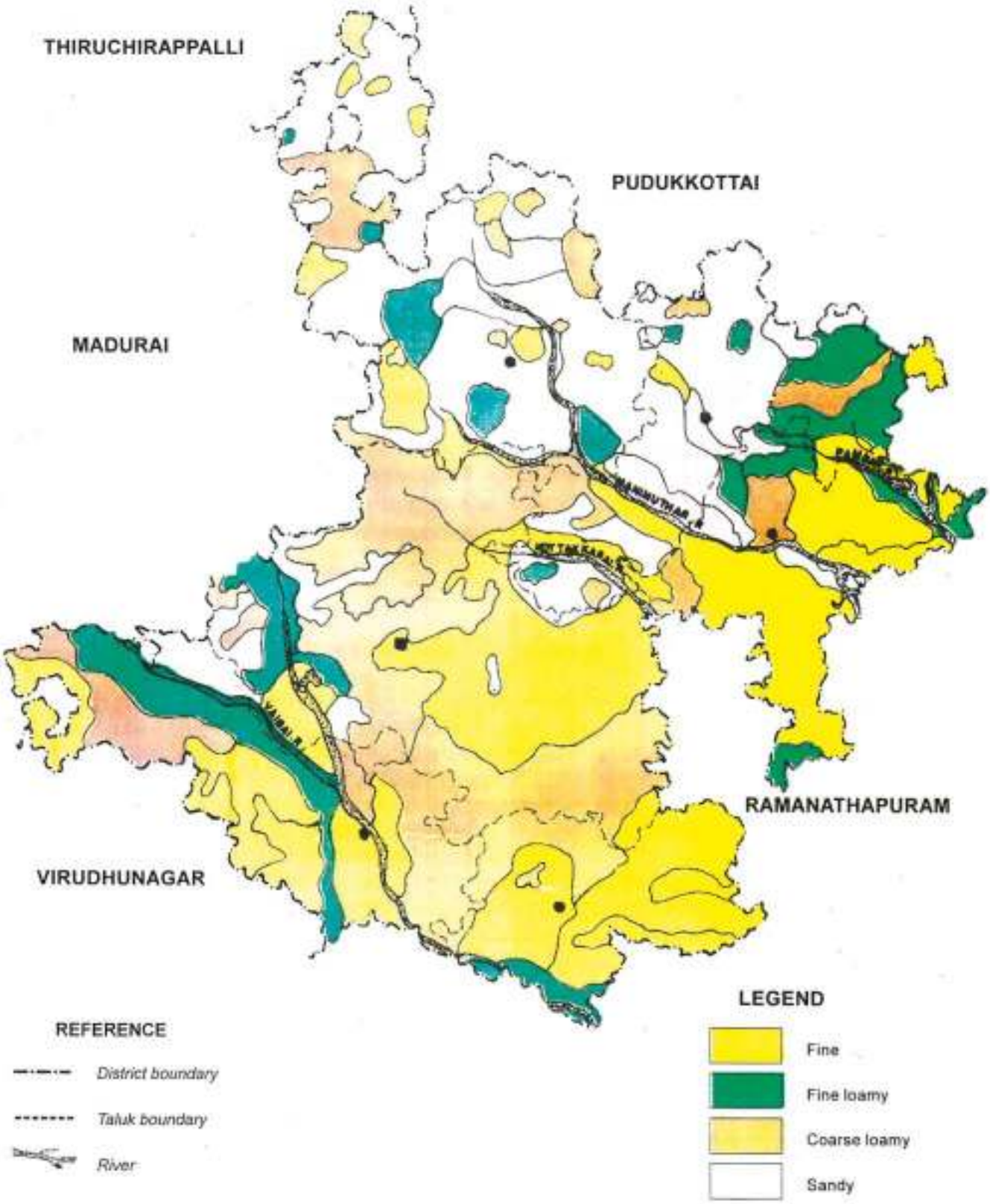
SIVAGANGAI DISTRICT

Soil texture is an expression to indicate the coarseness or fineness of the soil as determined by the relative proportion of the various sized primary particles, in the soil mass. It is one of the fundamental and permanent characteristics that has direct bearing on structure, porosity, adhesion and consistency. Texture is a basic indicator of physical, chemical characters of soil. Texture of the soil influences drainage, aeration, tillages, root penetration, moisture, nutrient retention, choice of crops, physico-chemical and biological activities.

In fine textured soils like Milaganur soil series soil compaction below ploughpan are common restricting the root proliferation. In coarse textured soils like Kallal and Sembanor low water and nutrients are retained and surface drought also occurs.

Sl. No.	Textural Class	Soil series	Extent (ha)	Percent to total
1.	Fine (Soils with high clay content)	Milaganur, Singampunari, Hanumanthakudi and Tiruppathur	1,59,426	34.52
2.	Fine loamy (Soils with moderate clay content)	Tiruppuvanam, Surakkudi and Thirukkoshtiyur	51,663	11.19
3.	Coarse loamy (Open textured)	Sembanor, Nerupugapatti, Piranmalai and Kondadevi	1,35,031	29.24
4.	Sandy (Open textured - skeletal)	Kallal and Pattamangalam	98,447	21.31
5.		Forests	17,295	3.74
		Total	**4,61,862**	100.00

SOIL TEXTURE
SIVAGANGAI DISTRICT



PERMEABILITY

SIVAGANGAI DISTRICT

The characteristics of a soil that enables water or air or plant roots to move through it is known as permeability. The permeability is dependant 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.

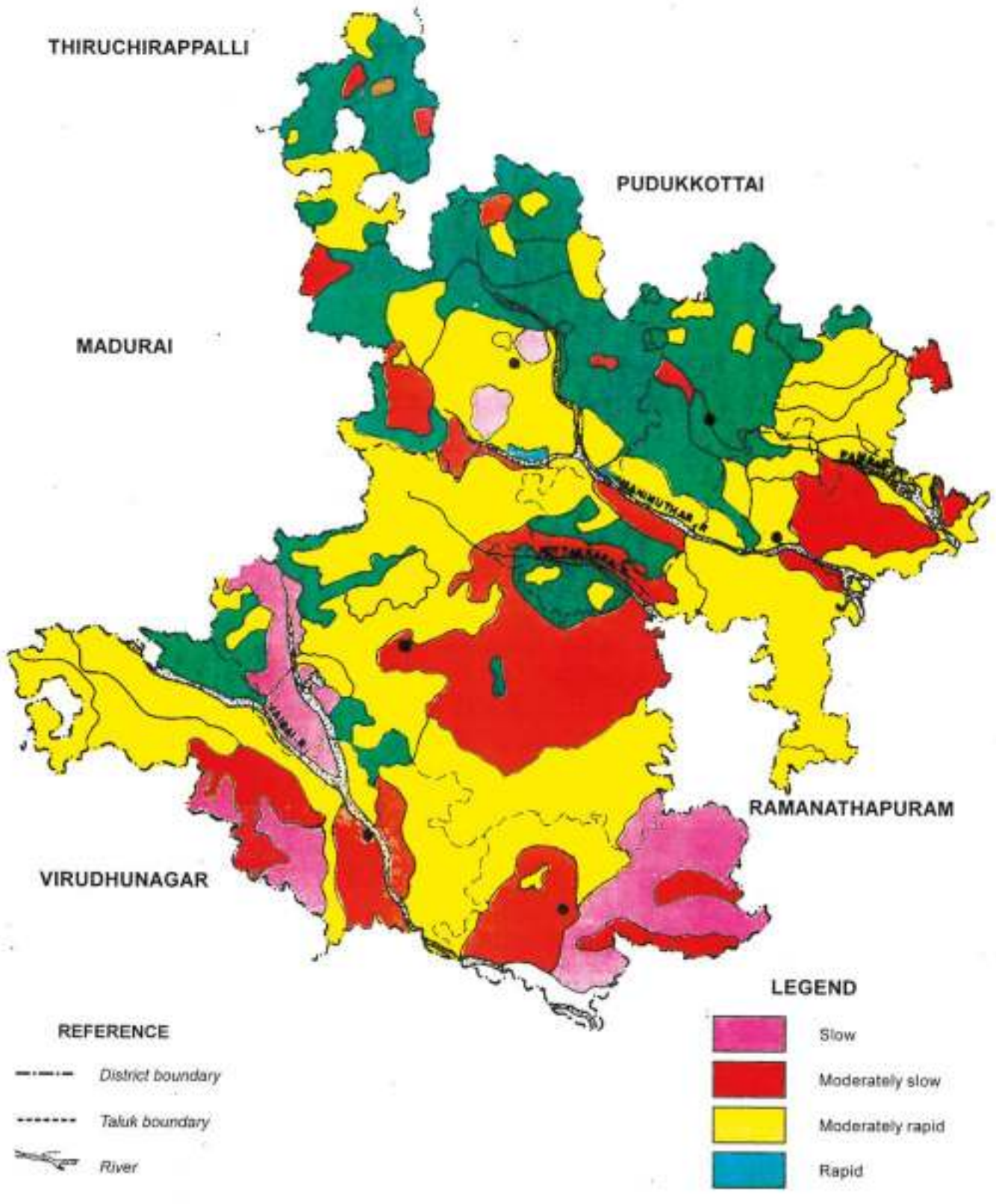
The permeability can be controlled to a larger extent by suitable management practices. Continuous tillage reduces permeability while the growth of deep rooted crops like legumes increases permeability. Maintenance of good aggregation is important in maintaining the permeability, which inturn increase the productivity of the soil.

The degrees of permeability vary with soil series. The range of rate of intake for determining the various permeability classes of different soil series are indicated below.

The permeability of this district is slow in 63476 hectares of the total extent of 461862 hectares. In soil series of Sembanor, Tiruppuvanam, Nerupugapatti, Kondadevi, Piranmalai and Surakkudi, permeability is moderatly rapid which occupy 1,77,314 hectares and these soil series are with good productivity.

Rate of intake Per hour (in cms)	Class	Symbol	Soil series	Extent (ha)	Percent to total
0.13 to 0.5	Slow	S	Milaganur, Thirukkoshtiyur and Tiruppathur	63,476	13.75
0.5 to 2.0	Moderately slow	MS	Singampunari and Hanumanthakudi	1,05,330	22.80
5.0 to 13.0	Moderately rapid	MR	Sembanor, Nerupugapatti, Tiruppuvanam, Surakkudi, Piranmalai and Kondadevi	1,77,314	38.39
13.0 to 25.0	Rapid	R	Kallal and Pattamangalam	98,447	21.32
			Forest	17,295	3.74
			Total	**4,61,862**	**100.00**

PERMEABILITY
SIVAGANGAI DISTRICT



WATER HOLDING CAPACITY (WHC)

SIVAGANGAI 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.,

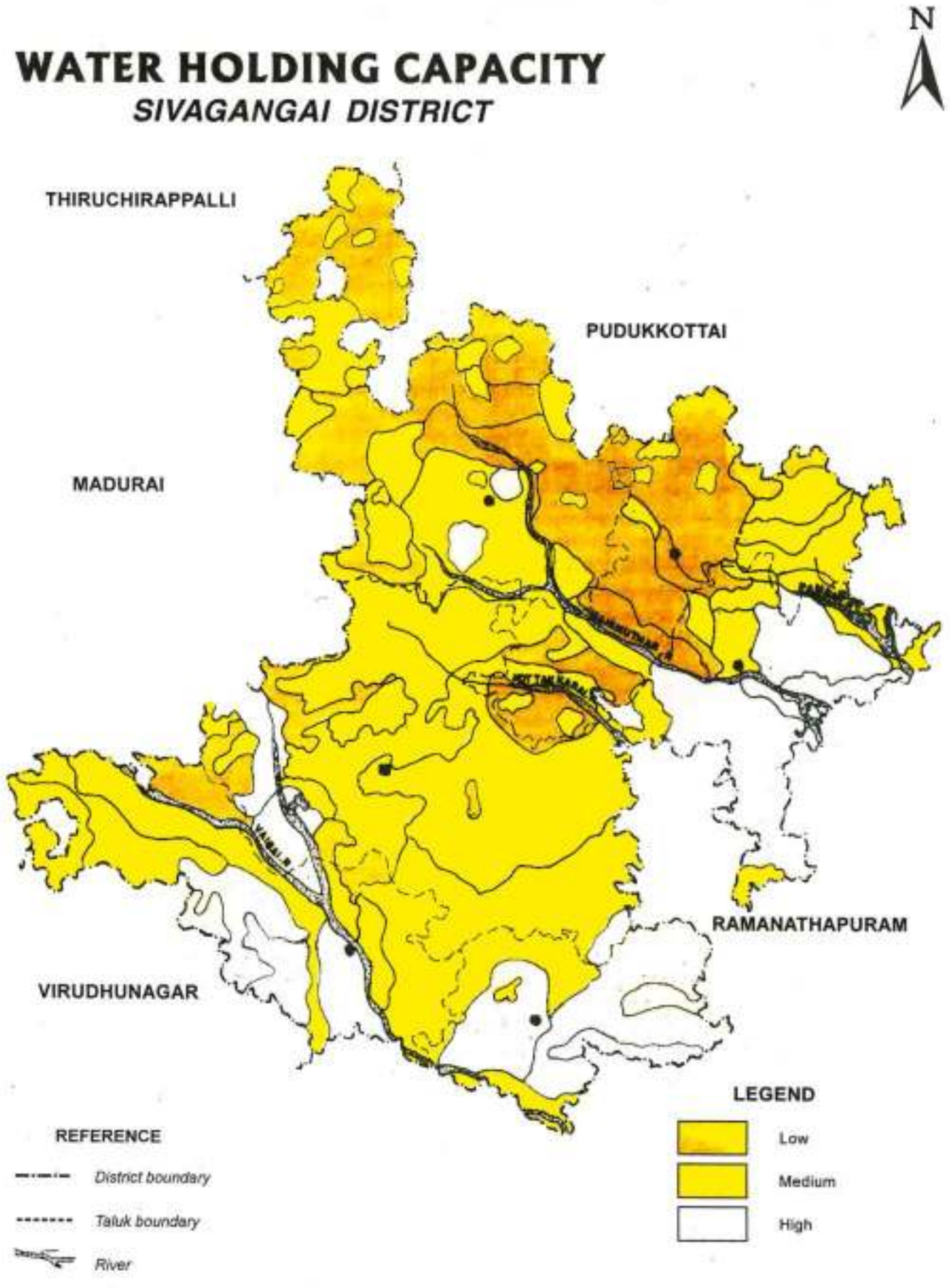
In Kallal and Pattamangalam, (98447 ha) soil series, low water holding capacity is observed.

In Milaganur, Hanumanthakudi, Thirukkoshtiyur and Tiruppathur soil series (102356 ha) high water holding capacity is observed.

WHC category	Soil series	Extent (ha)	Percent to total
Low (0 - 20%)	Kallal and Pattamangalam	98,447	21.32
Medium (21 - 50%)	Singampunari, Sembanor, Nerupugapatti, Tiruppuvanam, Piranmalai, Surakkudi and Kondadevi	2,43,764	52.78
High (Above 50%)	Milaganur, Hanumanthakudi, Thirukkoshtiyur and Tiruppathur	1,02,356	22.16
	Forest	17,295	3.74
	Total	**4,61,862**	**100.00**

WATER HOLDING CAPACITY

SIVAGANGAI DISTRICT



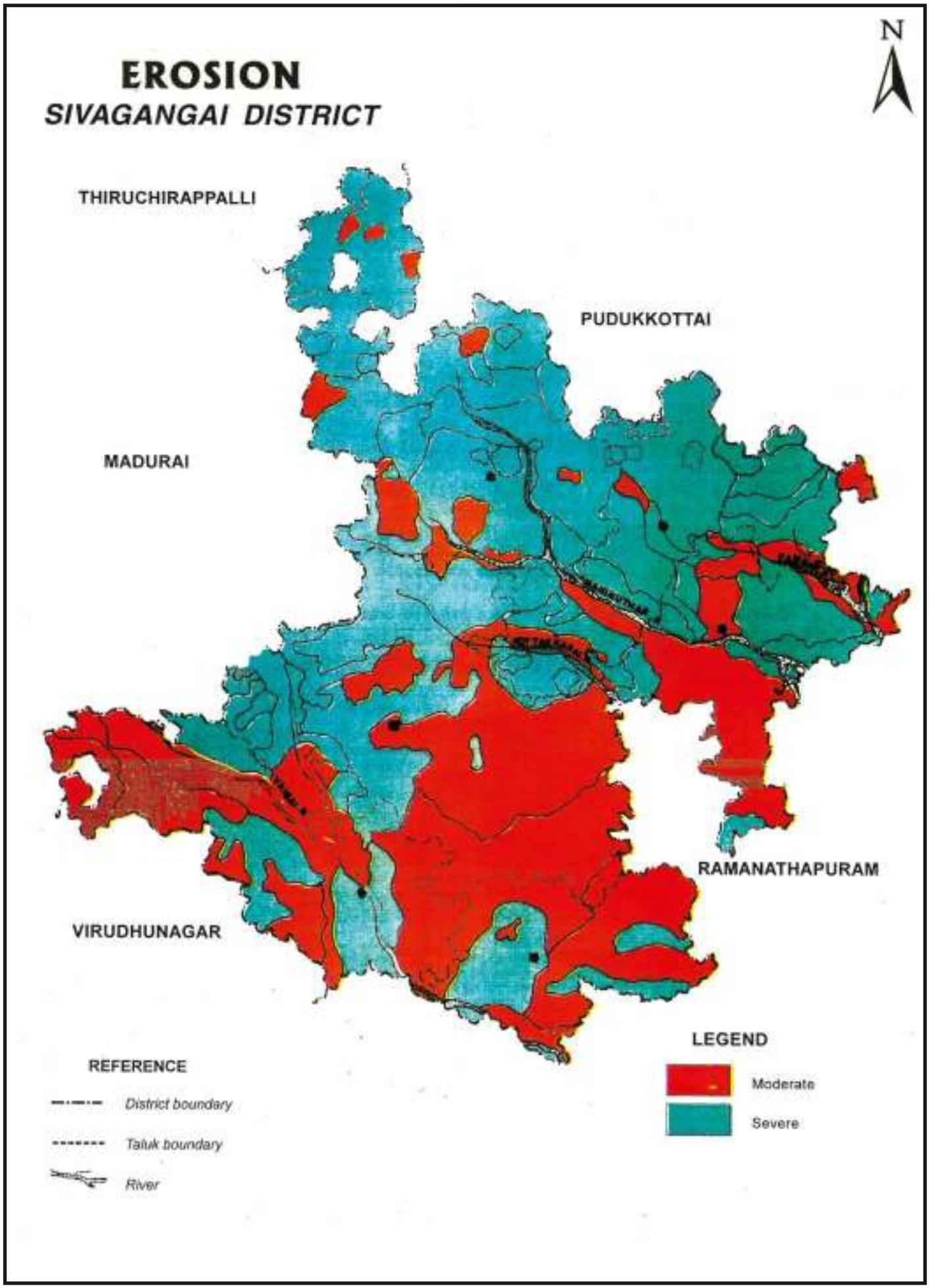
EROSION

SIVAGANGAI DISTRICT

Erosion is the detatchment and movement of soil material. The process may be natural or accelerated by human activity. Natural erosion has sculptured land forms on the uplands and built land forms on the low lands. The 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 reduces soil depth and anchorage will be a problem in these soils.

Severe erosion has been observed in Kallal, Pattamangalam, Hanumanthakudi, Nerupugapatti, Piranmalai, Thirukkoshtiyur and Tiruppathur soil series which cover 2,38,864 hectares (51.72%) of the total extent of this district. The fine texturedness of surface soil and the topographical setting are the prime reasons for severe erosion in the above soil series.

Type of Erosion	Soil series	Extent (ha)	Percent to total
Moderate	Milaganur, Singampunari, Sembanor, Thiruppuvanam and Kondadevi	2,05,703	44.54
Severe	Kallal, Pattamangalam, Nerupugapatti, Hanumanthakkudi, Surakkudi, Piranmalai, Thirukkoshtiyur and Tiruppathur	2,38,864	51.72
	Forest	17,295	3.74
	Total	**4,61,862**	**100.00**


EROSION
SIVAGANGAI DISTRICT
N
THIRUCHIRAPPALLI
PUDUKKOTTAI
MADURAI
RAMANATHAPURAM
VIRUDHUNAGAR
LEGEND
Moderate
Severe
REFERENCE
District boundary
Taluk boundary
River

CALCAREOUSNESS

SIVAGANGAI DISTRICT

The insoluble calcium carbonate present in soil surface or sub- surface or both is referred as calcareousness

The inscluble calcium carbonate is present in the form of concretions, powdery, beds etc.,

Calcareousness of soil have a marked effect on the following.

1. Loss of N through volatalisation and unavailability of P and Zn and K will get fixed in the inter lattice.

2. Unavailability of P and Fe

3. Loss of water and nutrients will be more through leaching.

- Narrow Ca-Mg ratio in the sub-surface leading to restricted Mg - uptake

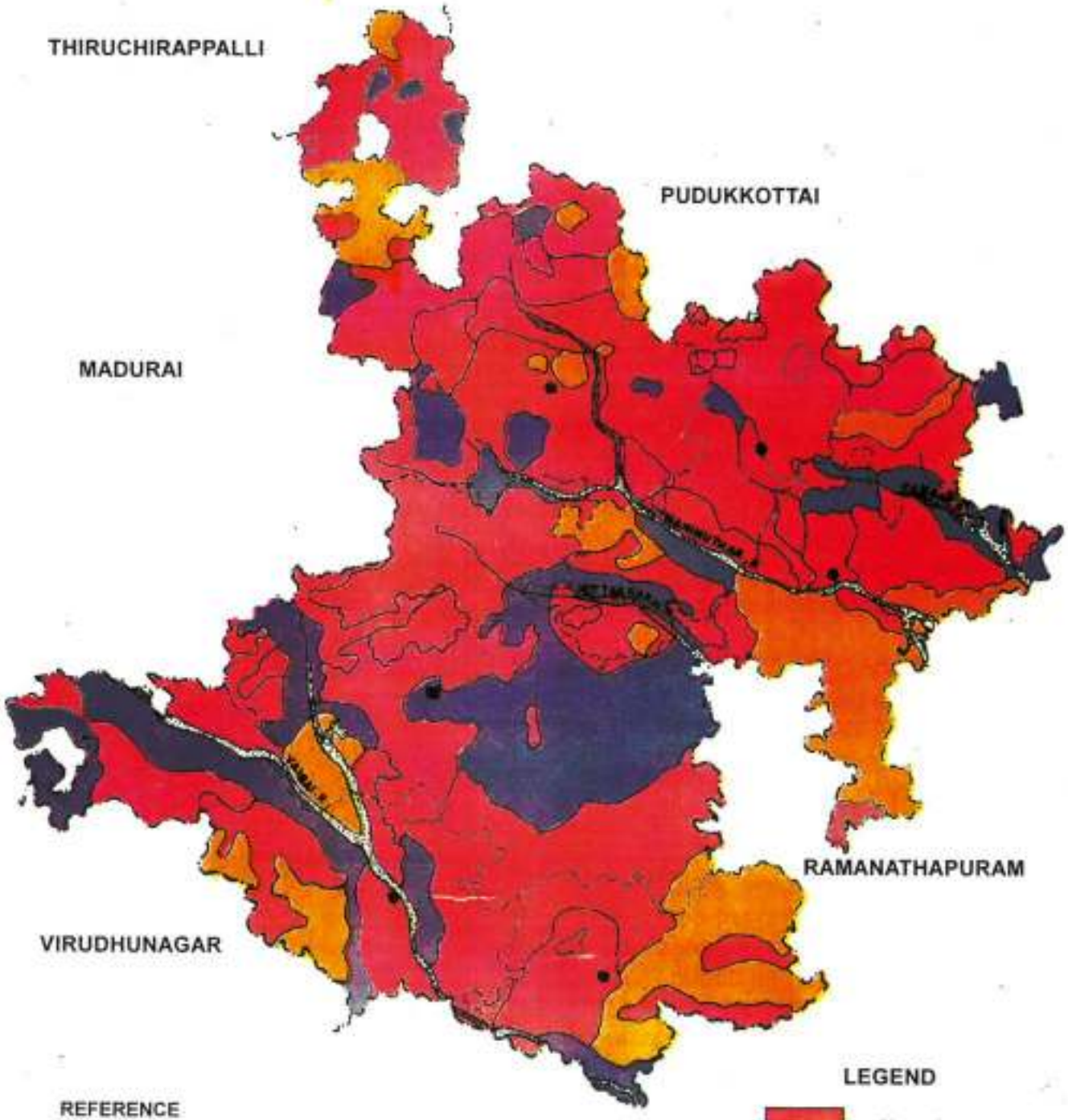
- Deficiency of zinc, iron, Manganese and Boron.

In Sivagangai district seven soil series are free from calcareousness which account for 2,76,383 hectares (59.84%). Strong calcareousness was observed in Singampunari, Tiruppathur and Thirukkoshtiyur soil series, covering an extent of 97,812 hectares (21.18%)

Calcareousness class	Soil series	Total extent (ha)	Percent to total
Non calcareous	Kallal, Pattamangalam, Sembanor, Nerupugapatti, Hanumanthakudi, Surakkudi and Kondadevi	2,76,383	59.84
Mild	Milaganur, Piranmalai and Tiruppathur,	70,372	15.24
Strong	Singampunari, Tiruppuvanam and Thirukkoshtiyur	97,812	21.18
	Forest	17,295	3.74
	Total	**4,61,862**	**100.00**

CALCAREOUSNESS

SIVAGANGAI DISTRICT



SALINITY

SIVAGANGAI DISTRICT

Salinity is measured in terms of Electircal conductivity (m.mhos/cm2) which indicates the total quantities of soluble salts in soils.

