

# TIRUNELVELI DISTRICT

## TIRUNELVELI DISTRICT

### 1. Introduction

#### i) Geographical location of the district

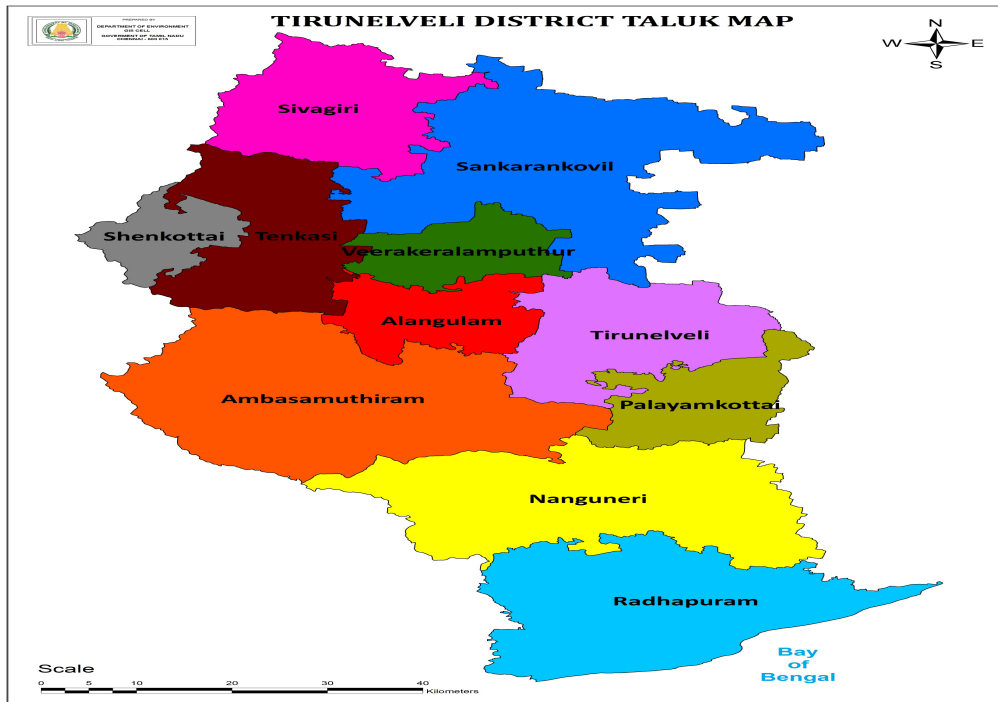
Tirunelveli district is having a geographical area of 6,759 sq.km in the Southeastern portion of Tamil Nadu and is triangular in shape. It lies between 8°.05' and 9°.30' N and 77°.05' and 78°.25'E. The district is located in the southern part of Tamil Nadu and surrounded by

Virudhunagar district on the North, Western Ghats on the West, Kanyakumari district on the South, Tuticorin district on the East. The lifeline of the district is Tamiraparani river which feeds the district.

#### ii) Administrative profile

The following table shows the administrative profile of Tirunelveli district.

1.	Area	6823 sq.km		
2.	Population	3,072,880		
		Male	Female	Total
		1578595	1554285	3072880
3.	No.of Revenue divisions	3-Tirunelveli, Cheranmadevi and Tenkasi		
4.	No.of Taluks	11		
5.	No.of Revenue villages	559		
6.	No.of Ppanchayat unions	19		
7.	No.of Village panchayats	450		
8.	No.of Town panchayats	36		
9.	No.of Municipalities	7		
10.	No.of Corporation	1 - Tirunelveli		
11.	No.of Parliamentary constituencies	2 - Tirunelveli and Tenkasi		



### iii) Meteorological information

#### Temperature

During day time the coastal regions are cooler than the interior parts by about a degree in summer and Southwest monsoon seasons and warmer by one to two degrees during the rest of the year. From about the middle of February, temperature increases steadily. In May which is usually the hottest month in the interior, the mean daily maximum temperature is 37.1°C. The weather is quite hot in May and June and the maximum temperature some times reaches 45°C. With the onset of the Southwest monsoon by the end of May or beginning of June, there is some drop in temperature. By the middle of October, both day and night temperatures decrease appreciably. The period from November to January is the coolest part of the year with the mean daily maximum temperature of about 30°C to 31°C in the interior parts. The mean daily minimum in these months is about 22°C to 23°C in the district in general.

#### Humidity

The relative humidity in general, during the year, is between 55% and 65% in the interior parts of the district, except during the Nnortheast monsoon season, when it is over 65%. The coastal parts are comparatively more humid.