Adverse effects :-

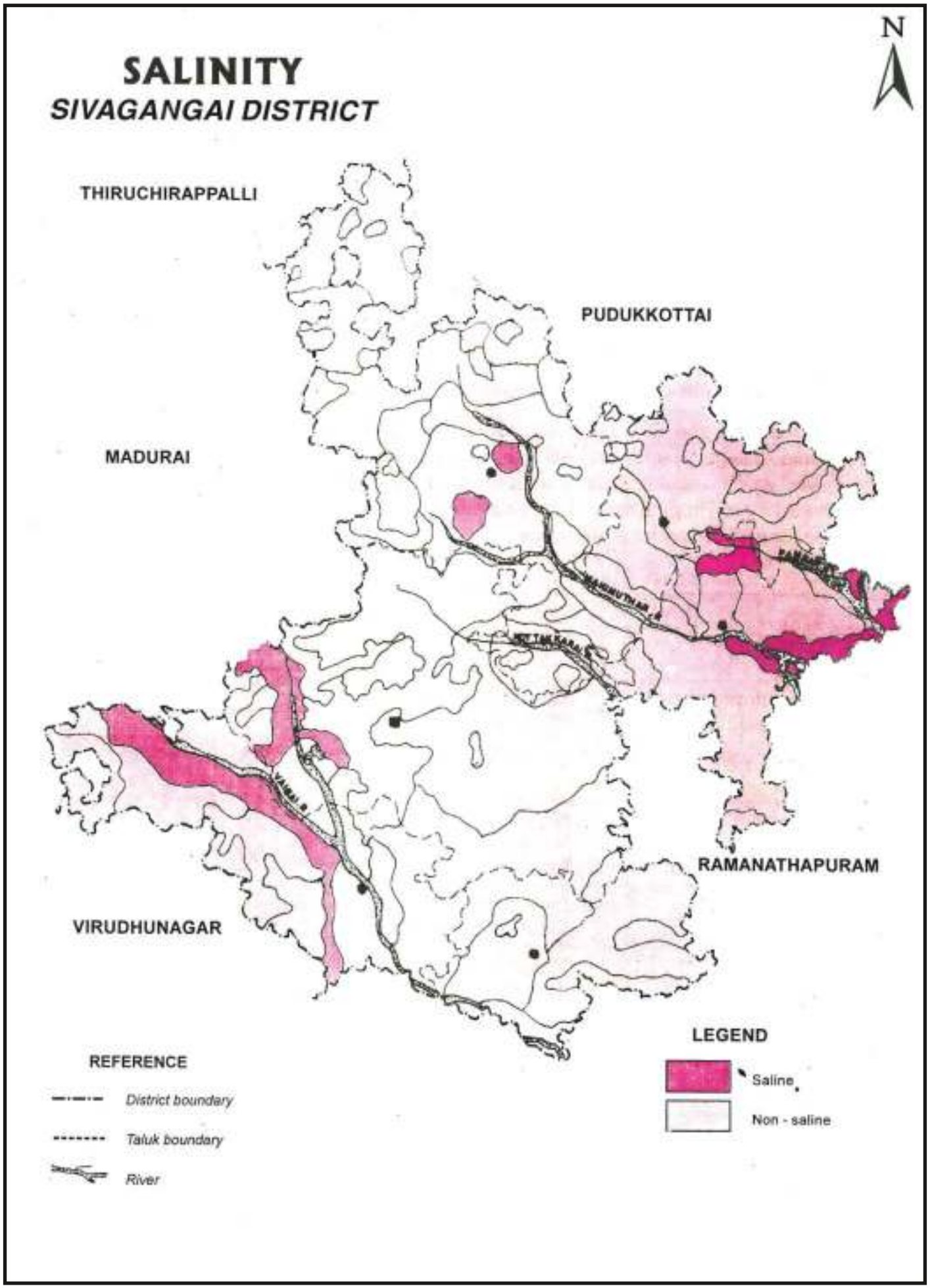
- Excess salts hinder crop growth, not only by toxicity but also by reducing water availability through reverse osmosis.

- Nutrient uptake will also become unbalanced and alter the harmonal imbalance in plant system.

- yield of crop decrease linearly with increase of salinity.

Salinity in the sub-surface was found to be associated in Tiruppathur, Tiruppuvanam and Thirukkoshtiyur soil series. This was observed in 34907 hectares of soils of Sivagangai district.

Category	Soil series	Extent (ha)	Percent to total
Saline	Tiruppathur, Tiruppuvanam and Thirukkoshtiyur	34,907	7.56
Non saline	Kallal, Milaganur, Singampunari, Pattamangalam, Sembanor, Nerupugapatti, Hanumathakudi, Surakkudi, Piranmalai and Kondadevi	4,09,660	88.70
	Forest	17,295	3.74
	Total	**4,61,862**	**100.00**


SALINITY
SIVAGANGAI DISTRICT
N
THIRUCHIRAPPALLI
PUDUKKOTTAI
MADURAI
RAMANATHAPURAM
VIRUDHUNAGAR
LEGEND
Saline
Non - saline
REFERENCE
District boundary
Taluk boundary
River

SOIL REACTION (pH)

SIVAGANGAI DISTRICT

Soil reaction (pH) is the important chemical characteristic influencing many physical and chemical properties. The microbial activity, nutrient availability depend upon the soil reaction (Acidic, neutral or alkaline)

- Acidic soil requires lime for amelioration.

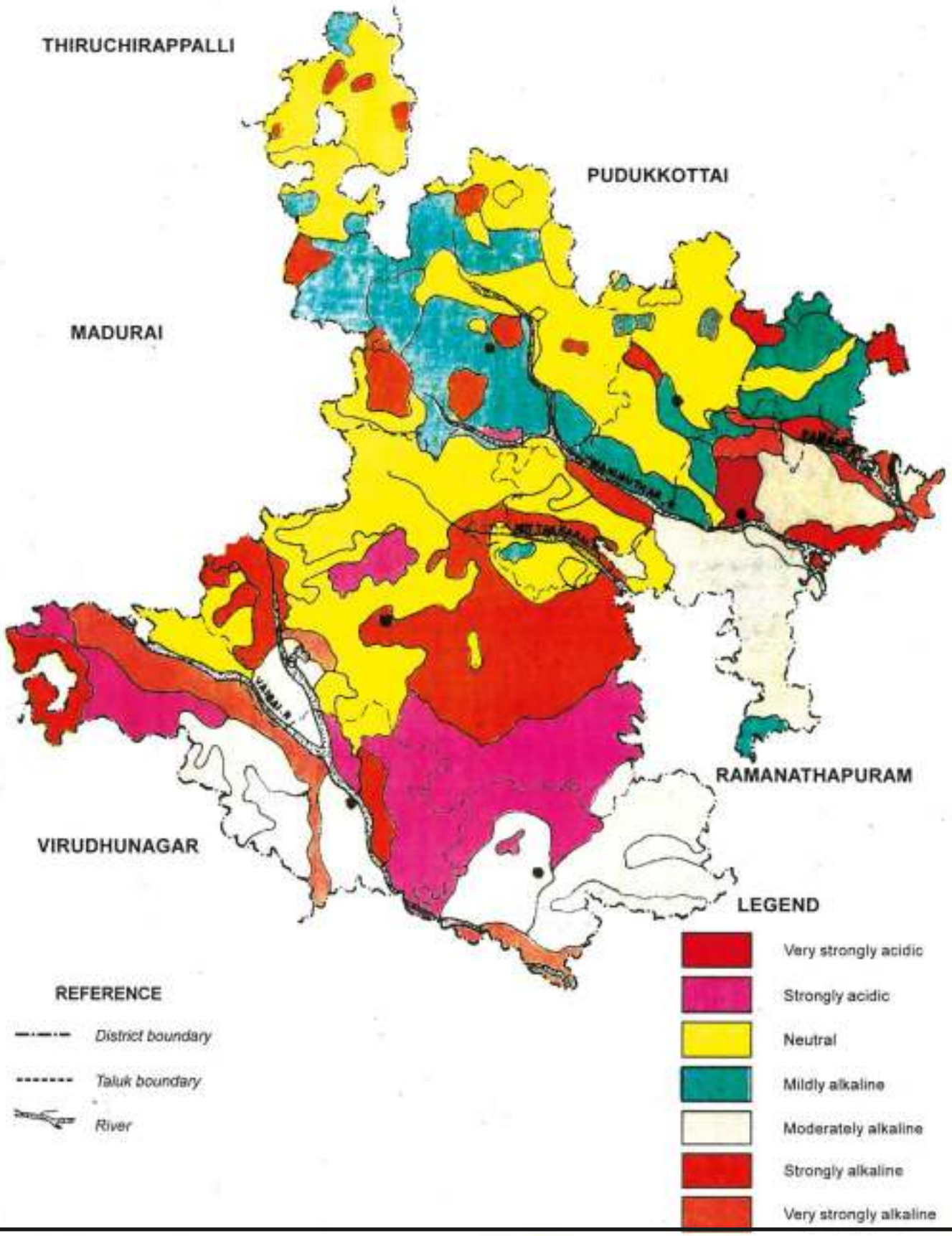
- Akaline soil requires organic manuring, gypsum or iron pyrites for amending the soil.

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

Kondadevi and Sembanor soil (66720 ha) series are acidic. Pattamangalam, Surakkudi, Milaganur and Hanumanthakudi soil series are affected by mild or moderate alkalinity which require organic manuring for amending the soil. Singampunari, Thirukkoshtiyur, Tiruppathur and Tiruppuvanam soil series are strongly alkaline, require gypsum or iron pyrites for amelioration.

Category	Soil series	Extent (ha)	Percent to total
Very strongly acidic (pH lessthan 5)	Kondadevi	2,777	0.60
Strongly acidic (pH 5.1 - 5.5)	Sembanor	63,943	13.85
Neutral (pH 6.6 - 7.5)	Kallal, Nerupugapatti and Piranmalai	1,36,647	29.59
Mildly alkaline (pH 7.6 - 8.0)	Pattamangalam and Surakkudi	50,412	10.92
Moderately alkaline (pH 8.1 - 8.5)	Milaganur and Hanumanthakudi	89,431	19.36
Strongly alkaline (pH 8.6 - 9.0)	Singampunari, Thirukkoshtiyur and Tiruppathur	79,375	17.18
Very strongly alkaline (pH more than 9.0)	Tiruppuvanam	21,982	4.76
	Forest	17,295	3.74
	Total	**4,61,862**	**100.00**

SOIL REACTION
SIVAGANGAI DISTRICT



CATION EXCHANGE CAPACITY (CEC)

SIVAGANGAI DISTRICT

Cation exchange capacity measurements are made as part of overall assessment of the potential fertility of a soil. Low CEC reduces the fertilizer use efficiency especially of nitrogen and potassium.

CEC of soils is mainly related to clay content, clay mineralogy and organic matter content. Nutrients retained by clay and organic matter that are not lost by leaching.

CEC of soil has a definite bearing on the following

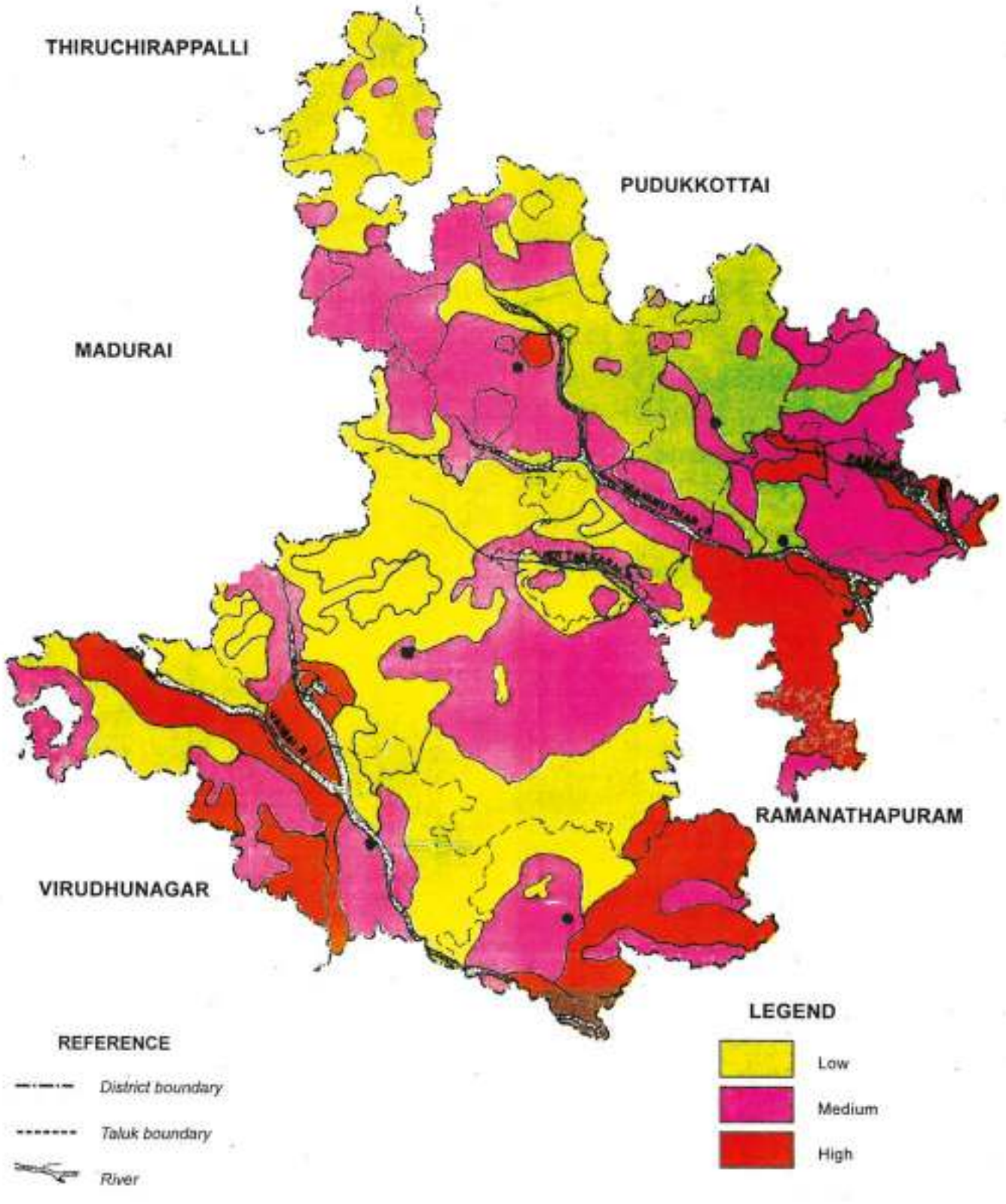
- Loss of applied nutrient
- time and method of application of fertilizers
- Fertilizer use efficiency
- Native fertility of soils

Low CEC was observed in Kallal, Sembanor, Nerupugapatti, Piranmalai and Kondadevi soil series which occupy 203367 ha (44.04%). Out of the total extent of sivagangai district (461862 ha), CEC was high in Milaganur, Tiruppuvanam and Tiruppathur soil series (76078 ha).

CEC category	Soil series	Extent (ha)	Percent to total
Low (Less than 10 m.eq / 100 g)	Kallal, Sembanor, Nerupugapatti, Piranmalai and Kondadevi	2,03,367	44.04
Medium (11 - 25 m.eq / 100 g)	Singampunari, Pattamangalam, Hanumanthakudi, Surakkudi and Thirukkoshtiyur	1,65,122	35.75
High (Above 25 m.eq / 100 g)	Milaganur, Tiruppuvanam and Tiruppathur	76,078	16.47
	Forest	17,295	3.74
	Total	**4,61,862**	**100.00**

CATION EXCHANGE CAPACITY

SIVAGANGAI DISTRICT

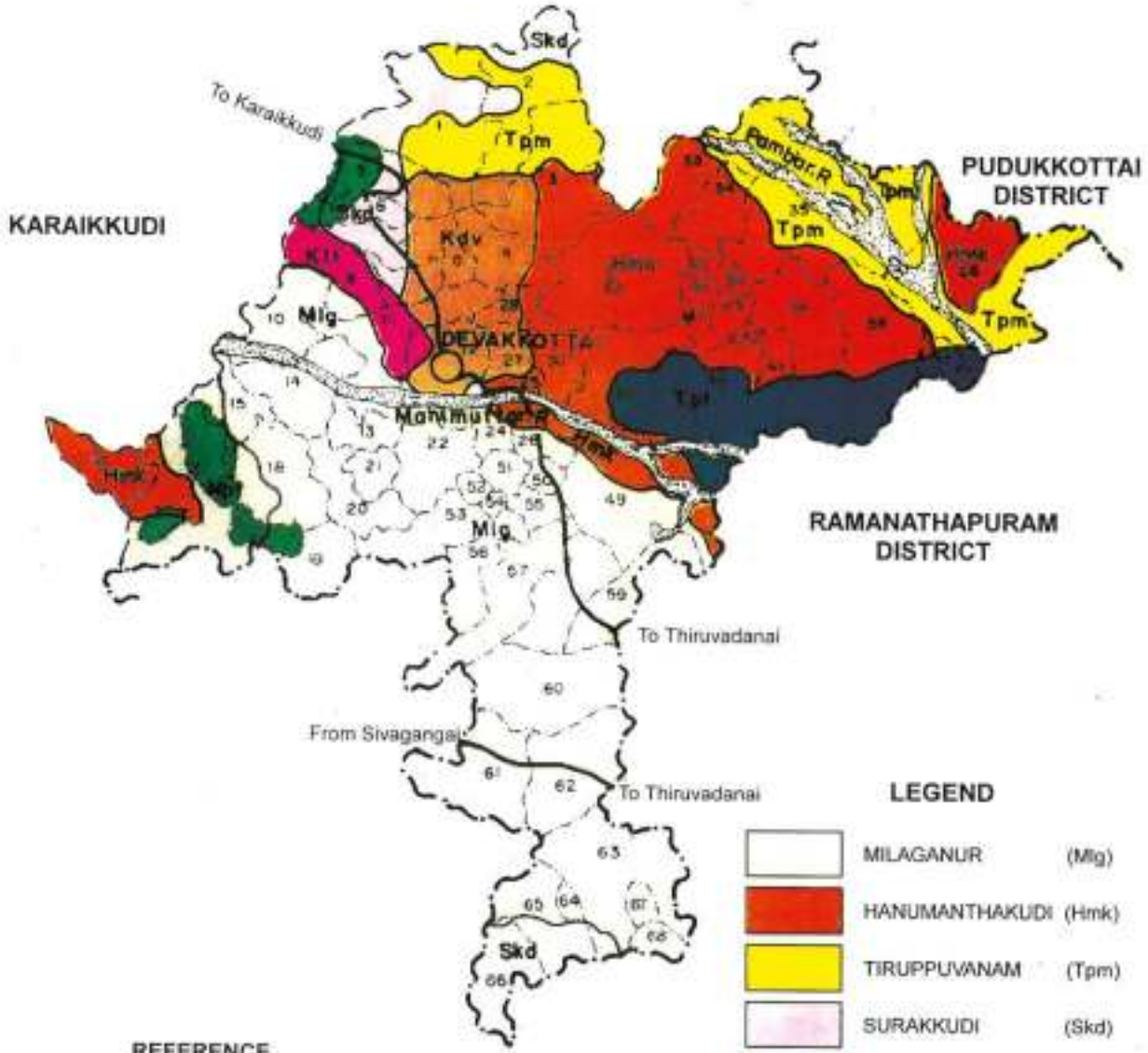


DISTRIBUTION OF SOIL SERIES

DEVAKOTTAI TALUK

S.No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Milaganur	Mlg	17,083	35.46
2.	Hanumanthakudi	Hmk	10,890	22.60
3.	Tiruppuvanam	Tpm	6,245	12.96
4.	Surakkudi	Skd	3,892	8.08
5.	Tiruppathur	Tpt	2,839	5.89
6.	Kondadevi	Kdv	2,777	5.76
7.	Kallal	Kll	1,300	2.70
8.	Nerupugapatti	Npt	1,232	2.56
	Forests		1,924	3.99
		Total	**48,182**	**100.00**

SOILS
DEVAKOTTAI TALUK



VILLAGE WISE FERTILITY STATUS AND SOIL SERIES

DEVAKOTTAI TALUK

Sl. No.	Revenue village	Village No.	Soil distribution in Percentage	Fertility status (kg/ac)		
				Nitrogen	Phosphorus	Potassium
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Aravayal	6	Skd 100	—	—	—
2.	Chithanur	32	Hmk 100	—	—	—
3.	Eagarikottavayal	42	Hmk 100	101	8	401
4.	Eluvankottai	10	Mlg 100	101	8	388
5.	Eravuseri	33	Hmk 95	—	—	—
6.	Hanumandakkudi	53	Mlg 100	79	11	252
7.	Idayakudi	64	Mlg 100	—	—	—
8.	Ilakkinivayal	13	Mlg 100	298	21	533
9.	Iruvinivayal	2	Tpm 70	313	20	785
10.	Kadagampatti	54	Mlg 100	—	—	—
11.	Kalabaakudi	26	Mlg 50 Hmk 50	—	—	—
12.	Kalathur	15	Mlg 70 Npt 30	65	8	255
13.	Kallargudi	46	Hmk 100	351	21	965
14.	Kandadevi	4	Kdv 80 Hmk 20	93	8	274
15.	Kandiyur	23	Hmk 80	—	—	—
16.	Kannangudi	24	Mlg 75 Hmk 25	—	—	—
17.	Kannankottai	21	Mlg 100	63	7	224
18.	Kappalur	25	Hmk 100	—	—	—
19.	Karai	48	Tpt 70 Hmk 30	—	—	—
20.	Karkalathur	62	Mlg 100	109	8	268
21.	Kurundanakkottai	63	Mlg 90 Skd 10	104	8	269
22.	Kilamalai	16	Hmk 100	—	—	—
23.	Kodagudi	19	Mlg 100	—	—	—
24.	Kodikottai	55	Mlg 100	—	—	—
25.	Kothur	39	Hmk 100	168	8	455
26.	Kumani	68	Mlg 100	—	—	—
27.	Madakkottai	18	Mlg 65 Npt 35	—	—	—
28.	Manjani	50	Mlg 100	—	—	—
29.	Maviduthikottai	52	Mlg 100	74	18	236
30.	Melasembori	7	Skd 40 Kdv 30	89	8	274

(1)	(2)	(3)	(4)	(5)	(6)	(7)
31.	Muppaaiyur	61	Mlg 100	—	—	—
32.	Nachankulam	43	Hmk 100	99	8	393
33.	Nagamanyalam	17	Npt 80 Hmk 20	—	—	—
34.	Nallangudi	35	Tpm 50 Hmk 50	—	—	—
35.	Naranamangalam	21	Mlg 100	—	—	—
36.	Nedungulam	45	Hmk 100	—	—	—
37.	Paganipirandani	57	Mlg 100	—	—	—
38.	Panangulam	59	Mlg 100	—	—	—
39.	Perattukottai	5	Skd 90	—	—	—
40.	Poolangudi	22	Mlg 100	—	—	—
41.	Poosalagudi	14	Mlg 100	—	—	—
42.	Porgudi	28	Kdv 75	—	—	—
43.	Pudukkottai	40	Hmk 100	—	—	—
44.	Putturani	29	Hmk 100	—	—	—
45.	Sadaiyamangalam	27	Kdv 100	—	—	—
46.	Sakkandi	58	Mlg 100	—	—	—
47.	Sathikkottai	34	Hmk 90	—	—	—
48.	Selugai	67	Mlg 100	—	—	—
49.	Siruganur	20	Mlg 100	—	—	—
50.	Sirumarudur	8	Kdv 100	—	—	—
51.	Talanendal	51	Mlg 100	—	—	—
52.	Tenneervayal	9	Kll 60 Mlg 40	—	—	—
53.	Thachavayal	37	Tpt 50 Hmk 40	—	—	—
54.	Thalaiyur	12	Kdv 80	—	—	—
55.	Thalakkavayal	36	Tpm 60 Hmk 40	—	—	—
56.	Thangangudi	30	Hmk 100	—	—	—
57.	Theralappur	31	Hmk 60 Tpm 40	—	—	—
58.	Thidakkottai	60	Mlg 100	109	8	215
59.	Thiruppakkottai	56	Mlg 100	—	—	—
60.	Thirumanavayal	38	Hmk 90	168	8	448
61.	Udayachi	41	Hmk 100	—	—	—
62.	Unjanai	1	Skd 60 Tpm 40	91	12	257
63.	Vadimanniyur	66	Skd 100	73	11	260
64.	Vagaigudi	47	Hmk 100	—	—	—
65.	Vasanthani	49	Mlg 80	—	—	—
66.	Vengalur	3	Hmk 40 Tpm 30 Kdv30	—	—	—
67.	Vettialarkulam	44	Hmk 100	—	—	—
68.	Vilimar	65	Mlg 100	110	8	268

LAND CAPABILITY CLASSIFICATION

DEVAKOTTAI TALUK

S.No.	Soil series	Class Sub - Class	Extent (ha)	Per cent to total	Limitation	Needs
1.	Surakkudi Kondadevi	II e - Lands that have moderater limitations for sustained use under cultivation	6,669	13.84	Erosion	Erosion control and conservation improved irrigation method
2.	Nerupugapatti	II es Lands that have moderater limitations for sustained use under cultivation	1,232	2.56	Erosion and Coarse texture	Erosion control and Conservation improved irrigation methods and soil breeding
3.	Milaganur Tiruppuvanam	III s - Lands that have severe limitations for sustained use under cultivation	23,328	48.42	Heavy texture slow permeability and alkalinity	Drainage improvement addition of organics matter and amendments
4.	Kallal	III es - Lands that have severe limitations for sustained use under cultivation	1,300	2.70	Erosion and Shallow solum	Soil and Water conservation measures
5.	Hanumanthakudi Thiruppathur	III es - Lands that have severe limitations for sustained use under cultivation	13,729	28.49	Erosion and Alkalinity	Soil and Water conservation measures, addition of organic matter and amendments
	Forest	—	1924	3.99	—	
		Total	**48,182**	**100.00**		

Class

II *Good cultivable lands that have moderate limitations for sustained use under agriculture*

III *Moderately good cultivable lands that have severe limitations for sustained use under agriculture*

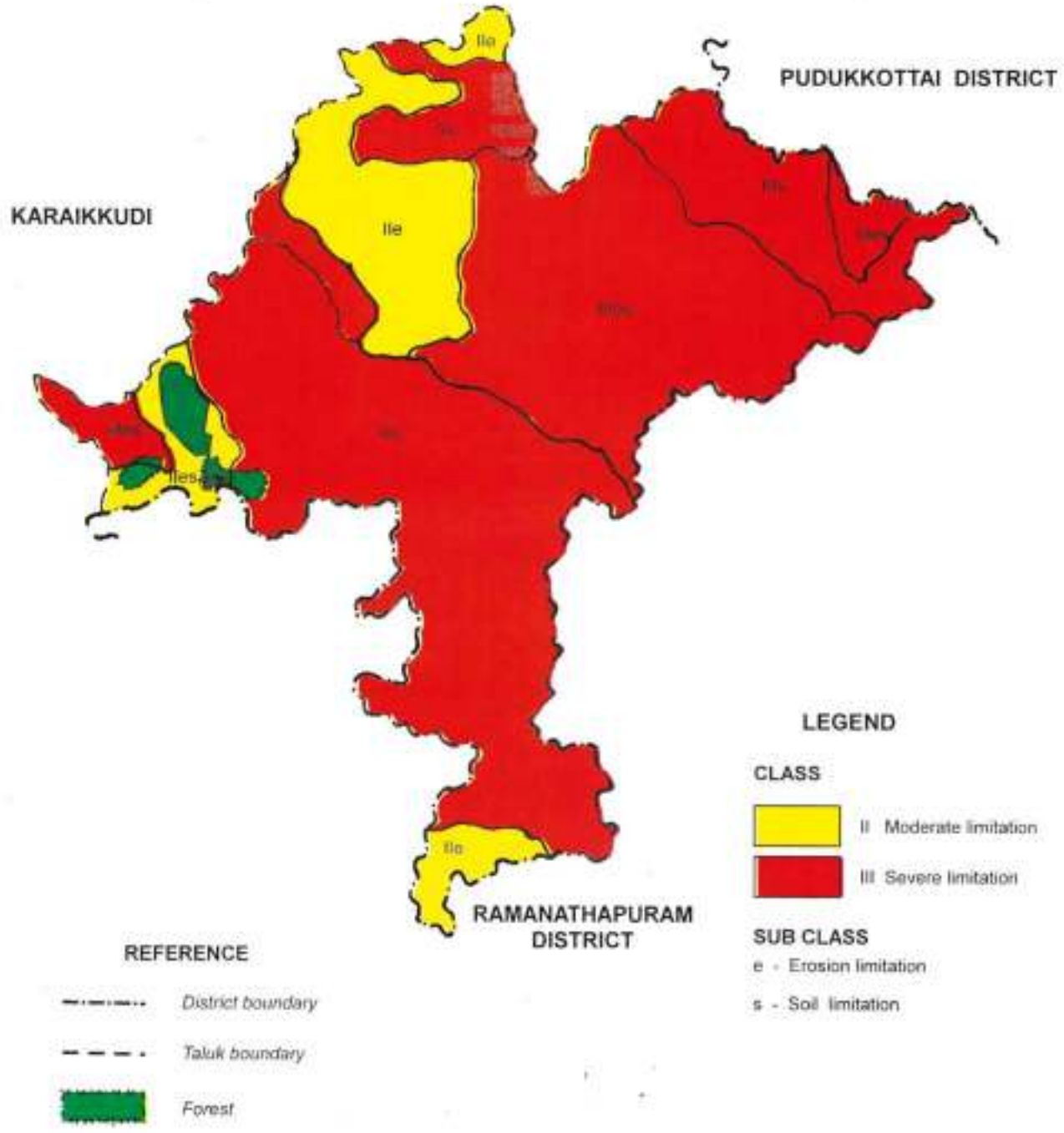
Sub class

s *root zone limitation*

e *erosion and run off*

w *Wetness*

LAND CAPABILITY
DEVAKOTTAI TALUK



LAND IRRIGABILITY CLASSIFICATION

DEVAKOTTAI TALUK

S. No.	Soil series	Class Sub - Class	Extent (ha)	Per cent to total	Limitations
1.	Surakkudi	2 d - Lands that have moderate limitations for sustained use under irrigation	3,892	8.08	Poor drainage
2.	Kondadevi	2 t - Lands that have modeate limitations for sustained use under irrigation	2,777	5.76	Topography and Low water holding capacity
3.	Nerupugapatti	2 st - Lands that have modeate limitations for sustained use under irrigation	1,232	2.56	Poor CEC and Topography
4.	Hanumanthakudi Tiruppuvanam	3 s - Lands that have severe limitations for sustained use under irrigation	17,135	35.56	Drainage and alkalinity
5.	Kallal	3 st - Lands that have severe limitations for sustained use under irrigation	1,300	2.70	Shallow solum Low water holding capacity and topography
6.	Tiruppathur	3 st - Lands that have severe limitations for sustained use under irrigation	2,839	5.89	Topography and alkalinity
7.	Milaganur	3sd - Lands that have severe limitations for sustained use under irrigation	17,083	35.46	Poor drainage Slow permeability and alkalinity
		Forest	1,924	3.99	
		Total	**48,182**	**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

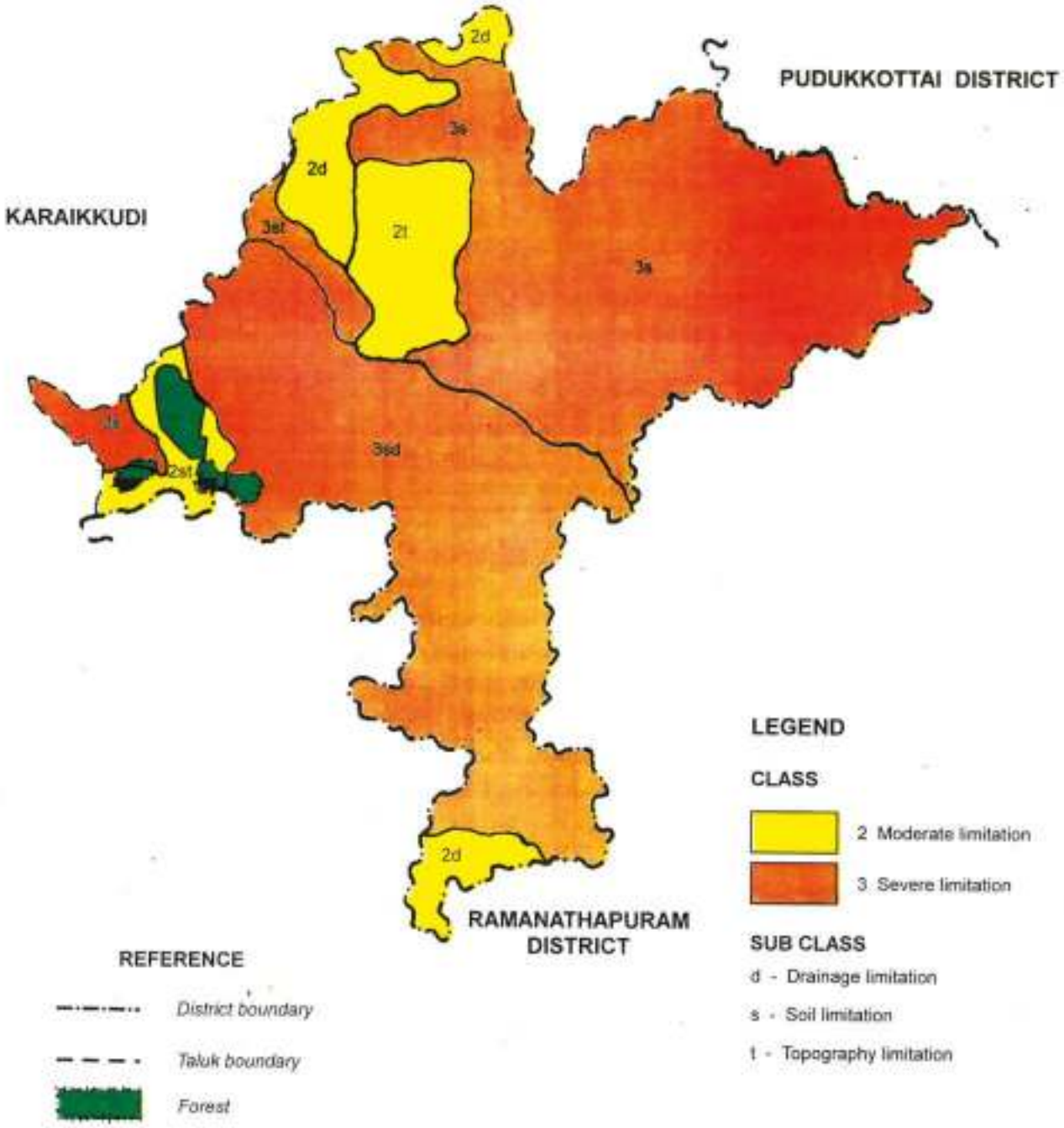
t *topography*

s *soil limitation*

d *drainage*

LAND IRRIGABILITY

DEVAKOTTAI TALUK



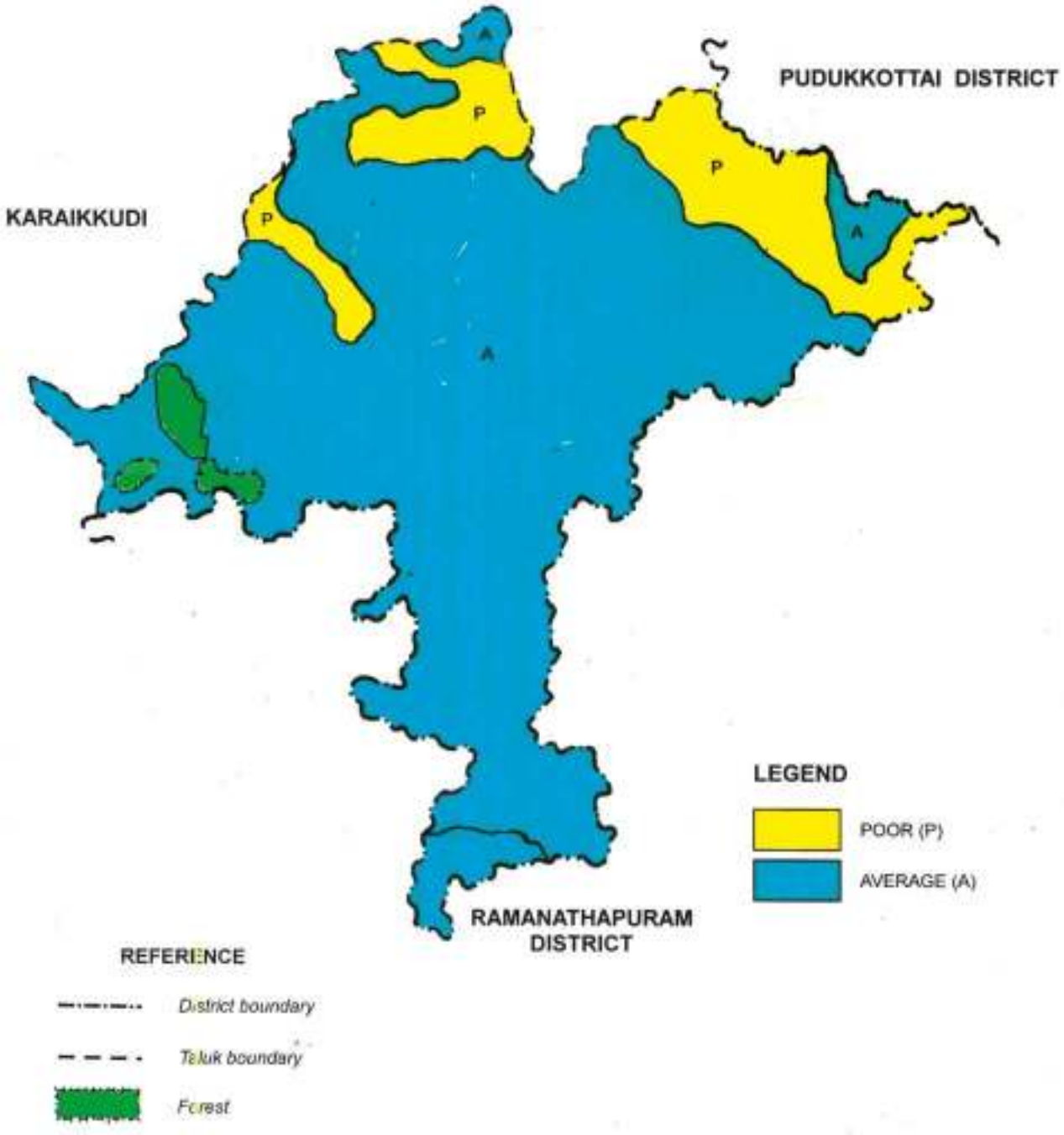
SOIL PRODUCTIVITY

DEVAKOTTAI TALUK

S.No.	Rating	Productivity Classes	Soil series	Extent (ha)	Per cent to total
1.	8 - 19	Poor (P)	Kallal and Tiruppuvanam	7,545	15.66
2.	20 - 34	Average (A)	Milaganur Nerupugapatti Hanumanthakkudi Surakkudi Tiruppathur and Kondadevi	38,713	80.35
		Forest		1,924	3.99
			Total	**48,182**	**100.00**

SOIL PRODUCTIVITY

DEVAKOTTAI TALUK

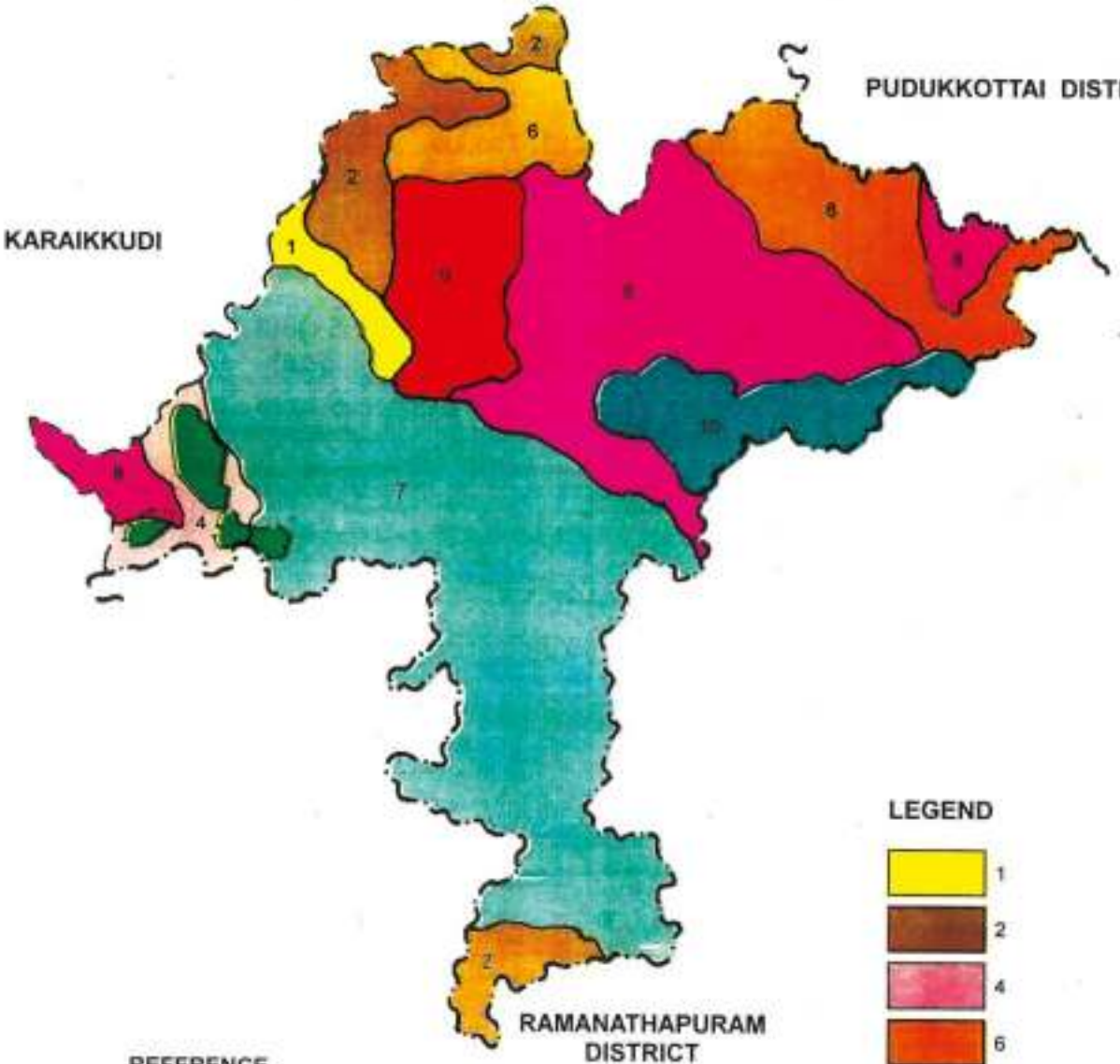


CROPS GROWN

DEVAKOTTAI TALUK

S.No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Groundnut	Groundnut, Pulses	1	Kallal
2.	Millets Groundnut	Millets Groundnut, Pulses	2	Surakkudi
3.	Millets Chillies	Millets, Groundnut, Pulses, Fruitcrops	4	Nerupugapatti
4.	Rice	Groundnut	6	Tirupuvanam
5.	Cotton Millets Rice	Millets, Cotton, Pulses	7	Milaganur
6.	Rice, Cotton, Chillies	Millets	8	Hanumanthakudi
7.	Rice	Millets	9	Kondadevi
8.	Cotton, Millets	Millets	10	Tiruppathur

CROPS GROWN
DEVAKOTTAI TALUK

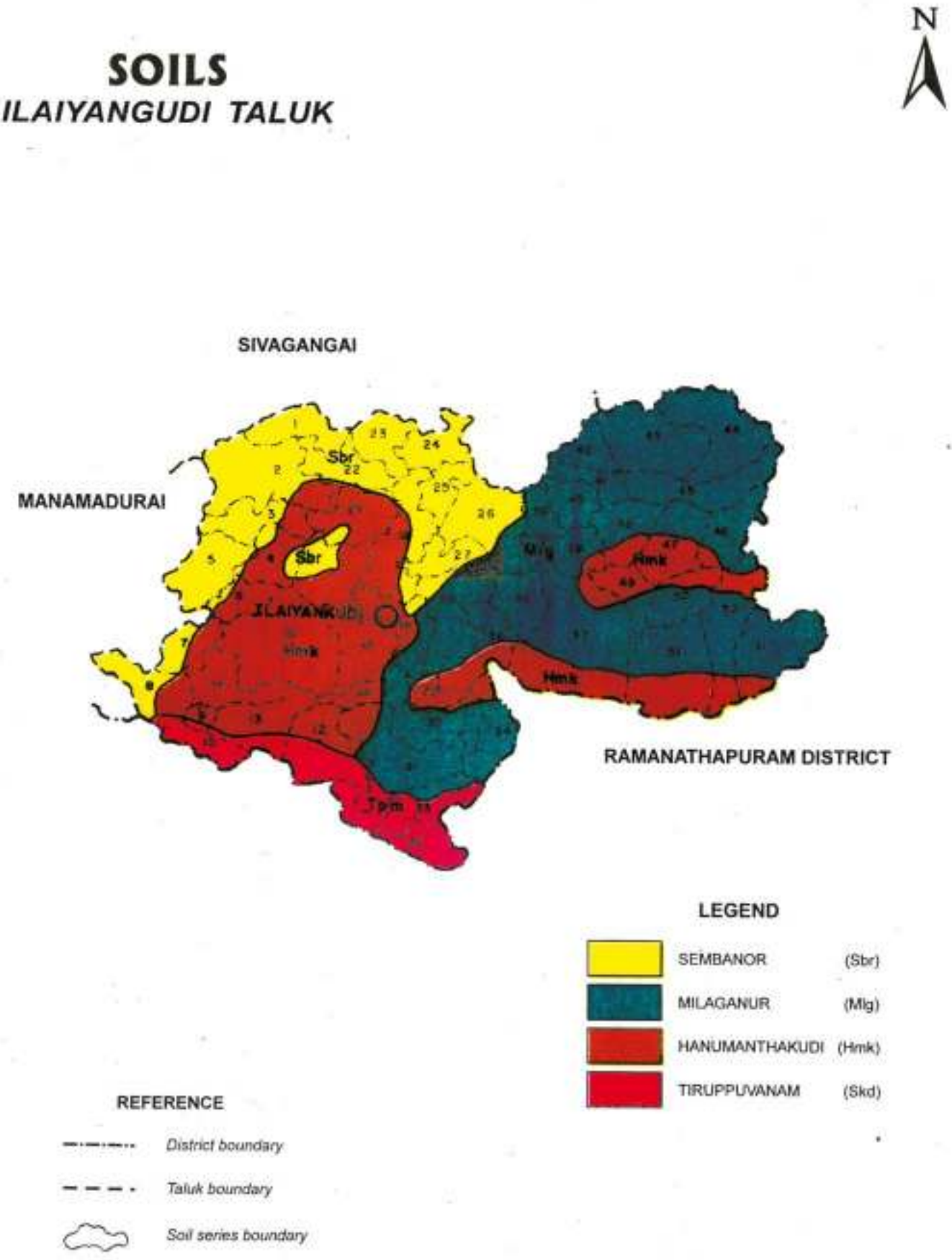


DISTRIBUTION OF SOIL SERIES

ILAIYANGUDI TALUK

Sl. No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Hanumanthakudi	Hmk	14,526	39.15
2.	Milaganur	Mlg	17,142	33.18
3.	Sembanor	Sbr	9,284	21.20
4.	Tiruppuvanam	Tpm	2,820	6.44
	Forest		12	0.03
		Total	**43,784**	100.00

SOILS
ILAIYANGUDI TALUK



VILLAGE WISE FERTILITY STATUS AND SOIL SERIES

ILAIYANGUDI TALUK

Sl. No.	Reverue village	Village No.	Soil distribution in Percentage	Fertility status (kg/ac)		
				Nitrogen	Phosphorus	Potassium
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Akkavayal	43	Mlg 100	—	—	—
2.	Alavidangan	45	Mlg 100	—	—	—
3.	Andakkudi (N)	34	Mlg 85	—	—	—
4.	Araraiyur	27	Sbr 90	—	—	—
5.	Ariyandipuram (Arammanaikkarai)	39	Mlg 100	—	—	—
6.	Devattakudi	22	Sbr 85	—	—	—
7.	Elamanur	33	Tpm 70	—	—	—
8.	Emareswarm	11	Mlg 90	—	—	—
9.	Ilayangudi (North)	18	Hmk 50 Mlg 40	215	39	516
10.	Ilayangudi (South)	17	Hmk 85	—	—	—
11.	Kalarikulam	1	Sbr 100	—	—	—
12.	Kalankatharkottai	40	Mlg 100	—	—	—
13.	Kannamangalam	21	Hmk 85	—	—	—
14.	Katchathanallur	10	Tpm 100	—	—	—
15.	Karunchutti	28	Mlg 90	—	—	—
16.	Kattanur	47	Hmk 65	—	—	—
17.	Karaikulam	24	Sbr 100	—	—	—
18.	Keelanettur	7	Sbr 50 Hmk 50	—	—	—
19.	Keelayur	15	Hmk 100	—	—	—
20.	Kottaiyur	30	Mlg 85	—	—	—
21.	Kumarakurichi	12	Tpm 70	—	—	—
22.	Kurichi	8	Sbr 55 Hmk 45	238	36	489
23.	Melappidariseri	9	Hmk 70	—	—	—

(1)	(2)	(3)	(4)	(5)	(6)	(7)
24.	Melathuraiyur	23	Sbr 100	—	—	—
25.	Melayur	6	Hmk 85	—	—	—
26.	Mulliyarendal	13	Hmk 80	—	—	—
27.	Munaivendri	14	Hmk 100	—	—	—
28.	Muthur	50	Mlg 70	—	—	—
29.	Mugundankudi	4	Hmk 75	223	35	444
30.	Nagarakudi	31	Mlg 80	—	—	—
31.	Nenjathur	25	Sbr 100	—	—	—
32.	Perumaacheri	32	Tpm 100	—	—	—
33.	Pudukkottai	51	Mlg 55 Hmk 45	—	—	—
34.	Salaigrammam	37	Mlg 80	93	19	344
35.	Samudram	49	Hmk 60 Mlg40	—	—	—
36.	Sathanur	53	Mlg	—	—	—
37.	Sivaladi	52	Mlg 75	—	—	—
38.	Siruppalai	29	Hmk 90	—	—	—
39.	Sooranam	42	Mlg 100	—	—	—
40.	Sothukudi	19	Hmk 50 Sbr 50	19	42	501
41.	Thayamangalam	2	Sbr 80	88	17	279
42.	Thiruvallur	20	Hmk 80	—	—	—
43.	Thiruvudaiyarpuram	16	Hmk 90	—	—	—
44.	Tugavur	38	Mlg 75	—	—	—
45.	Udayanur	41	Mlg 100	—	—	—
46.	Uttamanur	3	Sbr 70	—	—	—
47.	Vadakku Keeranur	36	Mlg 100	—	—	—
48.	Valayanendal	35	Mlg 50 Hmk 50	—	—	—
49.	Vallakulam	26	Sor 75 Mlg 25	—	—	—
50.	Vandul	46	Mlg 80	83	17	280
51.	Vijayankudi	5	Sbr 95	—	—	—
52.	Viraiyadakandan	48	Mlg 60 Hmk 40	—	—	—
53.	Visavanoor	44	Mlg 100	166	26	696

LAND CAPABILITY CLASSIFICATION

ILAIYANGUDI TALUK

Sl. No.	Soil series	Class Sub - class	Extent (ha)	Per cent to total	Limitation	Needs
1.	Sembanor	II e - Lands that have moderater limitations for sustained use under cultivation	9,284	21.20	Erosion	Erosion control and Conservation inisation irrigation
2.	Milaganur and Tiru[illegible]uvanam	III s- Lands that have severe limitations for sustained use under cultivation	19,962	45.59	Heavy texture slow permeability and alkalinity	Drainage improvement and addition of organics and amendments
3.	Han[illegible]nthakudi	III es - Lands that have severe limitations for sustained use under cultivation	14,526	33.18	Erosion and alkalinity	Soil and Water conservation, addition of organics and amendments
	Forest	—	12	0.03	—	—
		Total	**43,784**	**100.00**		

Class

II *Good cultivable lands that have moderate limitations for sustained use under agriculture*

III *Moderately good cultivable lands that have severe limitations for sustained use under agriculture*

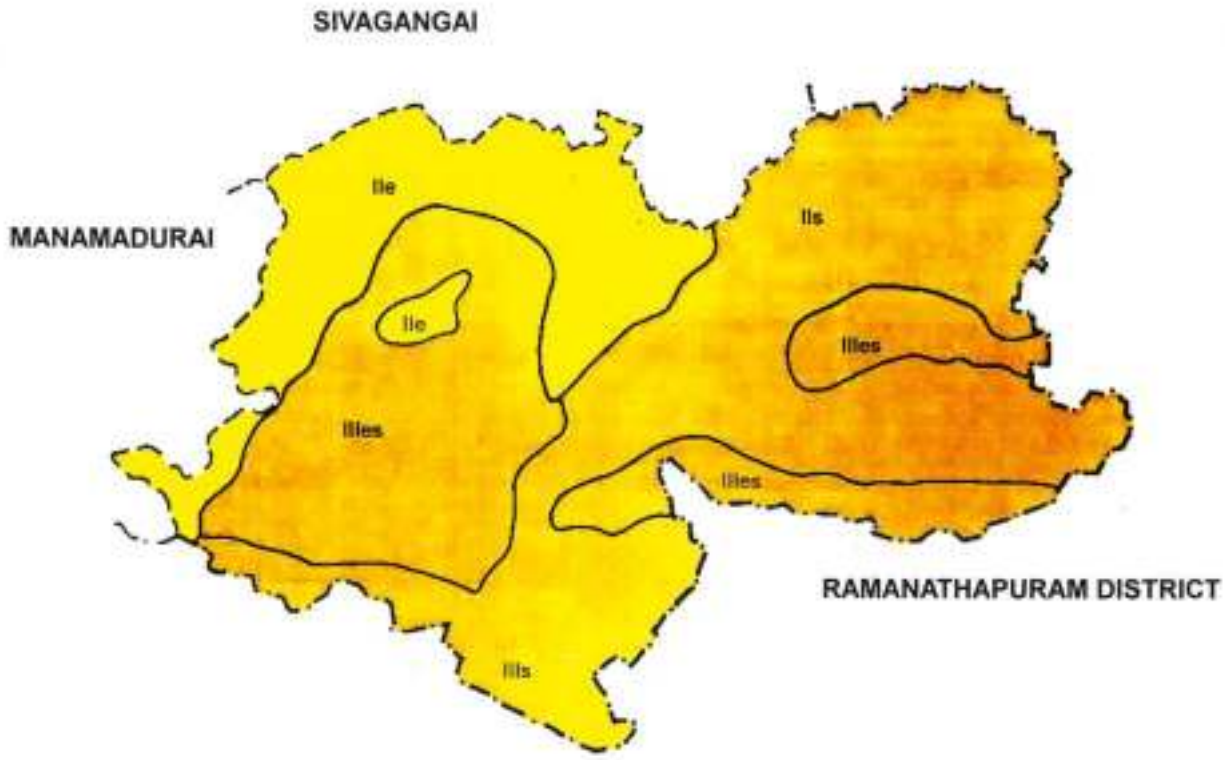
Sub class

s *root zone limitation*

e *erosion and run off*

w *Wetness*

LAND CAPABILITY
ILAIYANGUDI TALUK



LAND IRRIGABILITY CLASSIFICATION

ILAIYANGUDI TALUK

Sl. No.	Soil series	Class Sub - class	Extent (ha)	Per cent to total	Limitations
1.	Sembanor	2 s - Lands that have modeate limitations for sustained use under irrigation	9.284	21.20	Coarse texture and rapid permeability
2.	Hanumanthakudi and Tiruppuvanam	3 s - Lands that have severe limitations for sustained use under irrigation	17.346	39.62	Poor drainage and Alkalinity
3.	Milaganur	3 sd - Lands that have severe limitations for sustained use under irrigation	17.142	39.15	Poor drainage, Slow permeability and Alkalinity
	Forest	—	12	0.03	—
		Total	**43,784**	**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