#### Cloudiness

During the months of April and May, the skies become heavily clouded in the afternoons and thunderstorms follow. In the Southwest and Northeast monsoon seasons, the sky is heavily clouded or overcast.

#### Winds

- Generally light to moderate in strength.
- Between May and September winds are mainly north westerly or westerly
- From October to February winds are mainly north easterly or northerly

#### Rainfall

Rainy season is from October to the middle of January.

- During the southwest monsoon season the rainfall is more in the western parts of the district.
- November is generally the rainiest month.
- The average rain fall in the district is 814.8 mm per annum.

## 2. Resources-availability

### i) Land resources

Land resources and utilization in Tirunelveli district are given in the table below.

**Land Utilisation (area in ha) during the year : 2011 – 2012**

Sl. No.	Land classification	2011-12	2010 -11	% of variation
1.	Forest	127758	127758	0
2	Barren and uncultivable waste	29682	29682	0
3.	Land put to non-agricultural uses	103136	103117	0.02
4.	Cultivable waste	36214	36456	-0.66
5.	Permanent pastures and other grazing land	5156	5156	0
6.	Land under miscellaneous tree crops and groves not included in Net Area Sown	8595	8626	-0.36

7.	Current Fallow	35525	43067	-17.51
8.	Other Fallow Land	174126	176941	- 1.59
9.	Net Area Sown	155658	145047	7.32
10.	Geographical Area according to village papers	675850	675850	0
11.	Total Cropped Area	180925	171155	5.7
12.	Area sown more than once	25267	26108	- 3.22

## ii) Agriculture and horticulture

Tirunelveli has fertile soils only in scattered regions. Less fertile red soils are found distributed over most of the region. The network of the irrigation system makes full use of the water resources, so the natural deficiency has been overcome to a greater extent. The cropping pattern of the district is essentially of the type characterising dry regions. It normally varies from taluk to taluk. Wet cultivation is essentially paddy cultivation and the major share of the gross cropped area is under one crop. In dry regions, diversified cropping patterns exist and no single crop claims a large share of the gross cropped area. Dry cultivation which characterises these regions is also basically millet and cash crop cultivation. Even in dry regions wherever water is available, it is the

paddy crop that is sown by the farmers. Paddy occupies the largest area of cultivation, followed by cotton. Paddy is cultivated mainly in Tirunelveli, Palayamkottai, Tenkasi, Shencottai, Ambasamudram and Nanguneri taluks.

Other crops grown in the district are cumbu, ragi, pulses, groundnut, gingelly, coconut, chillies and indigo. Portions of Sankarankoil taluk have the rich, fertile black soil which are highly suitable for cotton cultivation. Factors such as type of soil, climatic conditions, irrigation facilities, etc., determine the cropping pattern in a region. Most of the rain fed areas are cultivated in both the seasons. Most of the crops are on the ground for three or four months except chillies and cotton which take more than five months.

Sl. No.	Crop	Irrigated/ rainfed	Season	Area in ha
I.	Paddy	Irrigated	June - September	28,000
			Oct - February	72,000
II.	<b>Millets</b>			
	Cholam	Irrigated	Dec - January	1,000
			April - June	1,000
		Rainfed	Sep - Nov	1,600
			April - June	1,500
	Cumbu	Irrigated	April - June	2,000
		Rainfed	Sep - Nov	3,000
	Ragi	Irrigated	June - October	4,000
			Feb - May	4,000
	Maize	Rainfed	Sep - Nov	2,000
Minor millets	Rainfed	Sep - Nov	1,000	

III.	<b>Pulses</b>			
	Blackgram, greengram, cowpea etc,	Irrigated	June - July	3,000
		Rainfed	Sep - October	20,000
IV.	<b>Oilseeds</b>			
	Groundnut	Irrigated	Dec - February	10,000
	Sunflower	Rainfed	Nov - January	2,000
	Gingelly	Rainfed	Nov - February	4,000
	Coconut	--	--	10,953
V.	Fibre cotton	Rainfed	Sep - February	8,800
		Irrigated	Sep - February	12,000
VI.	<b>Other crops</b>			
	Sugarcane	Irrigated	Jan - December	1,500



**Paddy field**

### iii) Forest resources

The total area of the forest of the district is 1,22,055 ha of which 81700 ha is set apart for Tiger reserves of Mundanthurai and Kalakadu. The entire forest of the district stretches along the Western ghats. Various types of forests from luxuriant tropical wet evergreen forests to southern thorn scrub forests occur in the district.