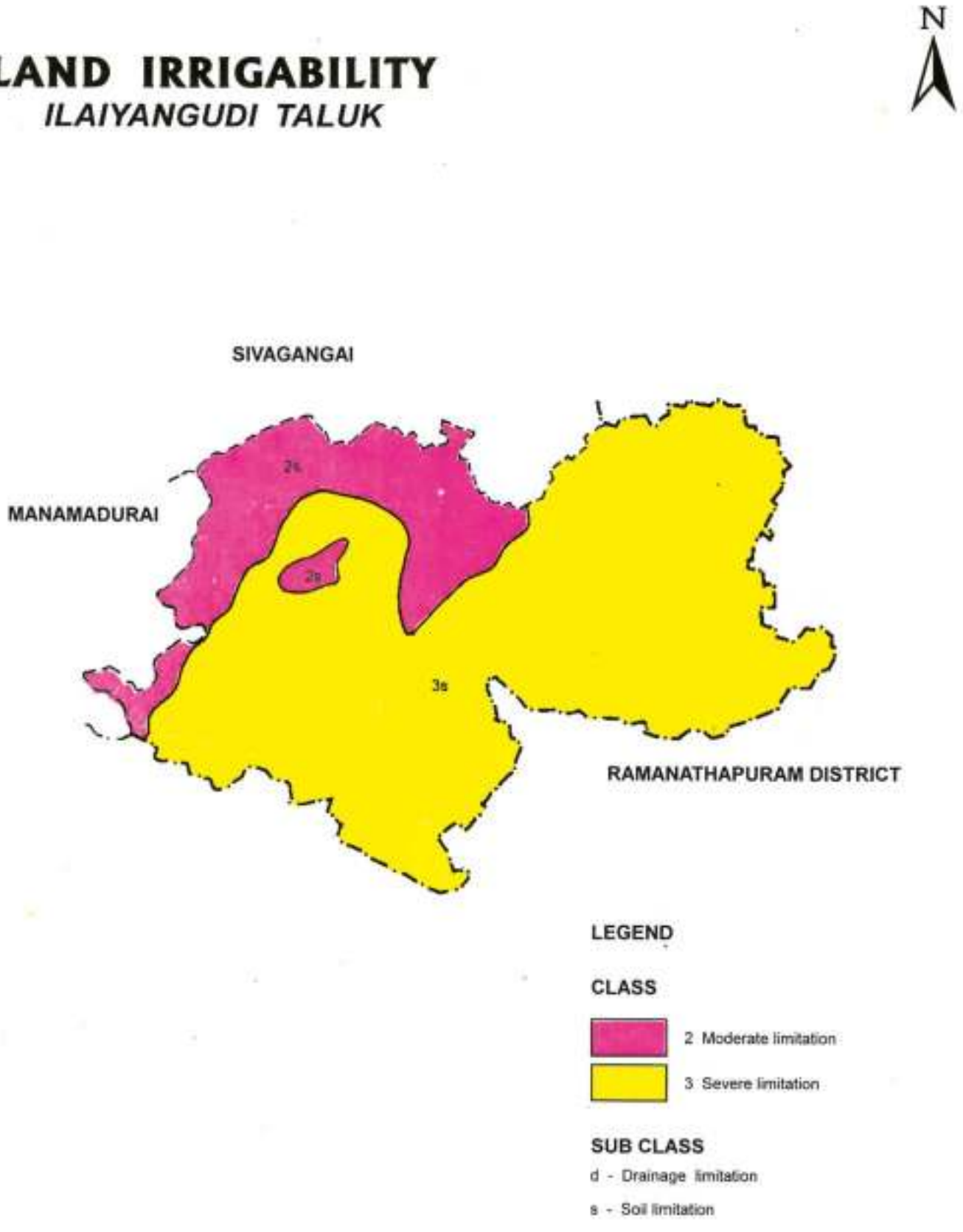
s *soil problem*

d *drainage*

t *topography*

LAND IRRIGABILITY

ILAIYANGUDI TALUK



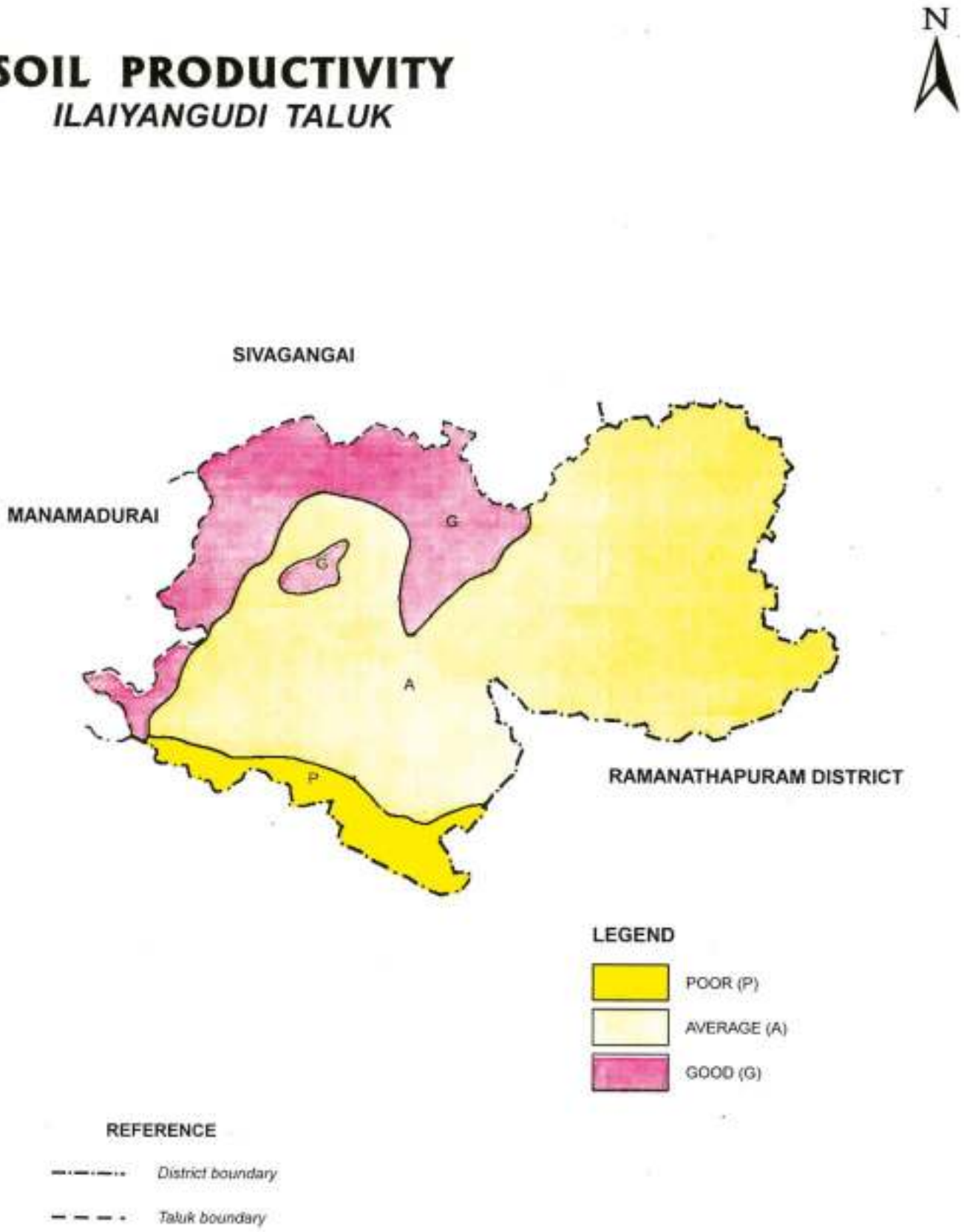
SOIL PRODUCTIVITY

ILAIYANGUDI TALUK

Sl. No.	Rating	Productivity	Soil series	Extent (ha)	Per cent to total
1.	8 - 19	Poor (P)	Tiruppuvanam	2,820	6.44
2.	20 - 34	Average (A)	Milaganur and Hanumanthakudi	31,668	72.33
3.	35 - 64	Good (G)	Sembanor	9,284	21.20
			Forest	12	0.03
			Total	**43,784**	**100.00**

SOIL PRODUCTIVITY

ILAIYANGUDI TALUK

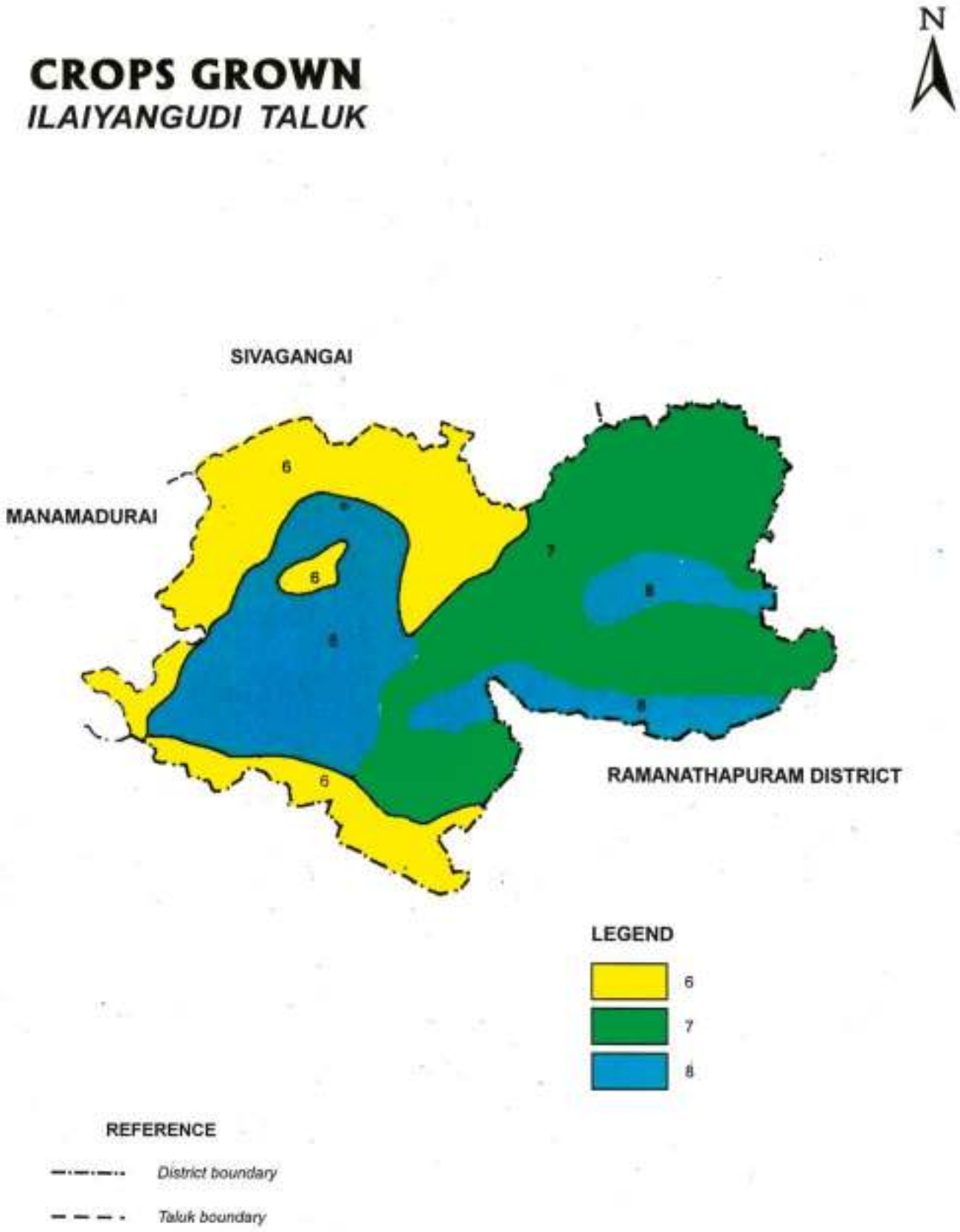


CROPS GROWN

ILAIYANGUDI TALUK

Sl. No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Rice	Groundnut	6	Sembanor and Tiruppuvanam
2.	Cotton Millets and Rice	Millets and Cotton Pulses	7	Milaganur
3.	Rice Cotton Chillies	Millets	8	Hanumanthakudi

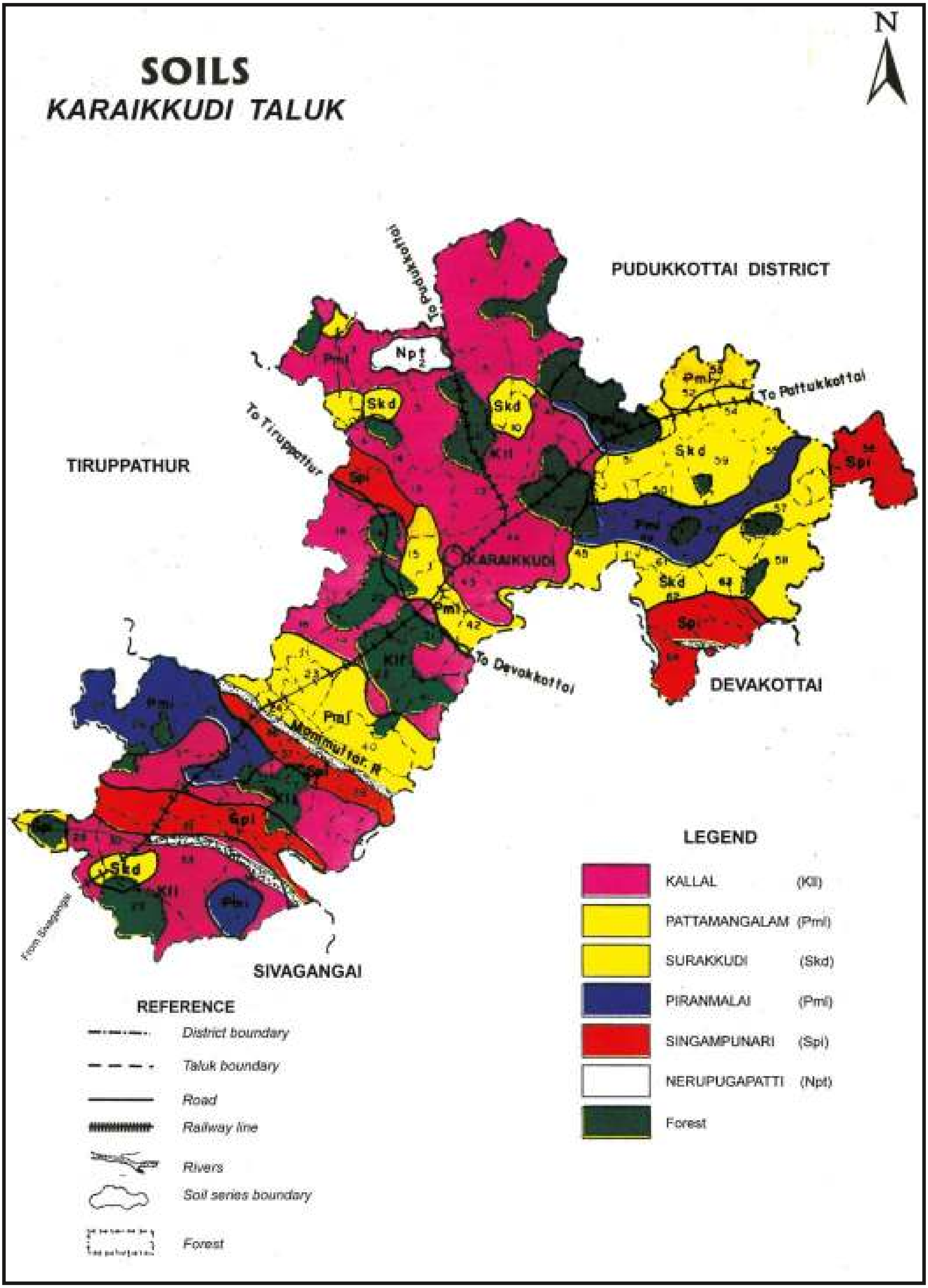
CROPS GROWN
ILAIYANGUDI TALUK



DISTRIBUTION OF SOIL SERIES

KARAIKKUDI TALUK

Sl. No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Kallal	Kll	25,520	34.92
2.	Surakkudi	Skd	11,768	16.11
3.	Singampunari	Spi	9,370	12.82
4.	Pattamangalam	Pml	8,430	11.54
5.	Piranmalai	Pmi	7,150	9.79
6.	Nerupugapatti	Npt	800	1.09
	Forest	—	10,030	13.73
		Total	**73,068**	**100.00**


SOILS
KARAIKKUDI TALUK
N
PUDUKKOTTAI DISTRICT
TIRUPPATHUR
DEVAKOTTAI
SIVAGANGAI
To Pudukkottai
To Tiruppattur
To Pattukkottai
To Devakkottai
From Sivagangai
KARAIKKUDI
Manimuttar. R
Npt
Pml
Skd
Kll
Spl
LEGEND
KALLAL (Kll)
PATTAMANGALAM (Pml)
SURAKKUDI (Skd)
PIRANMALAI (Pml)
SINGAMPUNARI (Spl)
NERUPUGAPATTI (Npt)
Forest
REFERENCE
District boundary
Taluk boundary
Road
Railway line
Rivers
Soil series boundary
Forest

VILLAGE WISE FERTILITY STATUS AND SOIL SERIES

KARAIKKUDI TALUK

Sl. No.	Revenue village	Village No	Soil distribution in Percentage	Fertility status (kg/ac)		
				Nitrogen	Phosphorus	Potassium
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Alampatti	37	Spi 60 KII40	107	8	359
2.	Alavilampatti alias Kilathurumbu	27	Pmi 100	—	—	—
3.	Amaravathi	21	KII60 Pml 40	110	11	258
4.	Ambakkudi	60	Skd 70 Pmi 30	117	8	412
5.	Aranmanaipatti	3	Pml 90	—	—	—
6.	Aranmanai Siruvayal	32	Spi 50 Pmi 40	—	—	—
7.	Ariyakkudi	43	KII 80	89	10	222
8.	Attangudi	1	KII 70 Pml 30	115	8	446
9.	Devapatti	24	Pml 80	—	—	—
10.	Elandamangalam	28	KII 50 Spi 50	—	—	—
11.	Iluppakudi	44	KII 95	109	8	260
12.	Jeyankondan	57	Skd 90	91	10	240
13.	Kalanivasal	13	KII 40 Spi 40	116	9	271
14.	Kalathur	55	Skd 60 Pmi 40	302	22	120
15.	Kallal	25	Pmi 50 Pml25 KII 25	87	16	159
16.	Kallangudi	47	KII 70 Pmi 30	—	—	—
17.	Kallupatti	41	KII 60 Pml 40	—	—	—
18.	Kanadukathan	7	KII 100	290	26	667
19.	Kandanur	46	KII 80	293	27	771
20.	Keelapoongudi	35	KII 60 Spi 40	108	8	297
21.	Karaikudi	15	KII 50 Pml 50	—	—	—
22.	Kiranpatti	17	KII 100	81	9	236
23.	Kuttalur	18	KII 50 Pml 50	—	—	—
24.	Kothamangalam	8	KII 100	84	11	208
25.	Kottari	6	KII 80	—	—	—
26.	Kottaiyur	10	KII 60 Skd 40	—	—	—
27.	Kovilur	14	KII 90	—	—	—

(1)	(2)	(3)	(4)	(5)	(6)	(7)
28.	Kulappadi	50	Pml 50 Skd 50	93	8	238
29.	Kurundampatti	36	Pml 50 Spi 50	—	—	—
30.	Melakandan	33	Kll 70	—	—	—
31.	Managiri Sukkanendal	16	Kll 90	—	—	—
32.	Mathur	45	Skd 40 Pmi 30	83	8	221
33.	Melmanakkudi	49	Pmi 70	110	8	425
34.	Mithiravayal	63	Skd 55 Spi 45	85	8	276
35.	Mummudichanpatti	29	Kll 80	—	—	—
36.	Nattucheri	56	Spi 90	97	8	308
37.	Nerpugappatti	2	Npt 70	—	—	—
38.	Oyyakondan Siruvayal	4	Kll 55 Spi 45	109	8	363
39.	Palaiyur	48	Pmi 80	114	9	466
40.	Pallathur	9	Kll75	102	9	382
41.	Panangudi	30	Kll40 Skd30 Spi30	—	—	—
42.	Panmanvayal	52	Skd 70	—	—	—
43.	Periyakottai	54	Skd 85	200	20	686
44.	Periyakottagudi	—	—	88	8	276
45.	Pilar	23	Pml 100	—	—	—
46.	Pirambuvayal	62	Skd, 50 Spi 50	115	8	434
47.	Pukkudi	59	Skd 80	—	—	—
48.	Pudur	42	Kll, 50 Pml 50	—	—	—
49.	Sannavanam	40	Pml 60 Spi 30	—	—	—
50.	Sakkottai	51	Skd 60	94	7	233
51.	Sekkalaikottai	12	Kll 100	—	—	—
52.	Sembanur	26	Pmi 60 Kll 20 Spi 20	—	—	—
53.	Sengattukkudi	58	Skd 90	218	20	483
54.	Senjai	20	Kll 70	107	11	253
55.	Sethuregunathapattanam	22	Kll 65	89	11	206
56.	Sirugavayal	61	Skd 70	89	8	304
57.	Thiruthipatti	31	Spi 70	—	—	—
58.	Thiruvelangudi	5	Kll 80	89	11	244
59.	Varivayal	19	Kll 70	—	—	—
60.	Velangudi	11	Kll 70	141	8	91
61.	Vellipatti	53	Pml 100	—	—	—
62.	Vellikulam	39	Spi 50 Kll 50	—	—	—
63.	Vettiyur	34	Kll 60 Spi 30	—	—	—
64.	Vilavadienadal	38	Kll 60 Spi 40	—	—	—

LAND CAPABILITY CLASSIFICATION

KARAIKKUDI TALUK

S.No.	Soil series	Class Sub - Class	Extent (ha)	Per cent to total	Limitation	Needs
1.	Surakkudi	II e - Lands that have moderater limitations for sustained use under cultivation	11,768	16.11	Erosion	Erosion control, conservation and improved irrigation method
2.	Pattamangalam and Nerupugapatti	II es - Lands that have moderater limitations for sustained use under cultivation	9,230	12.63	Erosion and Coarse texture	Erosion control Conservation improved irrigation methods and soil breeding
3.	Singampunari	III s - Lands that have severe limitations for sustained use under cultivation	9,370	12.82	Heavy texture slow permeability and alkalining	Drainage improvement, addition of organic matter and amendments
4.	Kallal	III es - Lands that have severe limitations for sustained use under cultivation	25,520	34.92	Erosion and Shallow solum	Soil and Water conservation measures
5.	Piranmalai	III es - Lands that have severe limitations for sustained use under cultivation	7,150	9.79	Erosion and Alkalinity	Soil and Water conservation measures, addition of organics matter and amendments
	Forest	—	10,030	13.73	—	
		Total	**73,068**	**100.00**		

Class

II *Good cultivable lands that have moderate limitations for sustained use under agriculture*

III *Moderately good cultivable lands that have severe limitations for sustained use under agriculture*