Owing to its diverse geographical factors, the forests in the district are technically classified as southern hill top tropical evergreen forests, west coast tropical evergreen forests, southern moist mixed deciduous forests, ochlandra reed forests, carnatic umbrella thorn forests, southern Euphorbia scrub and southern thorn scrub.





**Indian gaur in Kalakadu Mundanthurai Tiger Reserves**

#### **iv) Mineral resources**

##### **Limestone**

It is available at several places in the district. The major part comes from the crystalline limestone deposit occurring near Ramayanpatti, Talaiyuthu and Padmaneri. A total reserve of 4.06 mt of limestone up to a depth of 15.2 m in Ramayanpatti band and 5.08 mt up to a depth of 15.25 m in Talaiyuthu band has been estimated. The limestone available here contains Calcium Oxide (CaO) from 34.97 to 55.49 %, Magnesium Oxide (MgO) from 0.31 to 7.24 %.

The Padmaneri band consists of six limestone lenses with an aggregate strike length of about 800 m. The average width is 4.75 m and 0.199 mt of cement grade limestone is estimated from this band. The Singikulam band extends over a strike length of 17 km It contains seven limestone lenses with an aggregate strike length of about 6.4 km and average width of 13 m. About 3.16 mt of cement grade limestone is estimated from this band.

Six bands of good quality limestone occur near Pandapuli and 4,34,000 tonnes of limestone suitable for the manufacture of cement and chemical industries have been estimated.

##### **Sulphides**

Light traces of sulphides occur in and around Pattankadu and Munradaippu. This mineral is of no economic importance.

##### **Ilmenite - garnet sands**

Occurrence of red garnet sands in the beds of the river Nambiar and Uvari have been recorded. The proportion of garnet is 75 % in the rich deposits and 45 % in the surface sands. Local concentration of ilmenite sands are noticed near Vijayapatti and Kuttankuli.

#### **v) Water resources**

##### **Rivers**

Tirunelveli district enjoys the benefit of the early showers of south west monsoon and of the later rains of the north-east monsoon. The district is chiefly irrigated by rivers rising in Western ghats. The dams and

anaicuts constructed on Tamiraparani and Manimuthar rivers serve both agriculture and power generation. The total rain fall, though is light, averaging about 814.8 mm per annum, is generally well distributed. The Tamiraparani river affords perennial irrigation to a fairly large area on which two crops are normally raised. Several tanks and wells form part of the other sources of irrigation.

The Tamiraparani is a symbol of Tamil culture and civilization and an identity of the far south of India. In Tamil and Sanskrit literature of earlier times, the Pandyas were referred to as the rulers of the land where the Tamiraparani flowed. Tamiraparani is the chief river of the district which has a large network of tributaries which include the Peyar, Ullar, Karaiyar, Servalar, Pampar, Manimuthar, Varahanathi, Ramanathi, Jambunathi, Gadananathi, Kallar, Karunaiyar, Pachaiyar, Chittar, Gundar, Aintharuviar, Hanumanathi, Karuppanathi and Aluthakanniar. The two rivers of the district which are not linked with Tamiraparani are the Nambiar and the Hanumanathi of Nanguneri taluk.

### **The Tamiraparani**

Spelt differently as Tampraparani, Tamiraparani, Tamiravaruni, etc., the river is mentioned as the Porunai nathi in Tamil poetic literature. It gets recognition and is referred to as the renowned one in Sanskrit literature references to which are as old as that of the Puranas and Epics.

The meaning and origin of the name Tamiraparani is reasoned out differently. Bishop R. Caldwell, in his book, "A History of Tinnevely" discussed the various

interpretations of the word 'Tamiraparani' at length. According to him the meaning of the name Tamiraparani in itself is sufficiently clear, but its application in this connection is far from being self-evident. Tamara means, red, parani means parana, a tree which has leaves. Tamiraparani might, therefore mean a tree with red leaves, but, this is a strange derivation for, the name of a river and the ideas naturally suggest itself that some events or legends capable of explaining the name lies beyond. He further discussed the similarity of the name Tamiraparani and of the old name of the present Sri Lanka which was called in olden days as Tambrabane and tried to find out the political, cultural and anthropological intercourse of the land of the river with that island. He concludes that it seems more natural that Tamiraparani, the tree with the red leaves should have been first the name of a tree, then of a town, then of a district and then of a river.

Some scholars interpret the name Tamiraparani as Tamiram (Copper) + Varuni (stream or river). They ascribe this origin as the bed of the river is of red soil and when the water flows on the red soil it gives a copper like appearance. The Greeks of the Ptolemy's time refer to this river as Solen.