Sub class

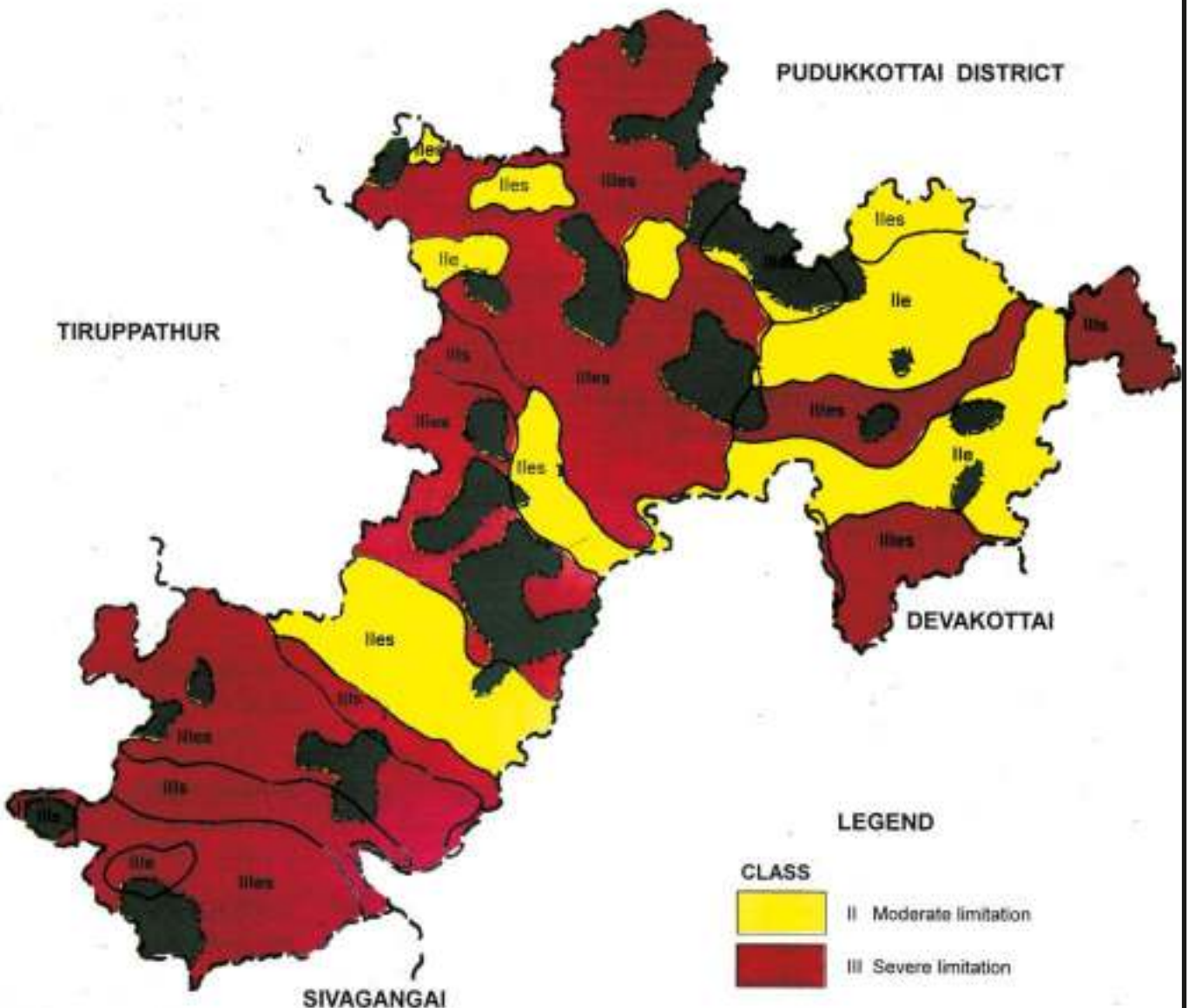
s *root zone limitation*

e *erosion and run off*

w *Wetness*

LAND CAPABILITY

KARAIKKUDI TALUK



LAND IRRIGABILITY CLASSIFICATION

KARAIKKUDI TALUK

Sl. No.	Soil series	Class Sub - Class	Extent (ha)	Per cent to total	Limitations
1.	Surakkudi	2 d - Lands that have moduate limitations for surtainred use under irrigation	11,768	16.11	Poor drainage
2.	Pattamangalam	2 s - Lands that have moduate limitations for surtainred use under irrigation	8,430	11.54	Coarse texture and rapid permeability
3.	Nerupugapatti	2 st - Lands that have moduate limitations for surtainred use under irrigation	800	1.09	Poor CEC and Topography
4.	Singampunari	3 s - Lands that have severe limitations for sustained use under irrigation	9,370	12.82	Poor drainage and alkalinity
5.	Kallal	3 st - Lands that have severe limitations for sustained use under irrigation	25,520	34.92	Shallow solum, Low water holding capacity and topography
6.	Piranmalai	3 st - Lands that have severe limitations for sustained use under irrigation	7,150	9.78	Topography and alkalinity
	Forest		10,030	13.73	—
		Total	**73,068**	**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

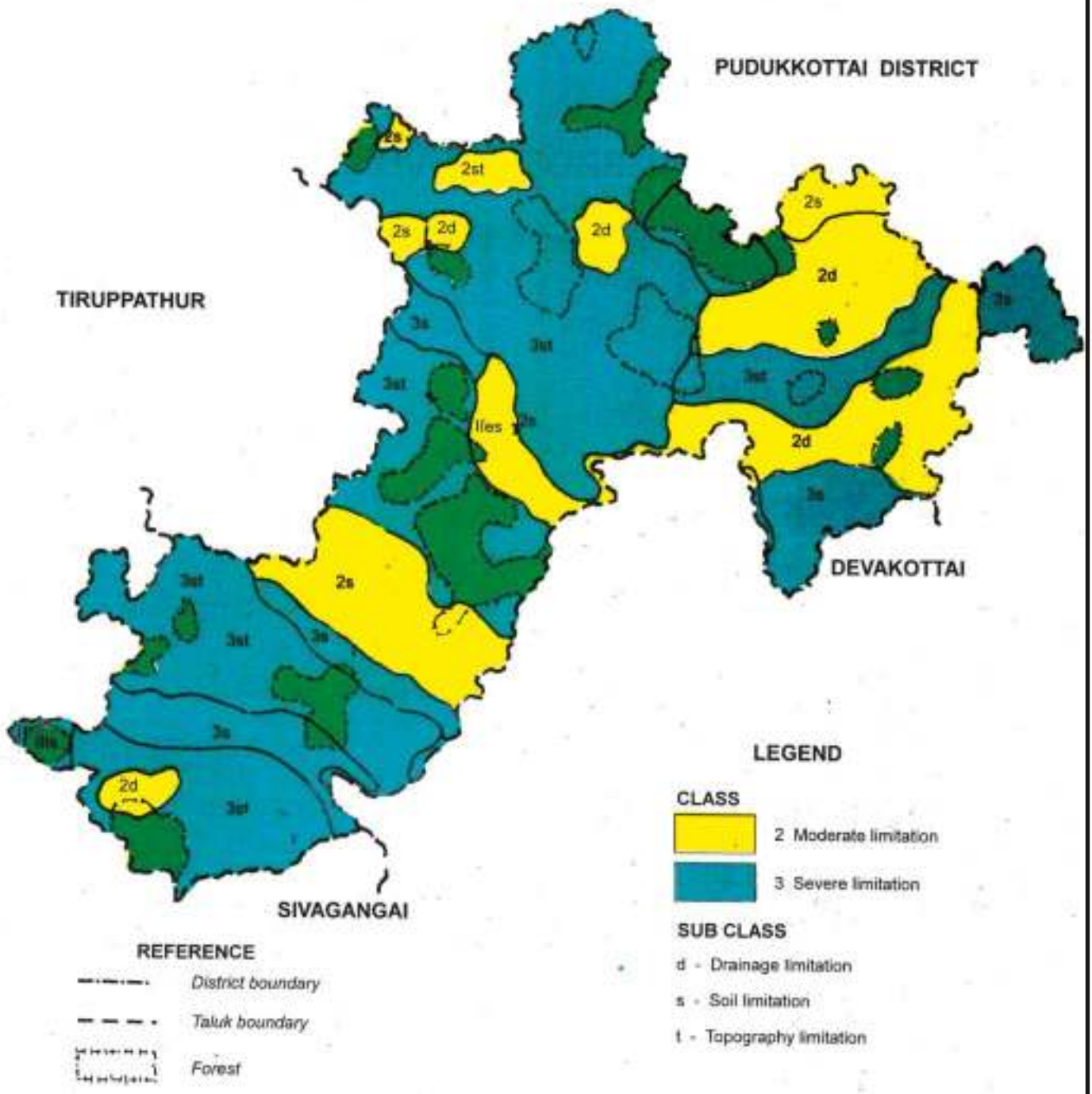
t *topography*

s *soil limitation*

d *drainage*

LAND IRRIGABILITY

KARAIKKUDI TALUK



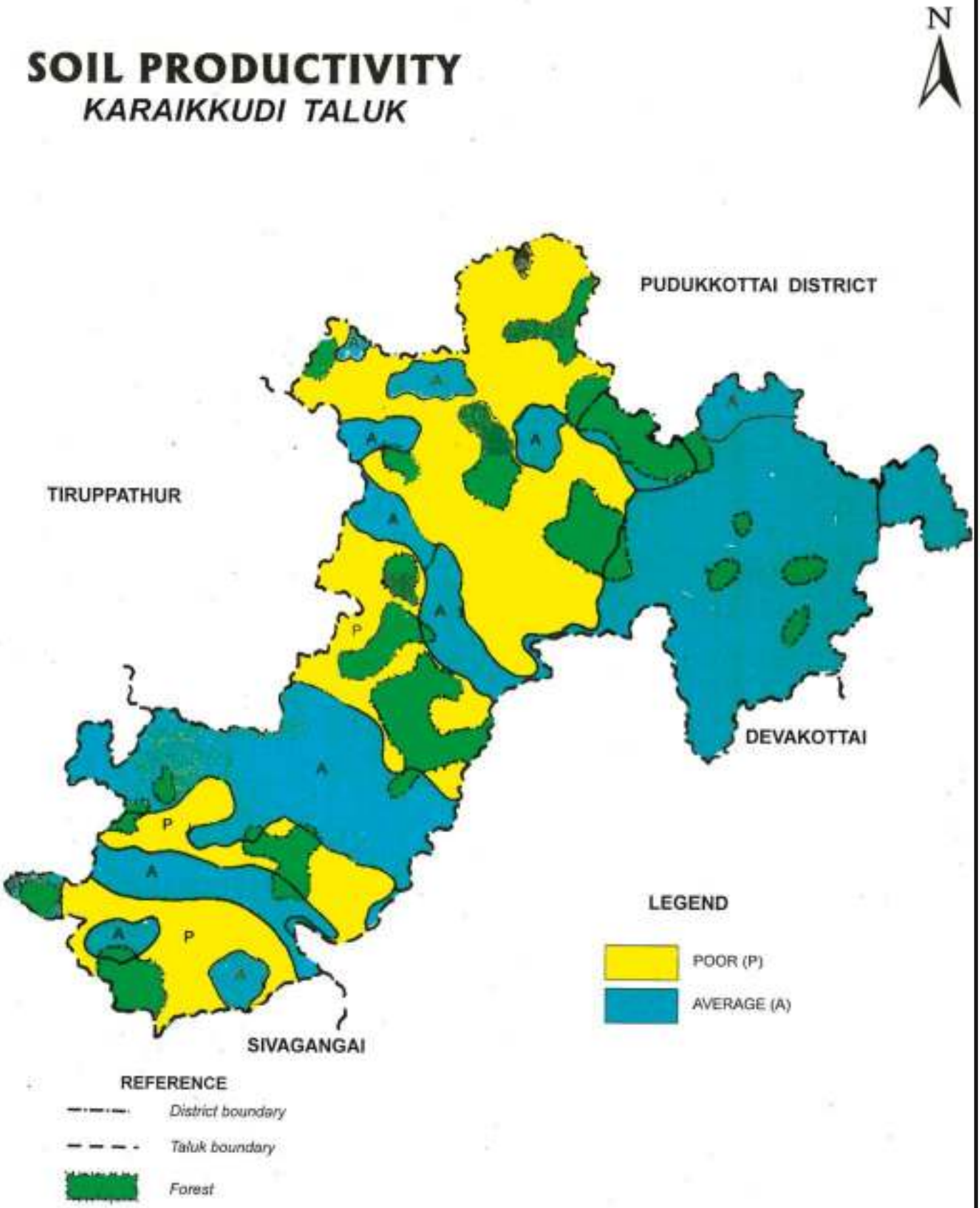
SOIL PRODUCTIVITY

KARAIKKUDI TALUK

Sl. No.	Rating	Productivity	Soil series	Extent (ha)	Per cent to total
1.	8 - 19	Poor (P)	Kallal	25,520	34.92
2.	20 - 34	Average (A)	Surakkudi Singampunari Pattamangalam Piranmalai and Nerupugapatti	37,518	51.35
		Forest	—	10,030	13.73
			Total	**73,068**	**100.00**

SOIL PRODUCTIVITY

KARAIKKUDI TALUK

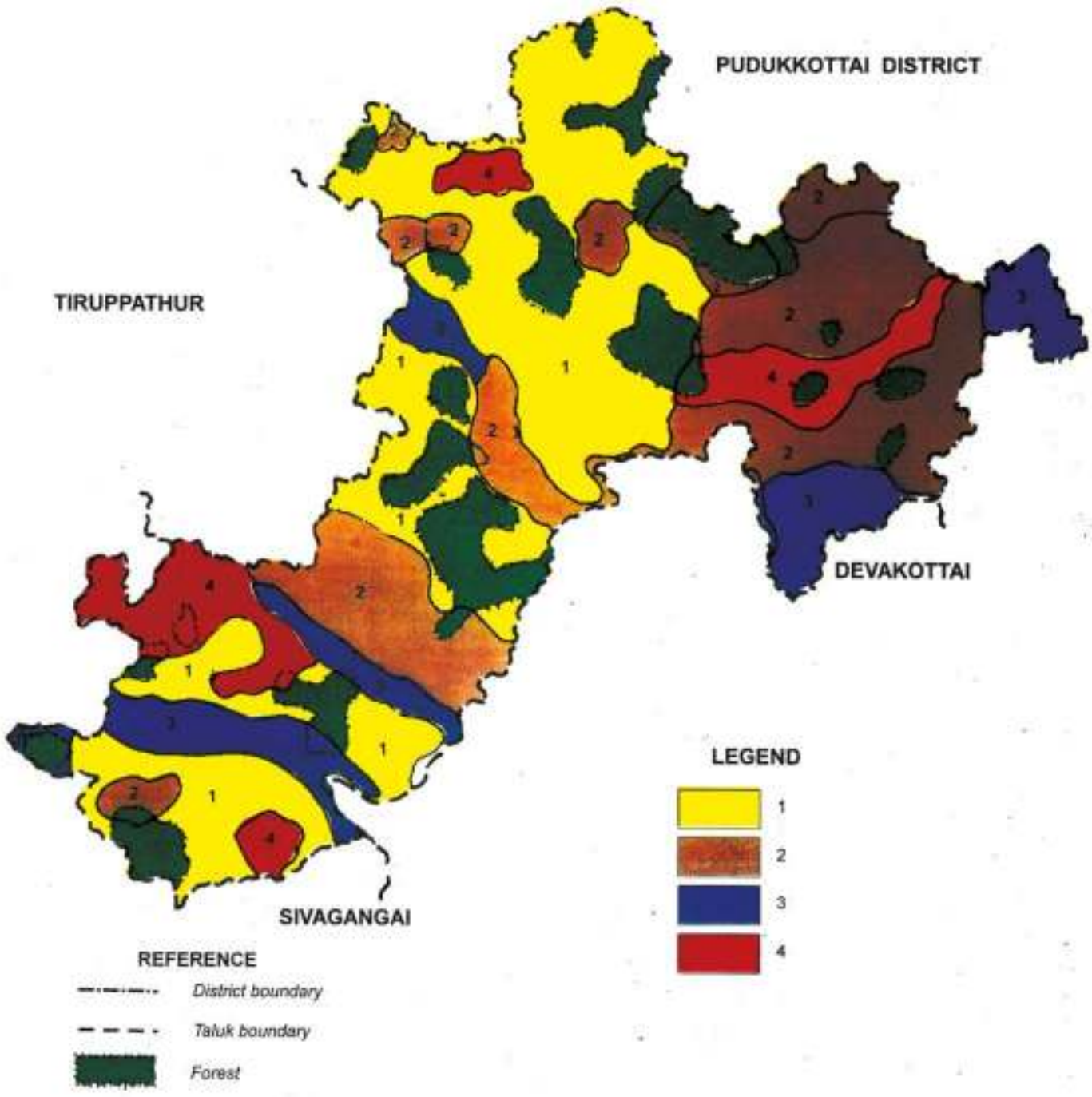


CROPS GROWN

KARAIKKUDI TALUK

Sl. No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Groundnut	Groundnut Pulses	1	Kallal
2.	Millets and Groundnut	Millets Groundnut Pulses	2	Surakkudi and Pattamangalam
3.	Groundnut and Chillies	Millets Pulses	3	Singampunari
4.	Millets and Chillies	Millets Groundnut Pulses Fruit crops	4	Nerupugapatti and Piranmalai

CROPS GROWN
KARAIKKUDI TALUK

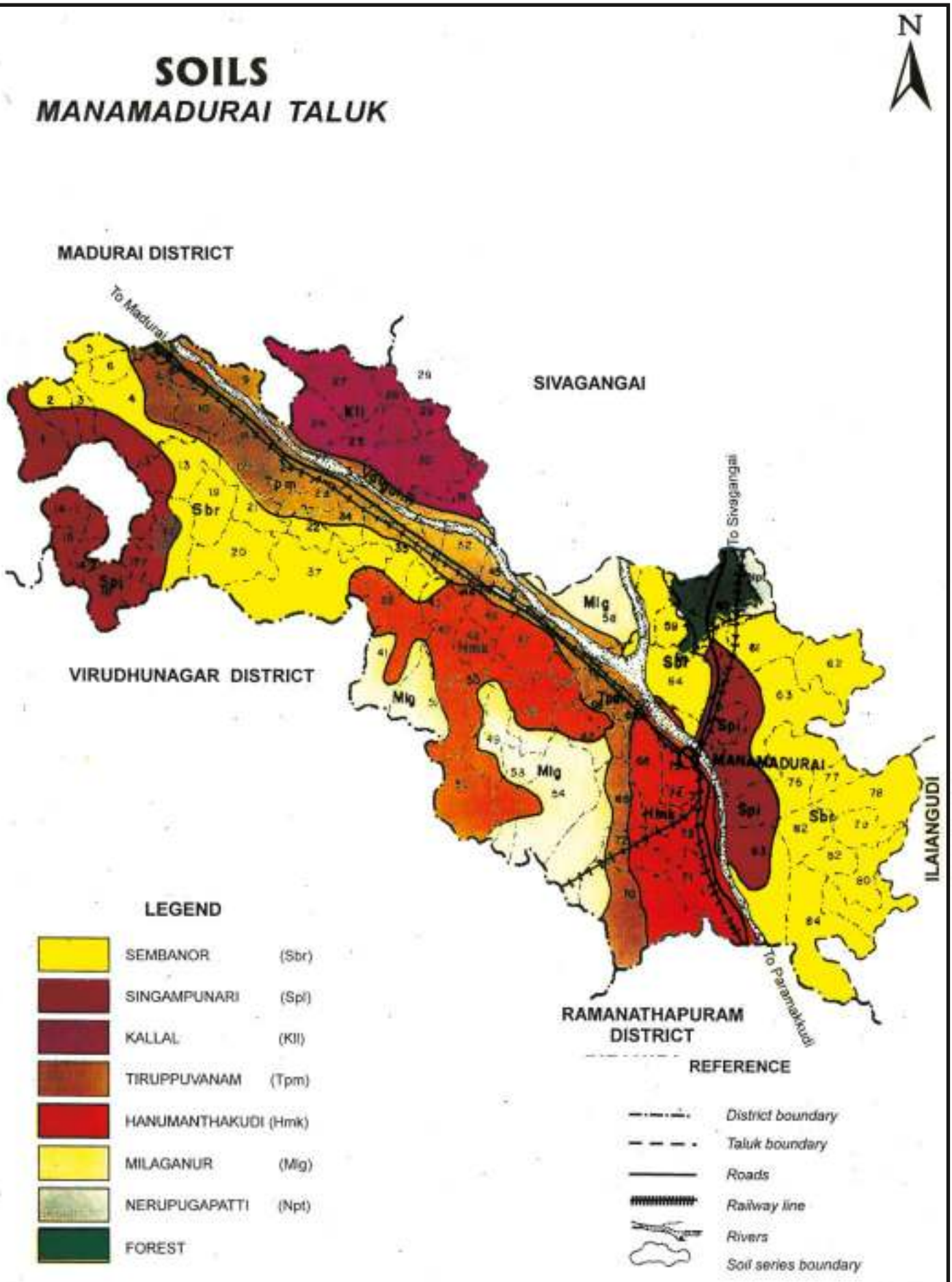


DISTRIBUTION OF SOIL SERIES

MANAMADURAI TALUK

Sl. No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Sembanor	Sbr	21,046	31.17
2.	Hanumanthakudi	Hmk	13,464	19.94
3.	Tiruppuvanam	Tpm	11,275	16.70
4.	Singampunari	Spi	8,300	12.30
5.	Milaganur	Mlg	7,435	11.01
6.	Kallal	Kll	4,780	7.00
7.	Nerupugapatti	Npt	265	0.39
	Forest		950	1.41
		Total	**67,515**	**100.00**

SOILS
MANAMADURAI TALUK



VILLAGE WISE FERTILITY STATUS AND SOIL SERIES

MANAMADURAI TALUK

Sl. No.	Revenue village	Village No	Soil distribution in Percentage	Fertility status (kg/ac)		
				Nitrogen	Phosphorus	Potassium
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Alangulam P.	81	Sbr 100	195	30	456
2.	Allinagaram	21	Sbr 80	84	16	167
3.	Ambalathadi	18	Spi 55 Sbr 45	73	17	492
4.	Annavasal	69	Mlg 60 Tpm 25	—	—	—
5.	Arasanendal	74	Hmk 100	—	—	—
6.	Arimandabam	72	Hmk 60 Tpm 30	98	19	240
7.	Athikarai	9	Tpm 100	94	22	227
8.	Chirhakannanur	70	Hmk 40 Tpm 40	—	—	—
9.	Elunuthimangalam	79	Sbr 100	—	—	—
10.	Enathi	28	Kll 100	—	—	—
11.	Erukkalavellur	15	Spi 100	—	—	—
12.	Kalpiravoo	65	Tpm 90	—	—	—
13.	Kaliyarur	12	Tpm 80	—	—	—
14.	Kalukerkadai	10	Tpm 100	—	—	—
15.	Kaluvankulam	1	Spi 100	—	—	—
16.	Kardirankulam	14	Spi 100	222	44	625
17.	Kanur	31	Kll 80	91	21	243
18.	Karaikudi (s)	78	Sbr 100	—	—	—
19.	Karisalkulam T.	2	Sbr 50 Spi 50	97	16	237
20.	Karisalkulam (m)	71	Hmk 100	214	28	587
21.	Kattikulam	55	Hmk 100	—	—	—
22.	Kattoorani	60	Npt 80	—	—	—
23.	Keeladi	7	Tpm 80	—	—	—
24.	Keelapasali	73	Hmk 80	—	—	—
25.	Kilangattur	68	Hmk 85	—	—	—
26.	Kirangakottai	57	Hmk 90	—	—	—
27.	Kondagai	4	Sbr 40 Spi 30 Tpm 30	194	36	654
28.	Kothankulam	35	Sbr 60	—	—	—
29.	Kuvalaiveli	49	Mlg 70	—	—	—
30.	Ladanendal	34	Tpm 70	—	—	—
31.	Madapuram	26	Kll 85	—	—	—
32.	Malavarayanendal	45	Sbr 95	—	—	—
33.	Manamadurai	75	Hmk 80	—	—	—
34.	Manambakki	59	Sbr 90	—	—	—
35.	Manalur	8	Tpm 85	—	—	—
36.	Mangudi	19	Sbr 100	—	—	—
37.	Mangulam	76	Sbr 55 Spi 45	—	—	—
38.	Maranadu	42	Hmk 95	—	—	—
39.	Melachori - kulam	36	Hmk 80	—	—	—
40.	Melanettur	80	Sbr 100	98	17	179

(1)	(2)	(3)	(4)	(5)	(6)
41. Melapidavur	62	Sbr 100	—	—	—
42. Melarangium	20	Sbr 100	—	—	—
43. Milagnaur	54	Mlg 95	121	21	431
44. Mukkadi	16	Spi 100	—		
45. Nelmudikarai	11	Tpm 80	98	20	304
46. Palayanur	41	Mlg 60 Hmk 40	206	34	775
47. Pallam (K.K)	63	Sbr 60 Spi 40	—	—	—
48. Panayanendal	22	Sbr 85	—	—	—
49. Paragudi	30	Kll90	—	—	—
50. Perumpacheri	56	Hmk 65	—	—	—
51. Piramanur	37	Sbr 90	227	47	626
52. Poovanthi	27	Kll100	205	34	718
53. Pottapalayam	3	Spi 55Sbr 45	—	—	—
54. Pudukottai (T)	84	Sbr 100	—	—	—
55. Pudukulam	53	Mlg 60Hmk 40	—	—	—
56. Rajagambeeram	66	Tpm 80	221	41	642
57. Saluppanodai	43	Hmk 55 Sbr 45	—	—	—
58. Sayanaruram	5	Sbr 100	—	—	—
59. Seikalathur	64	Sbr 85	—	—	—
60. Sembur	29	Kll100	—	—	—
61. Sengulam	17	Spi 100	—	—	—
62. Senthattiyendal	52	Hmk 95	—	—	—
63. Sirugudi	58	Mlg 80	—	—	—
64. Soorakulam	61	Sbr 85	—	—	—
65. Sottathatti	6	Sbr 90	—	—	—
66. Sullangudi	48	Hmk 100	—	—	—
67. Thamaraikudi	51	Mlg 55 Hmk 45	—	—	—
68. Theethanpatti	67	Hmk 60 Mlg 20	—	—	—
69. Theli	25	Kll80	—	—	—
70. Therkuchandanur	82	Sbr 100	—	—	—
71. Thiruppachethi (N)	32	Sbr 65	236	44	628
72. Thiruppachethi (S)	44	Hmk 70	236	44	628
73. Thiruppuvanam	24	Tpm 70	—	—	—
74. Thoothai	33	Hmk 90	—	—	—
75. Vadakuchandanur	77	Sbr 100	—	—	—
76. Vagaikulam. S.	39	Sbr 90	—	—	—
77. Vagudi	47	Hmk 85	—	—	—
78. Valayanendal	23	Tpm 100	—	—	—
79. Vallarendal	38	Spi 65 Sbr 35	—	—	—
80. Veeranendal	40	Tpm 10	—	—	—
81. Vellikurichi	40	Hmk 90	191	340	605
82. Vediarendal	83	Sbr 60 Spi 40	—	—	—
83. Vellore	13	Sbr 70	—	—	—
84. Villathur	50	Hmk 85	—	—	—

LAND CAPABILITY CLASSIFICATION

MANAMADURAI TALUK

Sl. No.	Soil series	Class Sub - class	Extent (ha)	Per cent to total	Limitation	Needs
1.	Sembanor	II e - Lands that have moderater limitations for sustained use under cultivation	21,046	31.17	Erosion	Erosion control and Conservation irrigation methods
2.	Nerupugapatti	II es - Lands that have moderater limitations for sustained use under cultivation	265	0.39	Erosion and Coarse texture	Erosion control conservation irrigation methods and Soil breeding
3.	Milaganur and Singampunari	III s - Lands that have severe limitations for sustained use under cultivation	15,735	23.31	Heavy texture Slow permeability and alkalinity	Drainage improvement addition of organics and amendments
4.	Kallal	III es - Lands that have severe limitations for sustained use under cultivation	4,780	7.08	Erosion and Shallow solum	Soil and Water conservation measures
5.	Hanumanthakudi and Tiruppuvanam	III es - Lands that have severe limitations for sustained use under cultivation	24,739	36.64	Erosion and alkalinity	Soil Water conservation measures addition of organics amendments
	Forest	—	950	1.41	—	—
		Total	**67,515**	**100.00**	—	—

Class

II *Good cultivable lands that have moderate limitations for sustained use under agriculture*

III *Moderately good cultivable lands that have severe limitations for sustained use under agriculture*

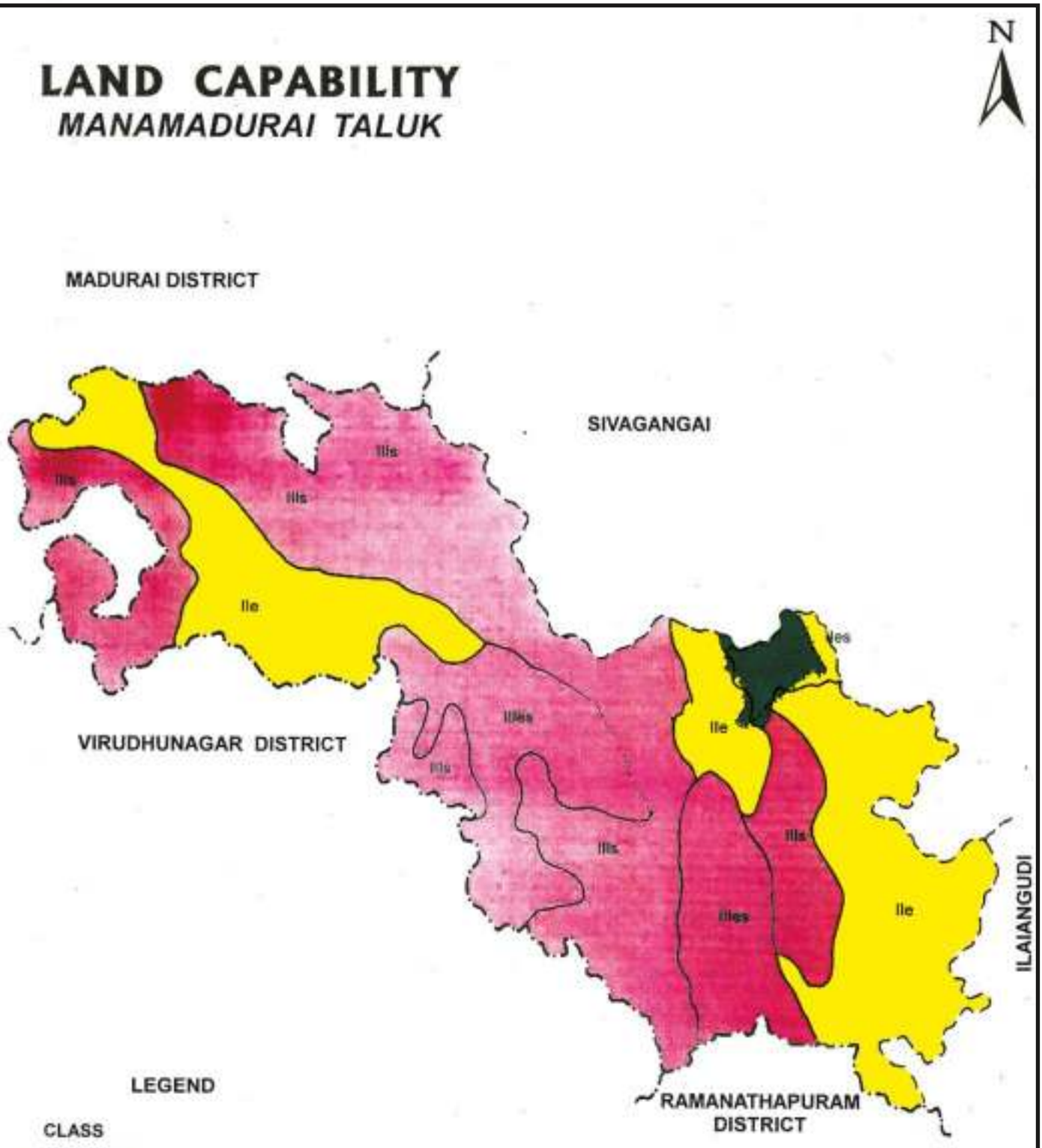
Sub class

s *root zone limitation*

e *erosion and run off*

w *wetness*

LAND CAPABILITY
MANAMADURAI TALUK



LAND IRRIGABILITY CLASSIFICATION

MANAMADURAI TALUK

Sl. No.	Soil series	Class Sub - Class	Extent (ha)	Per cent to total	Soil Limitations
1.	Sembanor	2 s - Lands that have moduate limitations for surtainred use under irrigation	21,046	31.17	Coarse texture and rapid permeability
2.	Nerupugapatti	2 st - Lands that have moduate limitations for surtainred use under irrigation	265	0.39	Poor CEC and Topography
3.	Singampunari Hanumanthakudi	3 s - Lands that have severe limitations for sustained use under irrigation	21,764	32.24	Drainage and alkalinity
4.	Kallal	3 st - Lands that have severe limitations for sustained use under irrigation	4,780	7.08	Shallow solum Low water holding capacity and topography
5.	Tiruppuvanam	3 st - Lands that have severe limitations for sustained use under irrigation	11,275	16.70	Topography and alkalinity
6.	Milaganur	3 sd - Lands that have severe limitations for sustained use under irrigation	7,435	11.01	Slow permeability, Poor drainage and alkalinity
	Forest	—	950	1.41	—
		Total	**67,515**	**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

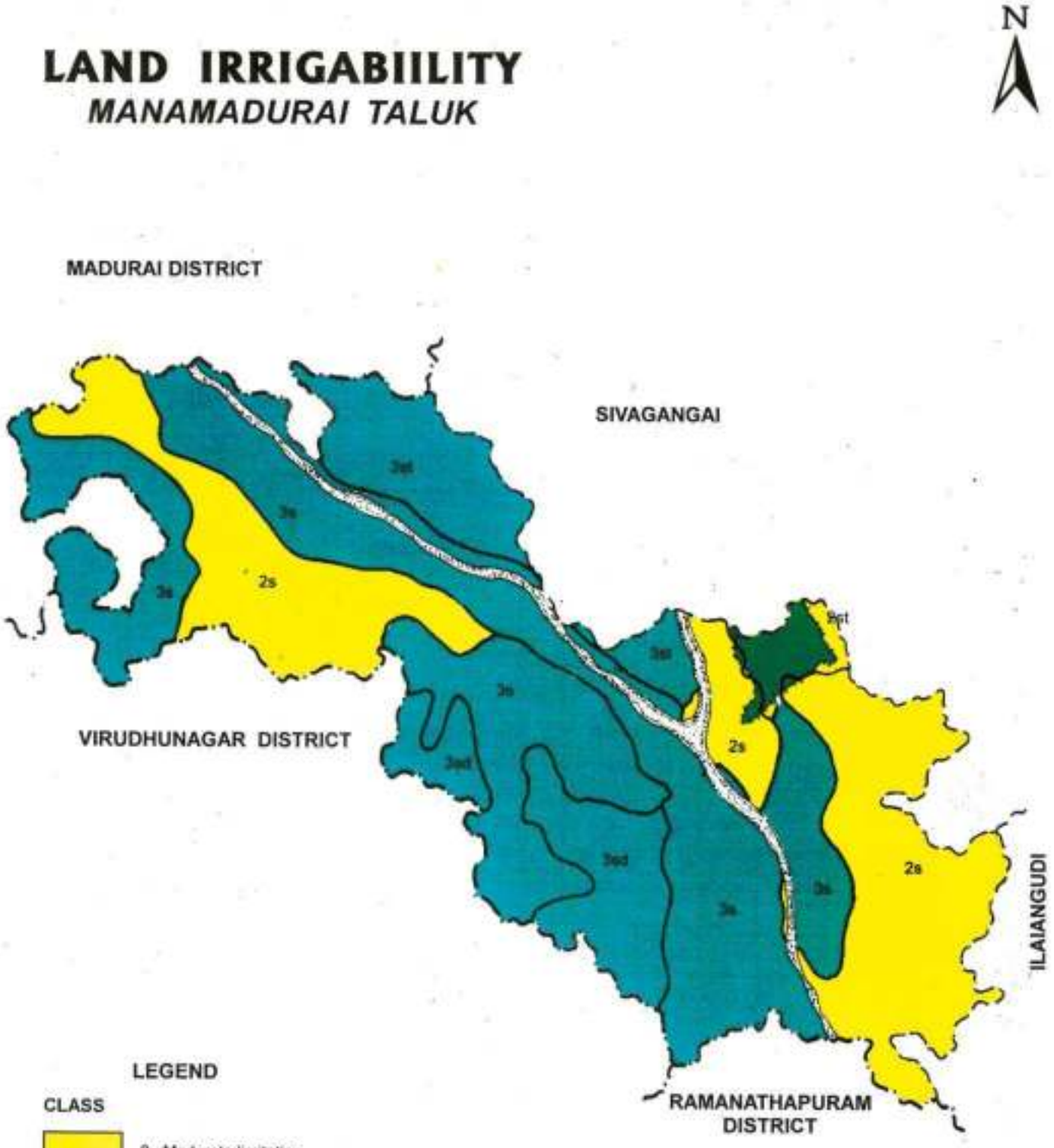
s *soil problem*

d *drainage*

t *topography*

LAND IRRIGABIILITY

MANAMADURAI TALUK

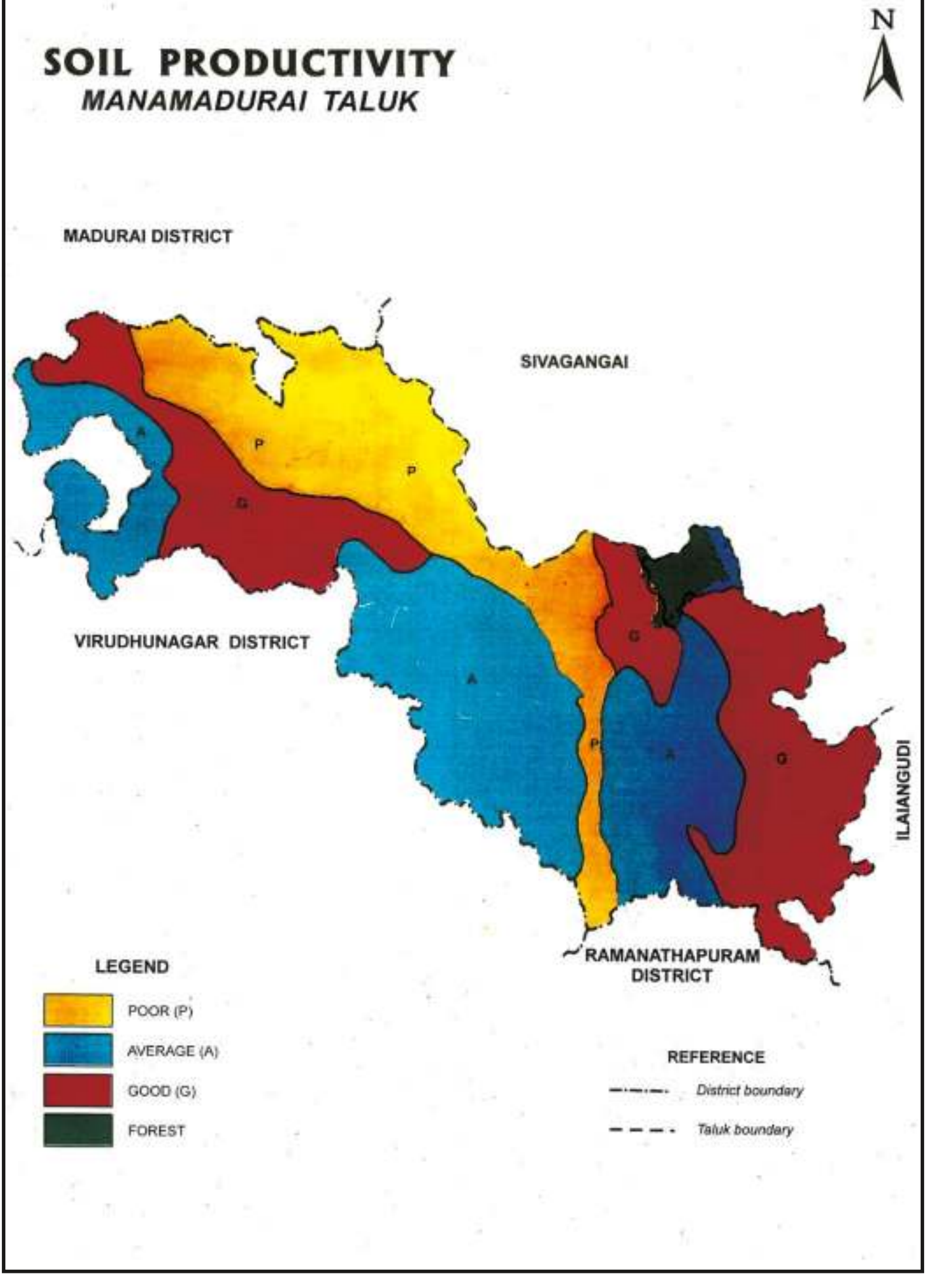


SOIL PRODUCTIVITY

MANAMADURAI TALUK

Sl. No.	Rating	Productivity	Soil series	Extent (ha)	Per cent to total
1.	8 - 19	Poor (P)	Kallal	4,780	7.08
2.	20 - 34	Average (A)	Hanumanthakudi Milaganur Singampunari Nerupugapatti Tiruppuvanam	40,739	60.34
3.	35 - 64	Good (G)	Sembanor	21,046	31.17
			Forest	950	1.41
			Total	**67,515**	**100.00**

SOIL PRODUCTIVITY
MANAMADURAI TALUK

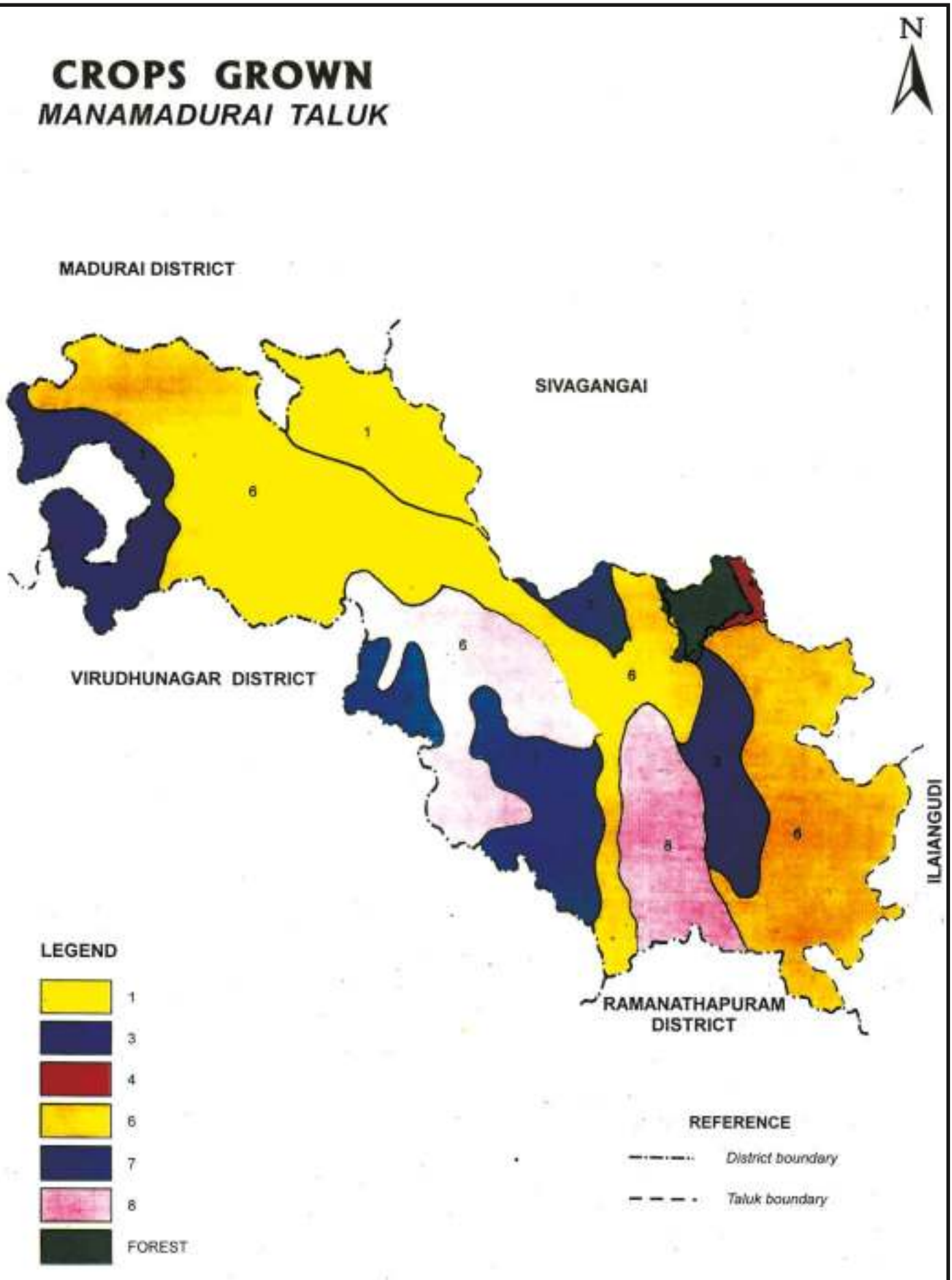


CROPS GROWN

MANAMADURAI TALUK

Sl. No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Groundnut	Groundnut and Pulses	1	Kallal
2.	Groundnut and Chillies	Millets and Pulses	3	Singampunari
3.	Millets and Chillies	Millets, Groundnut, Pulses and Fruit crops	4	Nerupugapatti
4.	Rice	Groundnut	6	Sembanor
5.	Cotton Millets and Rice	Millets Cotton and Pulses	7	Milaganur
6.	Rice Cotton and Chillies	Millets	8	Hanumanthakudi
7.	Cotton and Millets	Millets	10	Tiruppuvanam

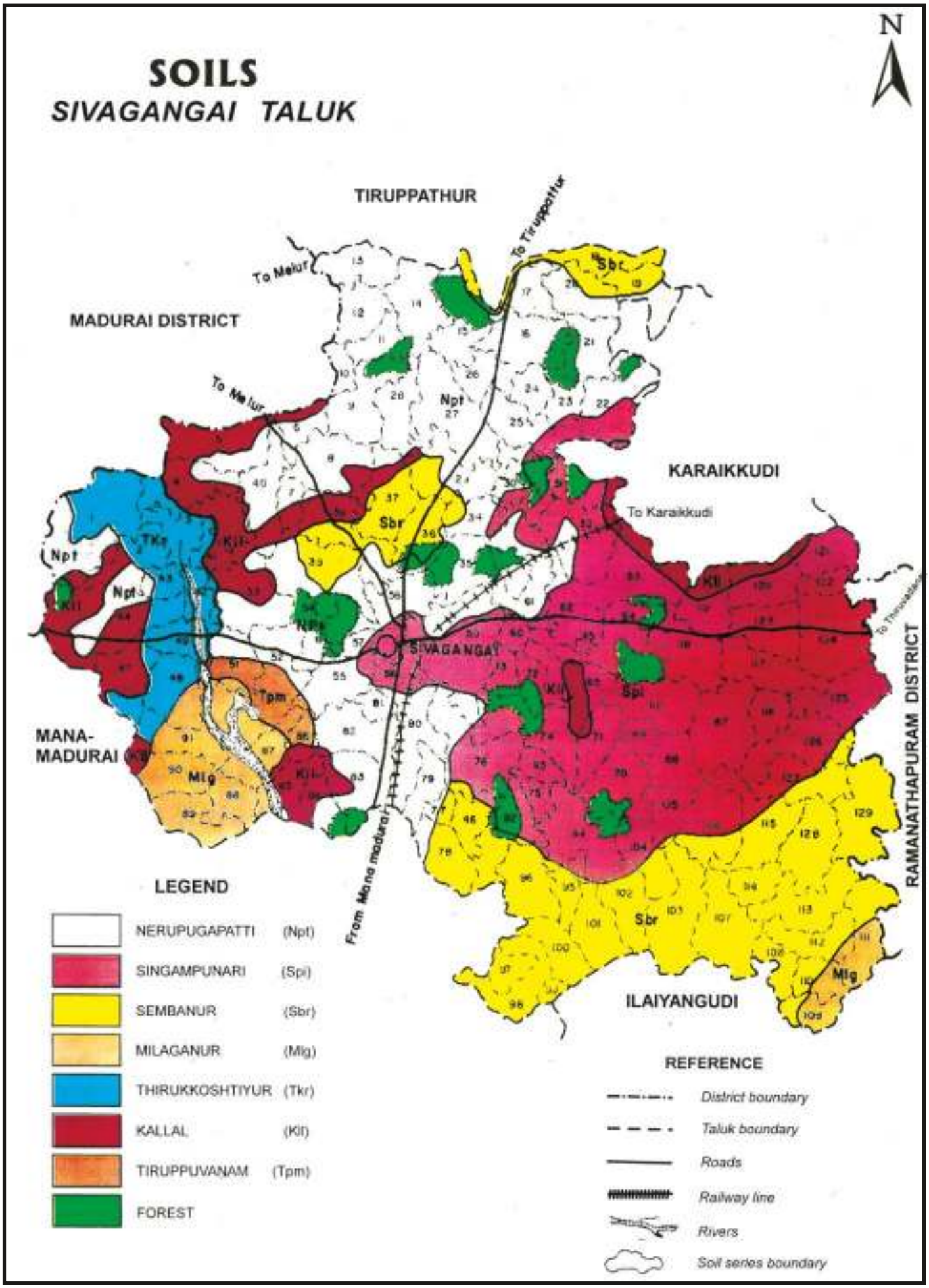
CROPS GROWN
MANAMADURAI TALUK



DISTRIBUTION OF SOILS SERIES

SIVAGANGAI TALUK

Sl. No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Nerupugapatti	Npt	49,738	31.27
2.	Singampunari	Spi	41,820	26.29
3.	Sembanor	Sbr	33,613	21.13
4.	Kallal	Kll	13,035	8.19
5.	Milaganur	Mlg	8,891	5.59
6.	Thirukkushtiyur	Tkr	7,918	4.98
7.	Tiruppuvanam	Tpm	1,642	1.03
	Forest	—	2,420	1.52
		Total	**1,59,077**	**100.00**


SOILS
SIVAGANGAI TALUK
N
TIRUPPATHUR
To Tiruppattur
To Melur
MADURAI DISTRICT
To Melur
KARAIKKUDI
To Karaikkudi
SIVAGANGA
MANA-
MADURAI
From Mana madurai
RAMANATHAPURAM DISTRICT
To Thiruvadanai
ILAIYANGUDI
Npt
Sbr
Tkr
Kll
Spi
Tpm
Mlg
LEGEND
NERUPUGAPATTI (Npt)
SINGAMPUNARI (Spi)
SEMBANUR (Sbr)
MILAGANUR (Mlg)
THIRUKKOSHTIYUR (Tkr)
KALLAL (Kll)
TIRUPPUVANAM (Tpm)
FOREST
REFERENCE
District boundary
Taluk boundary
Roads
Railway line
Rivers
Soil series boundary

VILLAGE WISE FERTILITY STATUS AND SOIL SERIES

SIVAGANGAI TALUK

Name of the village	Village No.	Soil distribution in percentage	Fertility status (kg/ac)		
			Nitrogen	Phosphorus	Potassium
(1)	(2)	(3)	(4)	(5)	(6)
1. Adappadakki	94	Spi 90	—	—	—
2. Alagichipatti	6	Npt 50, Kll50	89	9	378
3. Alakamanagar	12	Npt 100	269	26	691
4. Alangulam	80	Npt 90	98	8	368
5. Alavakottai	15	Npt 90	107	—	384
6. Allur	73	Spi 100	100	11	422
7. Alpattaviduthi	95	Sbr 100	—	—	—
8. Ammanpathy	24	Npt 100	106	11	346
9. Arasani	55	Npt 90	124	11	404
10. Arasanur	44	Kll60	269	28	627
11. Gowrippatti	33	Npt 60	—	—	—
12. Idaikkattur	89	Mlg 100	—	—	—
13. Idayamelur	38	Sbr 50, Kll50	—	—	—
14. Illupakudi	2	Tkr 50	98	11	423
15. Kadambankulam	81	Npt 100	—	—	—
16. Kadaneri	23	Npt 90	109	11	345
17. Kalkulam	113	Sbr 100	—	—	—
18. Kallarathinipatty	10	Npt 100	—	—	—
19. Kallurani	91	Mlg 90	—	—	—
20. Kandangipatti	40	Npt 60	—	—	—
21. Kanjipatti	69	Spi 100	—	—	—
22. Kanjiram	111	Mlg 50Sbr 50	—	—	—
23. Karkirangal	58	Npt 90	—	—	—
24. Kanoor	8	Npt 80	88	11	410
25. Karungalagudi	34	Npt 60	—	—	—

(1)	(2)	(3)	(4)	(5)	(6)
26. Karunthani Variandal	67	Spi 100	—	—	—
27. Kattanipatti	13	Npt 100	—	—	—
28. Kattappathu	20	Npt 70	—	—	—
29. Kayankulam	84	KII50, Npt 50	92	8	284
30. Keelakandani	82	Npt 95	297	28	454
31. keelapoongudi	28	Npt 95	—	—	—
32. Kiladari	1	Tkr 60	—	—	—
33. Killakkottai	19	Sbr 50, Npt 50	—	—	—
34. Kilamangalam	30	Npt 50, Spi 50	—	—	—
35. Kilapidavur	99	Sbr 100	—	—	—
36. Kodikkaduka -damburani	122	Spi 100	—	—	—
37. Kolanthi	108	Sbr 100	—	—	—
38. Kootturavupatty	7	KII50, Npt 50	92	—	244
39. Kollangudi	61	Npt 70	89	—	261
40. Kottakudi	51	Tpm 50, Npt 50	—	—	—
41. Kottapatti	21	Npt 100	—	—	—
42. Kovanur	50	Mlg 65	—	—	—
43. K.Perungarai	98	Sbr 100	—	—	—
44. Kumarapatti	41	KII50, Tkr 50	—	—	—
45. Madagupatty	16	Npt 100	90	—	200
46. Malampatty	5	KII60, Npt 40	81	—	447
47. Mallal	92	Spi 50, Sbr 50	128	11	433
48. Mangaitheendal	31	Spi 100	—	—	—
49. Mangudi	85	KII100	130	—	207
50. Marandai	110	Sbr 50, Mlg 50	—	—	—
51. Maraniusilangulam	43	Tkr 70	98	—	423
52. Marakkathur	126	Spi 80	113	7	238
53. Marathur	127	Spi 50, Sbr 50	—	—	—
54. Mathukarmai	120	Spi 60, KII40	—	—	—
55. Mattur	48	Tkr 60, Mlg 40	87	11	290

(1)	(2)	(3)	(4)	(5)	(6)
56. Melaroongudi	9	Npt 100	114	11	442
57. Melavaniyargudi	59	Spi 80	—	—	—
58. Mongarkanmai	124	Spi 100	—	—	—
59. Moovarkanmai	125	Spi 95	—	—	—
60. Moovarkanmai	4	Kll 60 Tkr 20 Npt 20	—	—	—
61. Mudikkarai	70	Spi 100	—	—	—
62. Muthur	63	Spi 70	101	14	423
63. M.Vaghikulam	116	Spi 100	—	—	—
64. M.Velangulam	46	Sbr 80	—	—	—
65. Nadamangalam	77	Npt 50, Sbr 50	—	—	—
66. Nagarampatty	25	Npt 60, Spi 40	106	11	347
67. Mallandal	115	Sbr 70, Spi 30	—	—	—
68. Mallukottai	37	Sbr 60	104	11	91
69. Namanur	14	Npt 100	—	—	—
70. Nariyakudi	18	Sbr 95	—	—	—
71. Nattarasankottai	61	Npt 90	86	11	234
72. Nedungulam	123	Spi 100	88	11	220
73. Okkur	27	Npt 100	123	9	468
74. O.Pudur	29	Npt 70, Sbr 30	121	8	468
75. Padamathur	49	Tkr 90	83	11	218
76. Paganeri	22	Npt 60, Spi 40	87	11	254
77. Paiyurpillavayal	59	Spi 70	369	28	500
78. Palkulam	106	Spi 60, Sbr 40	85	9	336
79. Pallivayal	117	Spi 100	—	—	—
80. Panaiyur	52	Npt 60, Tpm 40	—	—	—
81. Panangudi	72	Spi 100	305	27	483
82. Paruthikanmai	66	Spi 100	102	8	273
83. Pirandaikulam	60	Spi 90	—	—	—
84. Periyakannanur	10	Npt 100	107	8	200
85. Perumgudi	26	Npt 100	—	—	—
86. Pillur	51	Npt 40, Tpm 40	—	—	—

(1)	(2)	(3)	(4)	(5)	(6)
87. Ponnakulam	54	Npt 100	—	—	—
88. P.Udayanendal	78	Sbr 80	—	—	—
89. Pudukkiluwachi	71	Spi 90	—	—	—
90. Pudupatti	39	Sbr 50, Npt 40	—	—	—
91. Pulavangayal	104	Spi 50, Sbr 50	—	—	—
92. Puliyankulam	97	Sbr 100	—	—	—
93. Pursadiudappu	68	Spi 100	123	9	409
94. Puvali	76	Spi 50, Npt 40	—	—	—
95. Sakkur	112	Sbr 90	—	—	—
96. Kannariurppu	47	Kll60, Tkr 40	—	—	—
97. Sedambal	107	Sbr 100	268	23	47
98. K. Sathur	109	Mlg 60, Sbr 40	—	—	—
99. Selandakkudi	17	Npt 90	—	—	—
100. Sembanoor	96	Sbr 95	88	8	393
101. Sembar	102	Sbr 90	—	—	—
102. Sendi Udaiyanathpuram	5	Kll60, Npt 40	—	—	—
103. Sennalgudi	6	Npt 70	—	—	—
104. Sevaurani	119	Spi 70	—	—	—
105. Silukkapatti	128	Sbr 100	124	9	399
106. Siraram	105	Spi 95	—	—	—
107. Siriyur	114	Sbr 100	—	—	—
108. Sirukanaperi	103	Sbr 100	—	—	—
109. Solapuram	36	Sbr 70	92	11	75
110. Solavandan	92	Spi 100	—	—	—
111. Somanathamanyalam	118	Spi 100	—	—	—
112. Sundaranadappu	83	Npt 80	98	11	196
113. Surakkulam	35	Npt 100	—	—	—
114. Thadiamangalam	100	Sbr 100	—	—	—
115. Thamarakki (North)	4	Kll 50	124	—	438
116. Thamarakki (South	3	Tkr 50, Kll40	—	—	—
117. Thiraniendal	86	Tpm 50, Kll30	—	—	—
118. Thirumalai	11	Npt 100	90	11	144
119. Usilanendal Sundanendal	45	Spi 100	—	—	—
120. Usilangulam	121	Spi 90	289	22	308
121. Valudani	87	Mlg 70	—	—	—
122. Uyyavandan	74	Spi 80	—	—	—
123. Vaniyangudi	32	Spi 70	—	—	—
124. Vannikudi	129	Sbr 100	98	8	206
125. Vembankudi	79	Npt 100	103	9	251
126. Vembathur	90	Mlg 90	—	—	—
127. Vettikulam	75	Spi 100	—	—	—
128. Vittanari	65	Spi 60, Kll40	101	11	423
129. V.Pudukkulam	88	Mlg 100	—	—	—

LAND CAPABILITY CLASSIFICATION

SIVAGANGAI TALUK

S.No.	Soil series	Class Sub - Class	Extent (ha)	Per cent to total	Limitation	Needs
1.	Sembanor	II e - Lands that have moderate limitations for sustained use under cultivation	33,613	21.13	Erosion	Erosion control conservation and improved irrigation methods
2.	Nerupugapatti	II es - Lands that have moderate limitations for sustained use under cultivation	49,738	31.27	Erosion and Coarse texture	Erosion control and Conservation improved irrigation methods
3.	Singampunari Milaganur and Tiruppuvanam	III s - Lands that have severe limitations for sustained use under cultivation	52,353	32.91	Heavy texture slow permeability and alkalinity	Drainage improvement, addition of organics and amendments
4.	Kallal	III es - Lands that have severe limitations for sustained use under cultivation	13,035	8.19	Erosion and Shallow solum	Soil and Water conservation measures
5.	Thirukkoshtiyur	III es - Lands that have severe limitations for sustained use under cultivation	7,918	4.98	Erosion and alkalinity	Soil and Water conservation measures, addition of organics and amendments
	Forest	—	2,420	1.52	—	
		Total	**1,59,077**	**100.00**		

Class

II *Good cultivable lands that have moderate limitations for sustained use under agriculture*

III *Moderately good cultivable lands that have severe limitations for sustained use under agriculture*

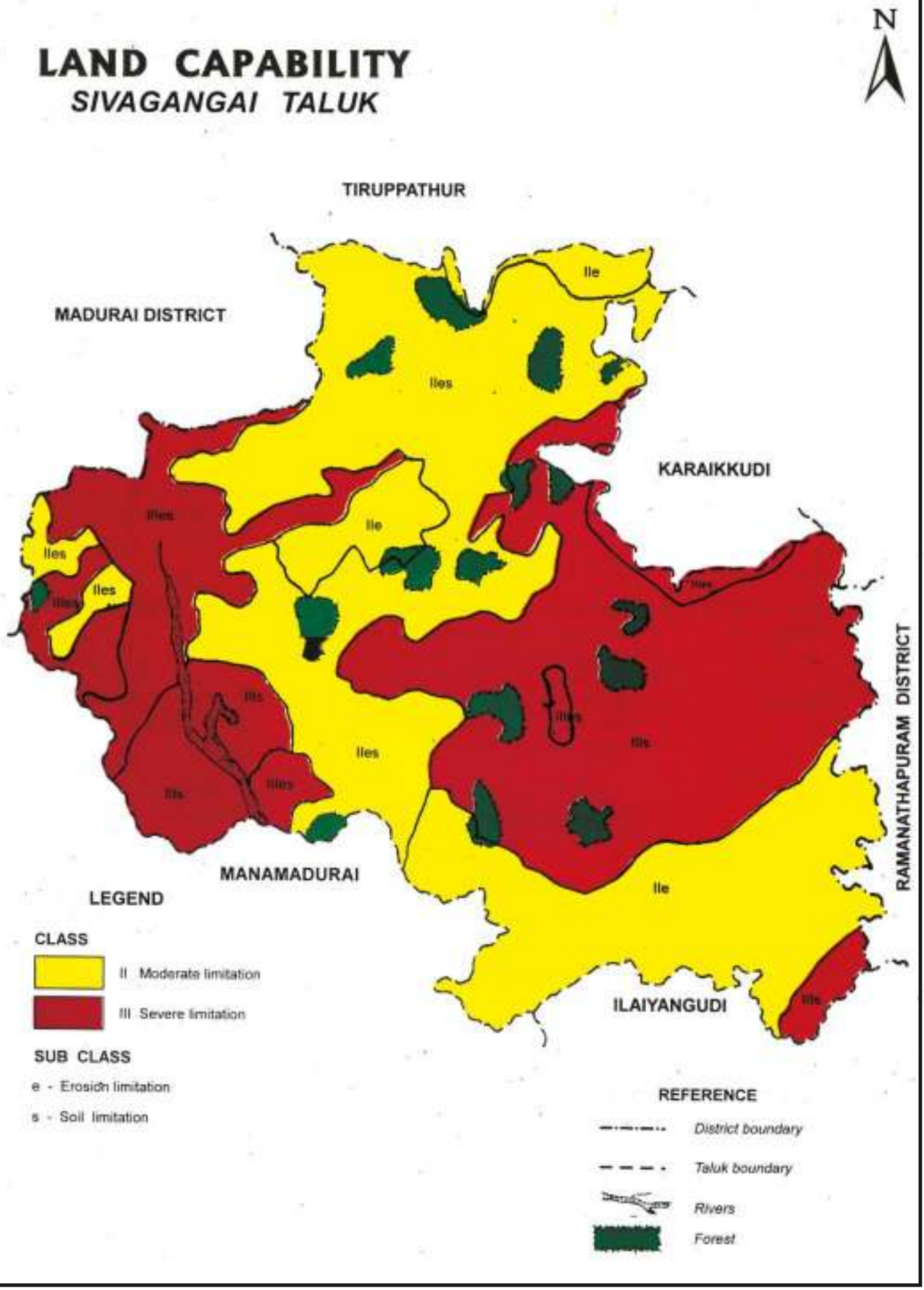
Sub class

s *root zone limitation*

e *erosion and run off*

w *wetness*

LAND CAPABILITY
SIVAGANGAI TALUK



LAND IRRIGABILITY CLASSIFICATION

SIVAGANGAI TALUK

S. No.	Soil series	Cass Sub - Class	Area (ha)	Per cent to total	Soil Limitations
1.	Sembanor	2 s - Lands that have moderate limitations for sustained use under irrigation	33,613	21.13	Coarse texture and rapid permeability
2.	Nerupugapatti	2 st - Lands that have moderate limitations for sustained use under irrigation	49,738	31.27	Poor CEC and Topography
3.	Singampunari and Tiruppuvanam	3 s - Lands that have severe limitations for sustained use under irrigation	43,462	27.32	Drainage and alkalinity
4.	Milaganur	3 sd- Lands that have severe limitations for sustained use under irrigation	8,891	5.59	Poor drainage, slow permeability and alkalinity
5.	Kallal	3 st - Lands that have severe limitations for sustained use under irrigation	13,035	8.19	Shallow solum, Low water holding capacity and topography
6.	Thirukkoshtiyur	3 st - Lands that have severe limitations for sustained use under irrigation	7,918	4.98	Topography and alkalinity
	Forest		2,420	1.52	—
		Total	**1,59,077**	**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

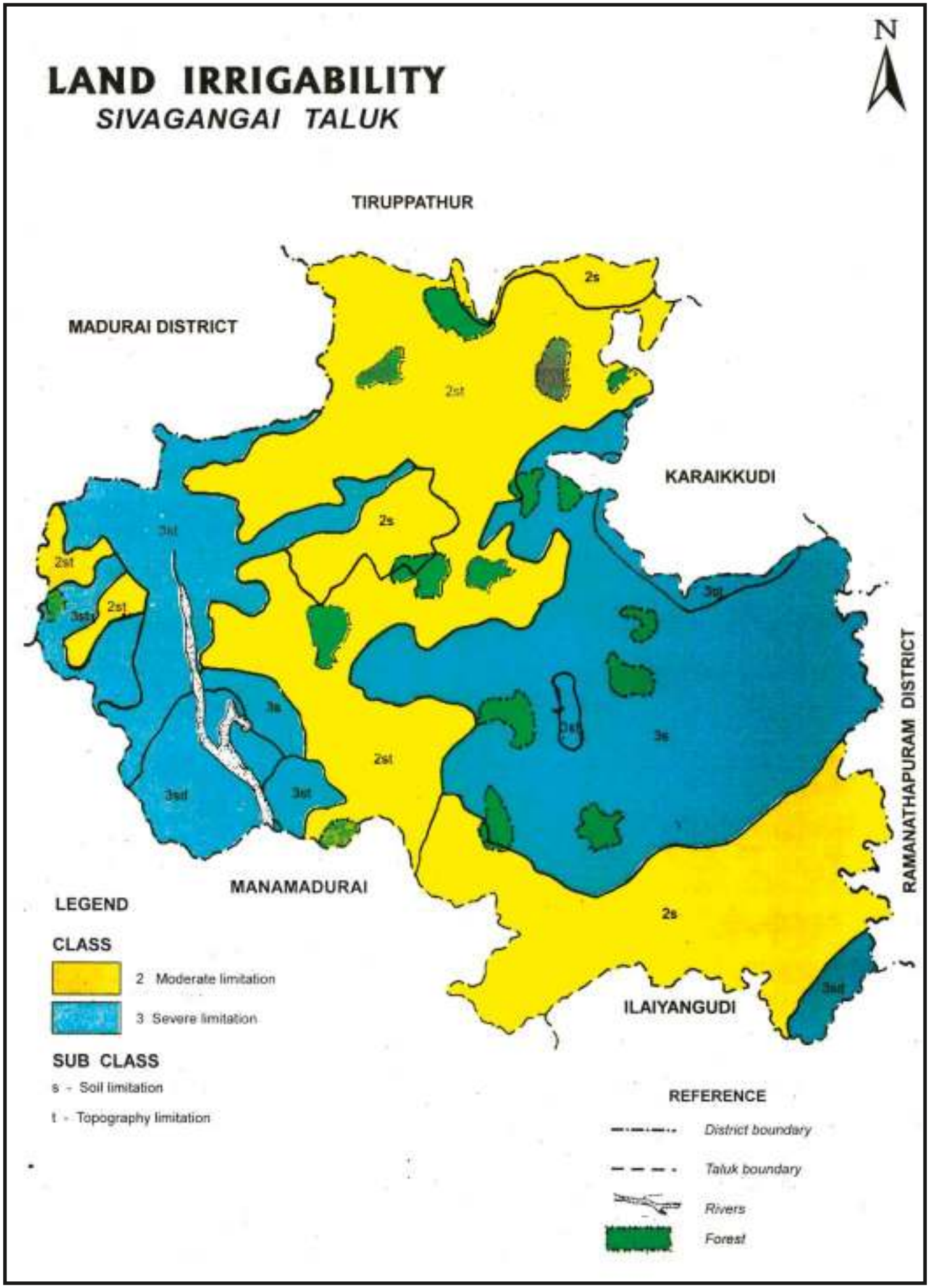
t *topography*

s *soil limitation*

d *drainage*

LAND IRRIGABILITY

SIVAGANGAI TALUK



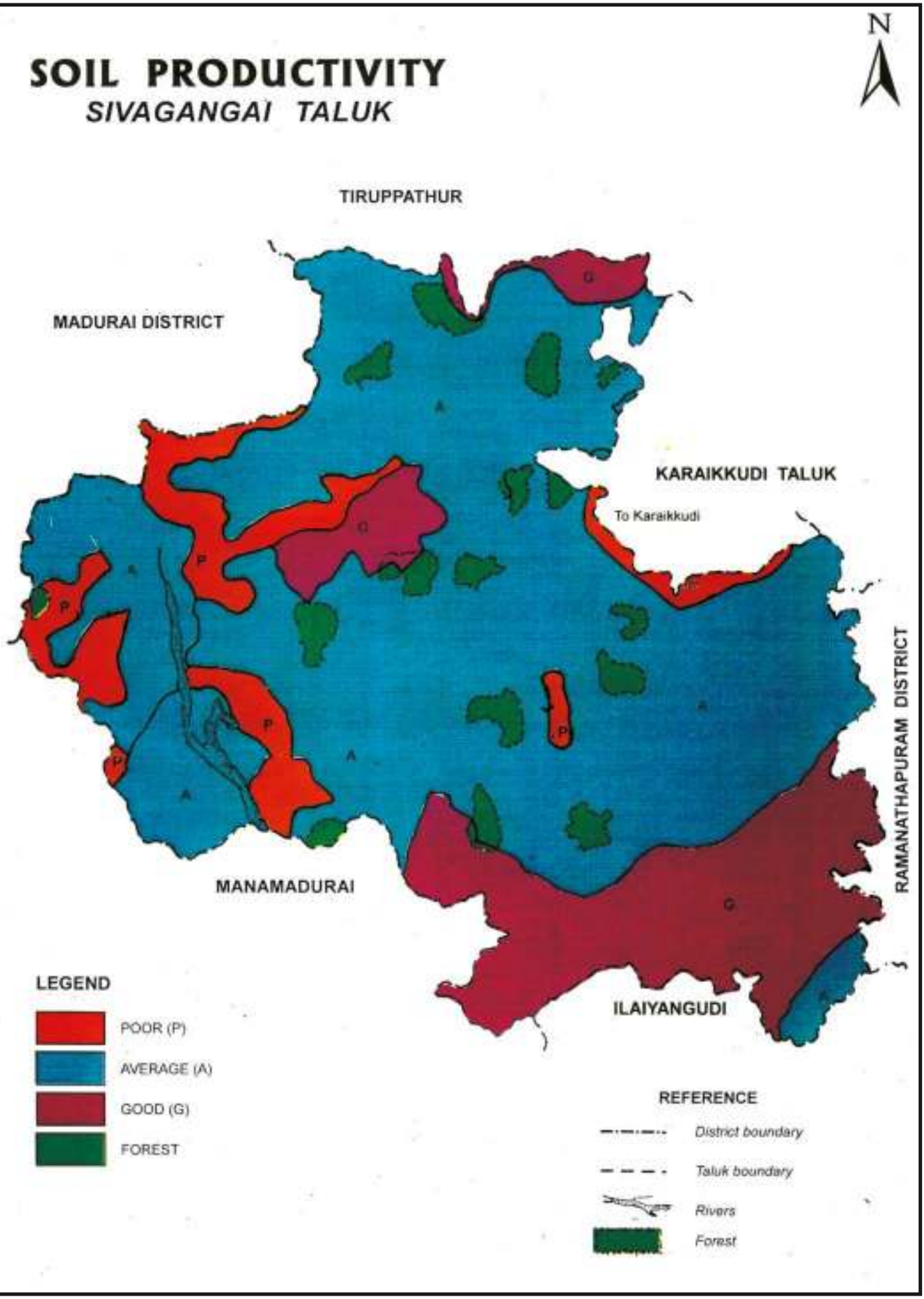
SOIL PRODUCTIVITY

SIVAGANGAI TALUK

Sl. No.	Rating	Productivity	Soil series	Extent (ha)	Per cent to total
1.	8 - 19	Poor (P)	Kallal Tiruppuvanam	14,677	9.23
2.	20 - 34	Average (A)	Nerupugapatti, Singampunari, Milaganur and Thirukkoshtiyur	1,08,367	68.12
3.	35 - 64	Good (G)	Sembanor	33,613	21.13
			Forest	2,420	1.52
			Total	**1,59,077**	**100.00**

SOIL PRODUCTIVITY

SIVAGANGAI TALUK

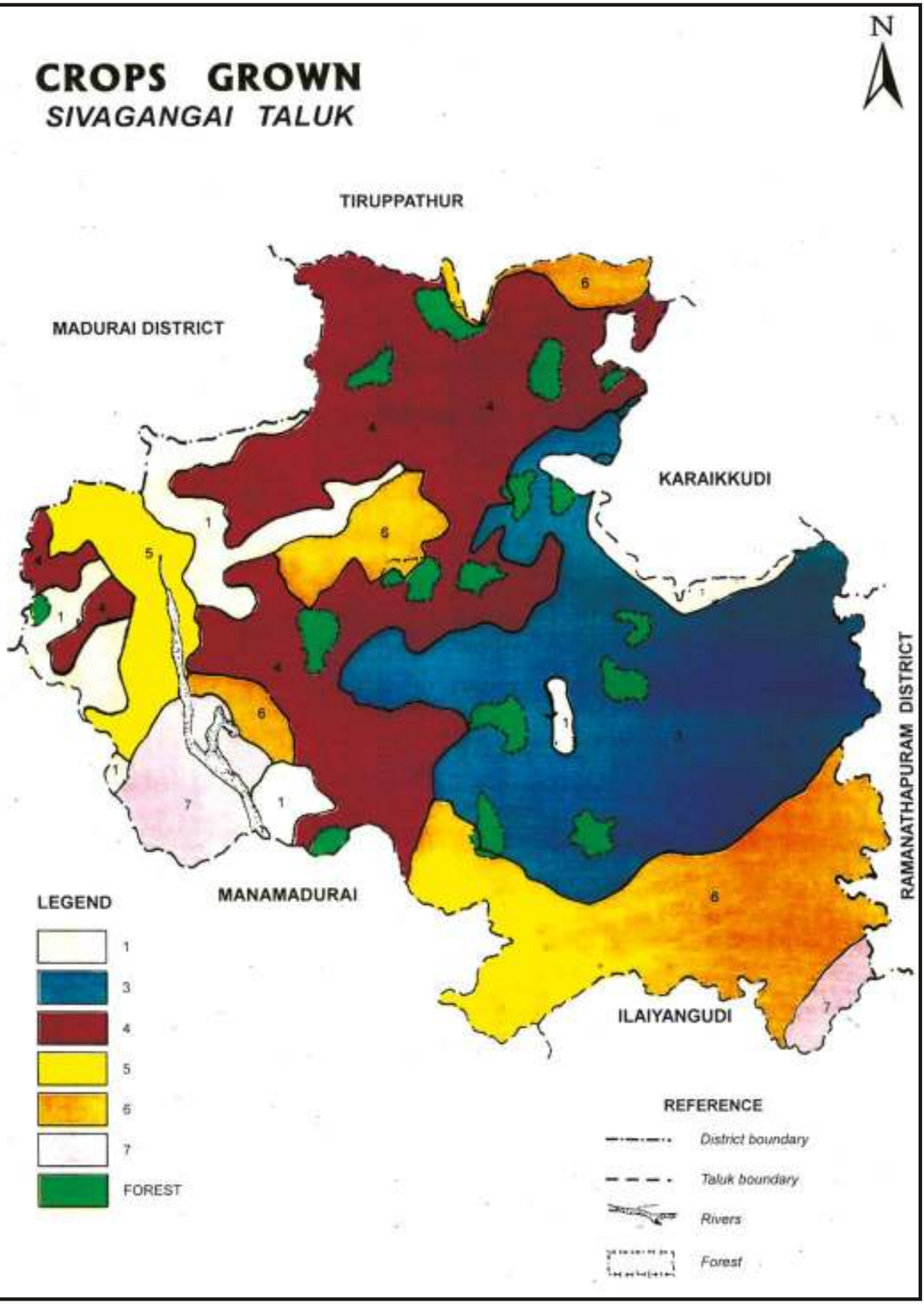


CROPS GROWN

SIVAGANGAI TALUK

Sl. No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Groundnut	Groundnut and Pulses	1	Kallal
2.	Groundnut and Chillies	Millets and Pulses	3	Singampunari
3.	Millets and Chillies	Millets, Groundnut, Pulses and Fruit crops	4	Nerupugapatti
4.	Cotton	Cotton	5	Thirukkoshtiyur
5.	Rice	Groundnut	6	Sembanor and Tiruppuvanam
6.	Cotton Millets and Rice	Millets Cotton and Pulses	7	Milaganur

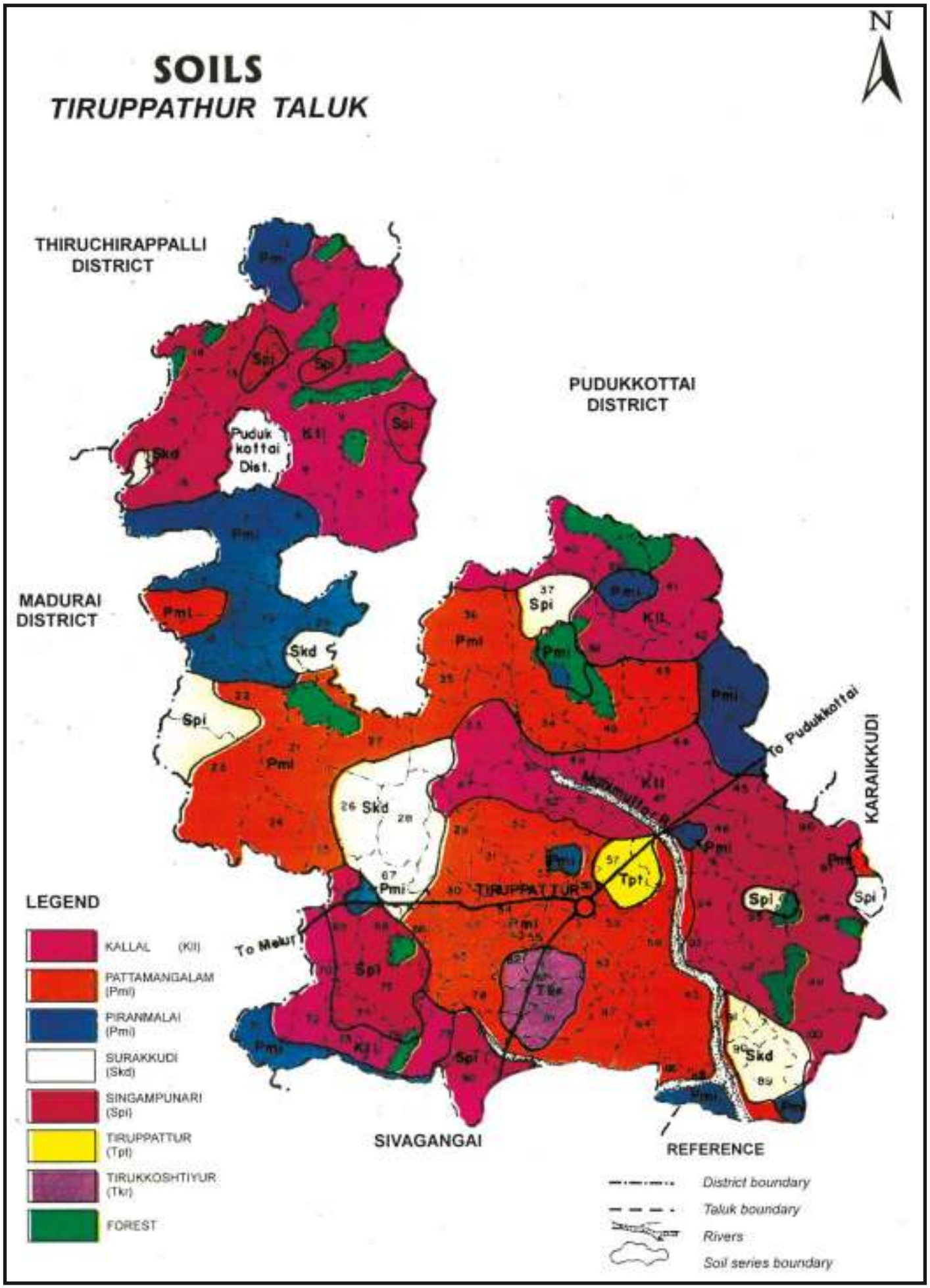
CROPS GROWN
SIVAGANGAI TALUK



DISTRIBUTION OF SOIL SERIES

TIRUPPATHUR TALUK

Sl. No.	Soil series	Symbol	Extent (ha)	Per cent to total
1.	Kallal	Kll	23,701	33.74
2.	Pattamangalam	Pml	21,681	30.87
3.	Piranmalai	Pmi	9,126	12.99
4.	Singampunari	Spi	6,960	9.91
5.	Surakkudi	Skd	4,641	6.61
6.	Thirukkoshtiyur	Tkr	1,462	2.08
7.	Tiruppattur	Tpt	706	1.01
	Forest	—	1,959	2.79
		Total	**70,236**	**100.00**


SOILS
TIRUPPATHUR TALUK
N
THIRUCHIRAPPALLI DISTRICT
PUDUKKOTTAI DISTRICT
MADURAI DISTRICT
SIVAGANGAI
KARAIKKUDI
Puduk kottai Dist.
To Pudukkottai
To Melur
TIRUPPATTUR
LEGEND
KALLAL (Kll)
PATTAMANGALAM (Pml)
PIRANMALAI (Pml)
SURAKKUDI (Skd)
SINGAMPUNARI (Spi)
TIRUPPATTUR (Tpt)
TIRUKKOSHTIYUR (Tkr)
FOREST
REFERENCE
District boundary
Taluk boundary
Rivers
Soil series boundary

VILLAGE WISE FERTILITY STATUS AND SOIL SERIES

TIRUPPATHUR TALUK

Name of the village	Village No.	Soil distribution in percentage	Fertility status (kg/ac)		
			Nitrogen	Phosphorus	Potassium
(1)	(2)	(3)	(4)	(5)	(6)
1. Alagapurai	93	KII 70	—	—	—
2. Alangudi	100	KII 50, Skd 50	—	—	—
3. A.Malaiyur	67	Skd 70	—	—	—
4. Aralikottai	80	Spi 60	72	10	182
5. A. Thekkur	33	KII 60	83	9	189
6. Bramanapatti	65	Pml 100	98	8	252
7. Chettikuruchi	15	KII 100	93	—	214
8. Darmapatti	14	kII 100	84	11	260
9. D. Kalappur	24	Pml 100	—	—	—
10. Eriyur	77	KII 60	—	—	—
11. Erumaipatty	69	Spi 50, KII 30	—	—	—
12. Ilangudi	99	Pmi 50 KII 40	—	—	—
13. Ilayathakudi (N)	42	Pml 50	102	8	312
14. Ilayathakudi (S)	43	Pmi 70	101	9	312
15. Jeyamkondan	71	Pml 70	101	8	330
16. Kalappur	21	Pml 100	219	30	838
17. Kallipatti	88	Pml 90	—	—	—
18. Kandavirayampatti	51	KII 65	82	8	217
19. Kambanur	92	KII 80	—	—	—
20. Karaiyur	32	Pml 80	272	28	121
21. Kariapatti	13	KII 70	—	—	—
22. Karuppur	30	Pml 70	82	11	260
23. K.Attangudi	45	KII 80	—	—	—
24. Kattambur	60	Tkr 50 Pml 50	—	—	—
25. Kayampatty	25	Pml 60	—	—	—

(1)	(2)	(3)	(4)	(5)	(6)
26. Kavanur	50	KII 100	324	28	423
27. Kilavayal	10	KII 70	—	—	—
28. Kirugakottai	18	Pmi 80	89	11	355
29. Kottiyirruppu	54	Pml 100	—	—	—
30. Kulathupatty	1	KII 90	—	—	—
31. Kunnakkudi	97	KII 80	—	—	—
32. Madhavirayanpatti	29	Pml 70	101	11	274
33. Mahibalanpatti	34	Pml 80	—	—	—
34. Manalur	8	KII 80Pmi 20	—	—	—
35. Mallakottai	72	KII 70	124	—	425
36. Mampatti Devasthanam	76	KII 60, Spi 40	—	—	—
37. Mampatti South	74	Spi 70	306	22	748
38. Mondakkudipatti	4	KII 90	—	—	—
39. Mathur	68	Spi 80	103	8	313
40. Melapatty	17	Pmi 50, Pml 50	—	—	—
41. Melavannariruppu	7	Pmi 100	—	—	—
42. Melaiyur. M.	91	Skd 80	—	—	—
43. Munnaimalaipatty	6	Pmi 70	99	9	266
44. Muraiyur	28	Skd 90	88	11	378
45. Musundapatti	12	Pmi 60	—	—	—
46. Nainapatty	70	KII 90	—	—	—
47. Nathumangalam	31	Pml 100	97	11	292
48. Nedumaram	47	KII 60	79	11	257
49. Neduvayal	5	KII 100	120	—	361
50. Nemam	96	KII 90	—	—	—

(1)	(2)	(3)	(4)	(5)	(6)
51. Nerkuppai	36	Pml 80	108	11	325
52. N.Kilaiyur	90	Skd 80	—	—	—
53. N.Mampatti	75	Spi 85	—	—	—
54. Olugumangalam	35	Pml 80	—	—	—
55. Paiyur	49	Kll 80	—	—	—
56. Pattakkuruchi	63	Pml 90	98	9	250
57. Pattamangalam (E)	84	Pml 100	—	—	—
58. Pattamangalam (W)	83	Pml 70	—	—	—
59. Perichikoil	86	Pml 75	—	—	—
60. Piranmalai	19	Pmi 90	106	9	248
61. Piranpatty	16	Kll 80	—	—	—
62. P. Karungulam	82	Pml 100	—	—	—
63. Pollangurichi	40	Kll 100	79	13	80
64. Ranasingapuram	56	Pml 90	89	11	262
65. Sadurvedamangalam	27	Pml 70	—	—	—
66. Sevarakkottai	89	Skd 60	—	—	—
67. Sevvoor	39	Pmi 60 Kll 30	—	—	—
68. Shenbagampatti	44	Pmi 60	109	11	300
69. Singampunari (N)	22	Spi 40 Pml 60	91	—	246
70. Singampunari (S)	23	Spi 40 Pml 60	379	13	117
71. Sirukuladipatti	46	Kll 90	—	—	—
72. Sirumarudhur	20	Pmi 100	84	10	324
73. Siravayal	95	Kll 60	—	—	—
74. S. Pudur	9	Kll 100	107	—	243
75. Sevalpatti	66	Pml 40 Spi 40	265	26	765

(1)	(2)	(3)	(4)	(5)	(6)
76. Sullankudi	79	Tkr 40, Pmi 40	—	—	—
77. Sundakkadu	48	Pml 60, Kll40	—	—	—
78. Sunnamburvarapru	64	Pml 100	—	—	—
79. Surakkudi	26	Skd 80	60	16	230
80. Thanipatti	62	Pml 50, Tkr 50	—	—	—
81. Thattathi	98	Kll 90	—	—	—
82. Themmapatti	59	Pml 90	—	—	—
83. Thenkarai	94	Kll 80	—	—	—
84. Thevaraumbur	55	Pml 100	95	8	241
85. Thuvan	37	Spi 70, Pml 30	109	11	313
86. Tirukkolakudi	41	Kll 90	77	10	254
87. Thirukostiyur	78	Pml 60, Tkr 40	89	11	275
88. Tiruppathur	57	Tpt 60, Pml 40	—	—	—
89. Tiruvadayanpatti	53	Pml 80, Pmi 20	—	—	—
90. T.Vairavanpatty	61	Tkr 100	—	—	—
91. Ulagampatty	3	Kll 60, Spi 40	—	—	—
92. Vadamavali	81	Tkr 80, Pml 20	—	—	—
93. Vadavanpatty	73	Kll 80	—	—	—
94. Valasapatty	11	Kll 80, Spi 20	345	24	952
95. Vairavanpatty alias Karugappilampatti	52	Kll 100	—	—	—
96. Vaniyankadu	58	Pml 100	—	—	—
97. Velangudi	38	Kll 50, Pml 30	317	27	822
98. Veliyathur	85	Pml 100	—	—	—
99. Varappur	2	Kll 90	87	11	205

LAND CAPABILITY CLASSIFICATION

TIRUPPATHUR TALUK

Sl. No.	Soil series	Class Sub - class	Extent (ha)	Per cent to total	Limitation	Needs
1.	Surakkudi	II e - Lands that have moderate limitations for sustained use under cultivation	4,641	6.61	Erosion	Erosion control and Conservation irrigation methods
2.	Pattamangalam	II es - Lands that have moderate limitations for sustained use under cultivation	21,681	30.87	Erosion and Coarse texture	Erosion control conservation irrigation methods and soil breeding
3.	Singampunari	III s - Lands that have severe limitations for sustained use under cultivation	6,960	9.91	Heavy texture Slow permeability and alkalinity	Drainage improvement addition of organics amendments
4.	Kallal	III es - Lands that have severe limitations for sustained use under cultivation	23,701	33.74	Erosion and Shallow solum	Soil and Water conservation measures
5.	Piranmalai, Thirukkoshtiyur and Tiruppathur	III es - Lands that have severe limitations for sustained use under cultivation	11,294	16.08	Erosion and alkalinity	Soil and Water conservation measures addition or organics amendments
	Forest	—	1,959	2.79	—	—
		Total	**70,236**	**100.00**		

Class

II *Good cultivable lands that have moderate limitations for sustained use under agriculture*

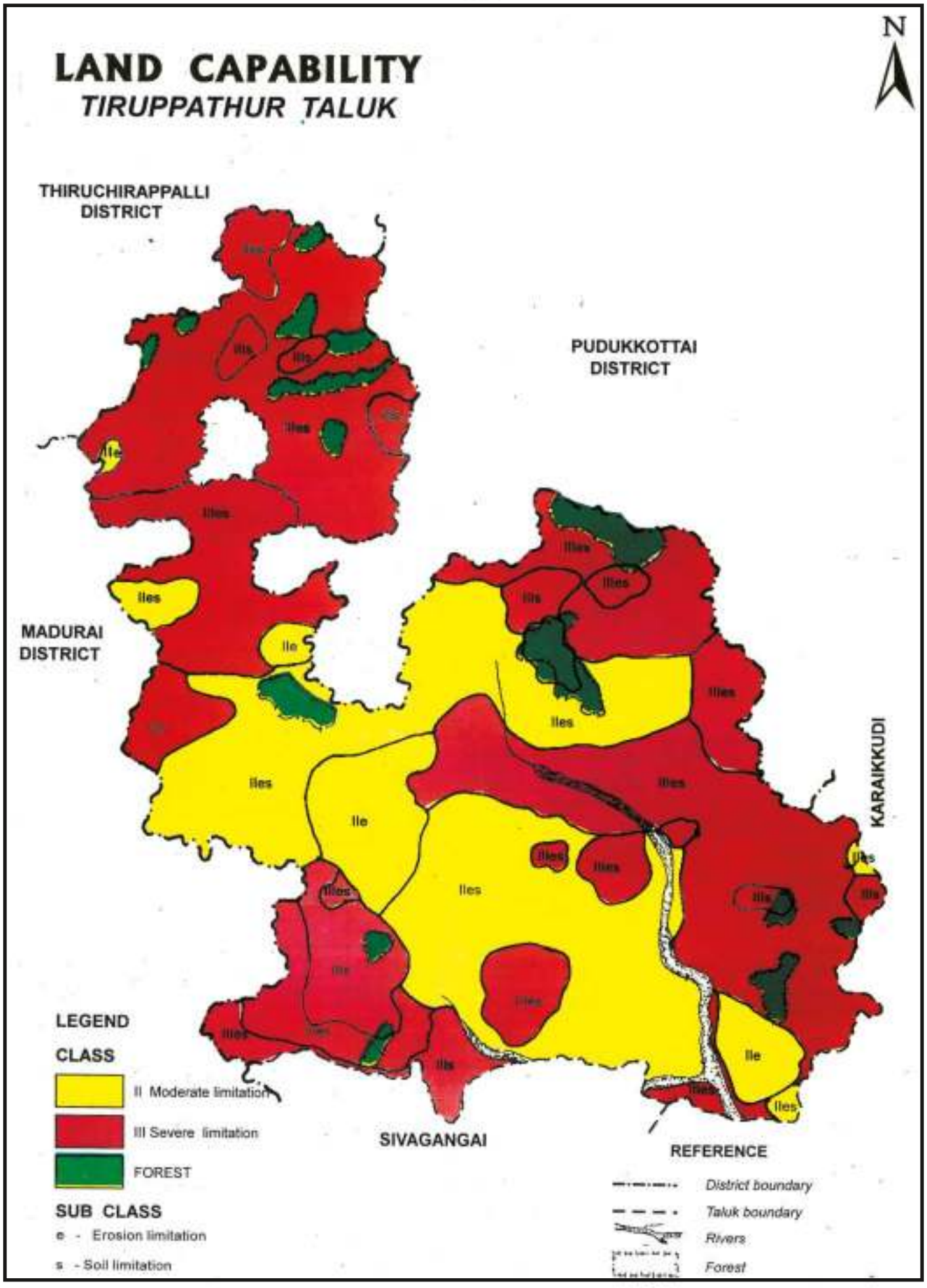
III *Moderately good cultivable lands that have severe limitations for sustained used under agriculture*

Sub class

s *root zone limitation*

e *erosion and run off*

w *Wetness*


LAND CAPABILITY
TIRUPPATHUR TALUK
N
THIRUCHIRAPPALLI DISTRICT
PUDUKKOTTAI DISTRICT
MADURAI DISTRICT
KARAIKKUDI
SIVAGANGAI
IIes
IIe
IIIs
LEGEND
CLASS
II Moderate limitation
III Severe limitation
FOREST
SUB CLASS
e - Erosion limitation
s - Soil limitation
REFERENCE
District boundary
Taluk boundary
Rivers
Forest

LAND IRRIGABILITY CLASSIFICATION

TIRUPPATHUR TALUK

Sl. No.	Soil series	Class Sub - Class	Extent (ha)	Per cent to total	Soil Limitations
1.	Pattamangalam	2 s - Lands that have moderate limitations for sustained use under irrigation	21,681	30.87	Coarse texture rapid permeability
2.	Surakkudi	2 d - Lands that have moderate limitations for sustained use under irrigation	4,641	6.61	Poor drainage
3.	Singampunari	3 s - Lands that have severe limitations for sustained use under irrigation	6,960	9.91	Drainage and alkalinity
4.	Kallal	3 st - Lands that have severe limitations for sustained use under irrigation	23,701	33.74	Shallow solum Low water holding capacity and Topography
5.	Piranmalai Thirokkoshtiyur and Tiruppathur	3 st - Lands that have severe limitations for sustained use under irrigation	11,294	16.08	Topography and alkalinity
	Forest	—	1,959	2.79	—
		Total	**70,236**	**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

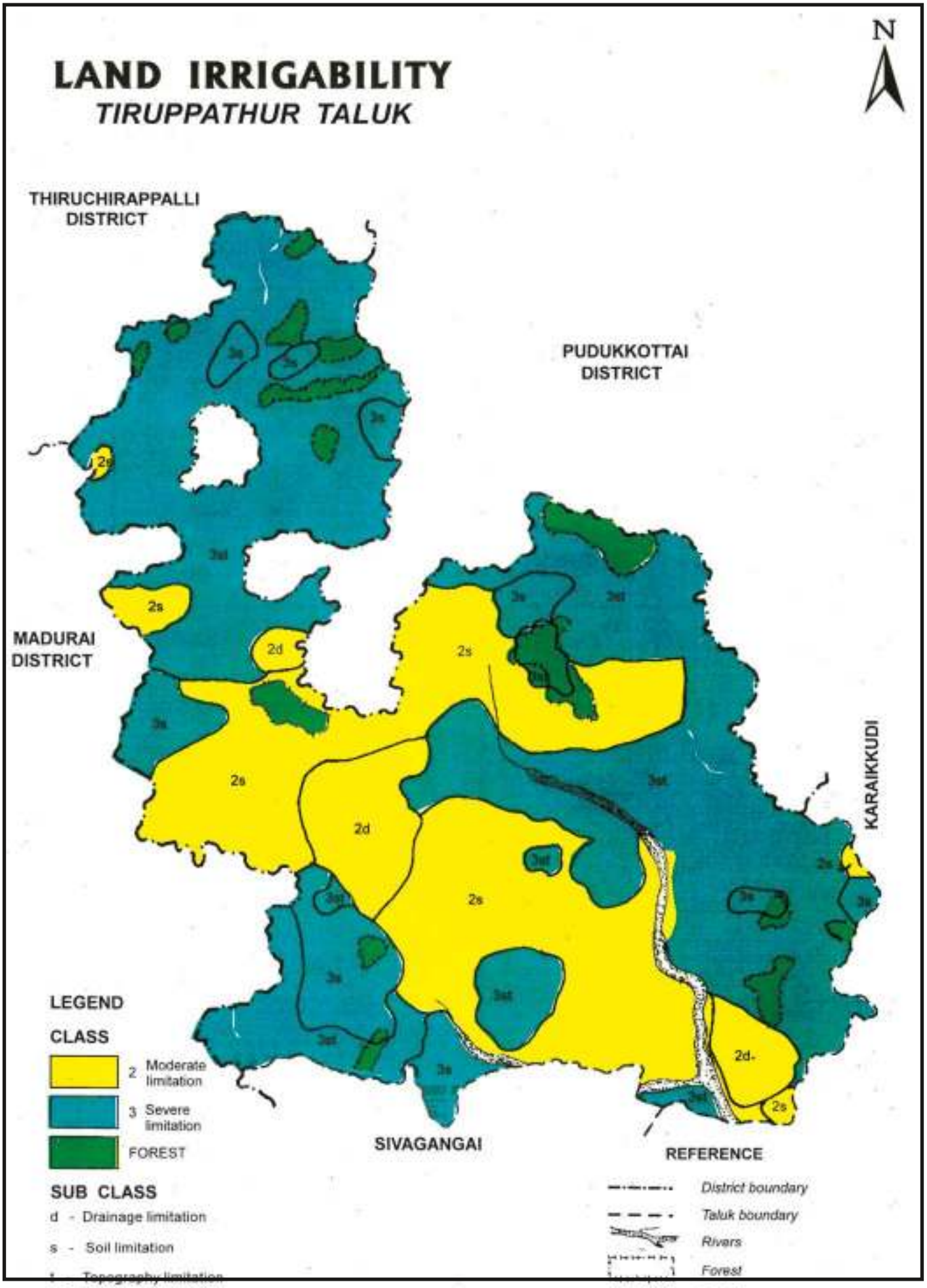
s *soil problem*

d *drainage*

t *topography*

LAND IRRIGABILITY

TIRUPPATHUR TALUK

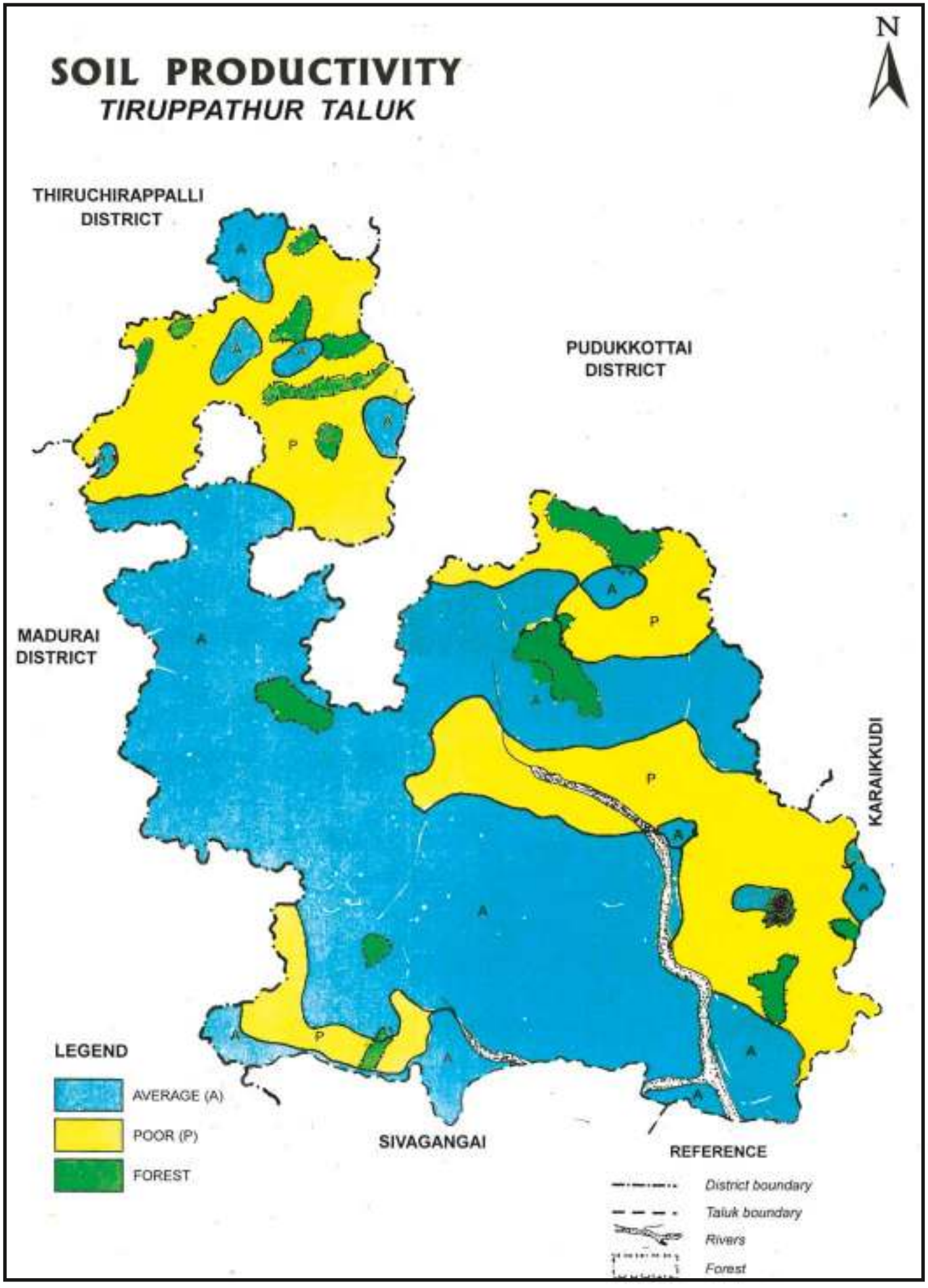


SOIL PRODUCTIVITY

TIRUPPATHUR TALUK

	Rating	Productivity	Soil series	Extent (ha)	Per cent to total
1.	8 - 19	Poor (P)	Kallal	23,701	33.74
2.	20 - 34	Average (A)	Pattamangalam, Piranmalai, Singampunari, Surakkudi, Thirukkoshtiyur and Tiruppathur	44,576	63.47
3.			Forest	1,959	2.79
			Total	**70,236**	**100.00**

SOIL PRODUCTIVITY
TIRUPPATHUR TALUK

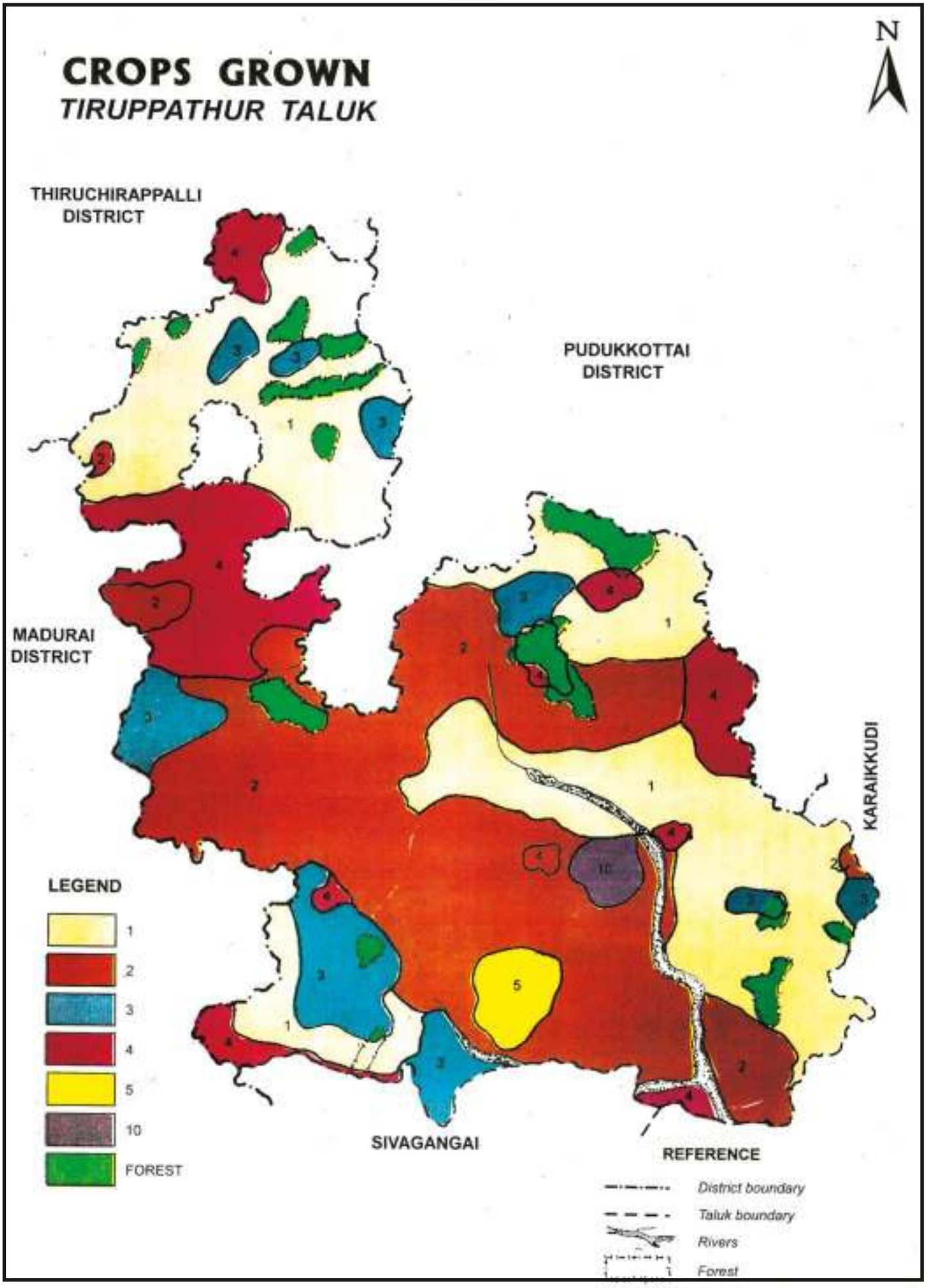


CROPS GROWN

TIRUPPATHUR TALUK

Sl. No.	Crops grown		Map symbol	Soil series
	Irrigated	Rainfed		
1.	Groundnut	Groundnut and Pulses	1	Kallal
2.	Millets and Groundnut	Millets Groundnut and Pulses	2	Pattamangalam
3.	Groundnut and Chillies	Millets and Pulses	3	Singampunari
4.	Millets and Chillies	Millets Groundnut Pulses and Fruit crops	4	Piranmalai
5.	Cotton	Cotton	5	Thirukkoshtiyur
6.	Cotton Millets	Millets	10	Tiruppathur

CROPS GROWN
TIRUPPATHUR TALUK



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2.	*Source*	:	*i)* ***Soil Resources inventory for Pasumpon Muthuramalinga Thevar district*** Report No. 102 published by SS&LUO Thanjavur *ii)* ***Soil Brochure Sivagangai district compiled by staff Soil Testing Laboratory Sivagangai*** *ii)* ***Village level fertility status*** Agricultural Chemist Soil Testing Laboratory Sivagangai.
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