**Tamiraparani River**

## **Origin of Tamiraparani**

The Tamiraparani originates from the peak of the Periya Pothigai hills of the Western Ghats above Papanasam in the Ambasamudram taluk. The great river like the Cauvery, but unlike most of the other Indian rivers, is fed by both the monsoons – the south west and the north-eastern and is seen in full spate twice a year if the monsoons do not fail.

The Tirunelveli Sthalapurana associates the origin of the river with sage Agasthiyar. It states that when Agasthiyar was requested by Lord Siva to move to the South, Parvathi Devi, the divine consort of Siva filled the sage's font meant to hold water for poojas (kamandala) with the water from the Ganges and on his arrival at Pothigai, he released it and the water ran as Tamiraparani. Prior to the bifurcation of the Tirunelveli district, the Tamiraparani was the only major river in Tamilnadu which had its source and end in the same district. After bifurcation, the river traverses two districts namely Tirunelveli and Tuticorin before joining the Gulf of Mannar of the Bay of Bengal at Punnaikayal in Tiruchendur taluk of Thoothukkudi district.

## **Course and tributaries**

From the source to sea, the total length of the river is about 125 km of which its course in Tirunelveli district alone is about 75 km. Originating at an altitude of 1725 m above MSL at Periya Pothigai hill ranges and integral hill track of Western Ghats in Ambasamudram taluk, it passes through the taluks of Tirunelveli and Palayamkottai of Tirunelveli district and Srivaikundam and Tiruchendur taluks of

Thoothukkudi district. In the ghats, the chief tributaries of the river are the Peyar, Ullar, Karaiyar, Servalar and the Pambar. These rivers join the Tamiraparani and enrich its course before it reaches the plains. The first tributary which enriches the water of the Tamiraparani in the plains on the right side is the Manimuthar. Then comes the Gadananathi, which joins the Tamiraparani at Tiruppudaimaruthur. Before the Gadananathi's entry into the Tamiraparani, the Gadananathi is joined by the rivers Kallar, Karunaiyar and Veeranathi or Varahanathi which joins the river Gadananathi about 1.5 km north-east of Kila Ambur. The river Pachaiyar is another tributary which join the Tamiraparani near Tharuvai village in Palayamkottai taluk. One of the important and affluent tributaries of the Tamiraparani is the Chithar or Chitranathi which arises in the Courtalam hills and receives supply from the rivers Gundar, Hanumanathi and Karuppanathi. The Chithar empties itself into the Tamiraparani in Sivalapperi Village.

The river drains with its tributaries an area of about 4400 sq. km. As most of its extensive catchments areas lay in the Western ghats, the river enjoys the full benefit of both the monsoons which make the river perennial. Since all its tributaries are arising from the Western ghats, the river is prone to heavy floods especially during the North East monsoon.

## **River systems**

### **Tamiraparani river system**

The important irrigation channels branching off from both the banks of the river Tamiraparani are South Kodaimelalagian channel, North



Kodaimelalagian channel (Kodaimelalagian anaicut), Nathiyunni channel (Nathiyunni anaicut), Kannadian channel (Kannadian anaicut), Kodagan channel (Ariyanayagipuram anaicut), Palayam (Palavur anaicut) channel, Tirunelveli channel (Suthamalli anaicut), Marudur Melakkal, Marudur Keelakkal (Marudur anaicut),

South Main channel and North main channel (Srivaikundam anaicut). Of these the first seven anaicuts were constructed during the period of ancient and medieval rulers and the last anaicut namely the Srivaikundam anaicut was constructed and completed by the British in 1869.

Sl. No.	Name of anaicut	Regd. ayacut (in ha)	Name of channels
1.	Kodaimelaalagain anaicut	1281.67	1. South Kodaimelalagain channel 2. North Kodaimelalagain channel
2.	Nathiyunni anaicut	1049.37	Nathiyunni channel
3.	Kannadian anaicut	2266.69	Kannadian channel
4.	Ariyanayagipuram anaicut	4767.30	Kodagan channel
5.	Palavur anaicut	3557.26	Palayam channel
6.	Suthamalli anaicut	2559.69	Tirunelveli channel
7.	Marudur anaicut	7175.64	1. Marudur Melakkal 2. Marudur Keelakkal

### Chittar river system

There are 17 anaicuts or dams constructed across this river. The details of dams are as follows:

Sl.No.	Name of anaicut	Ayacut (acres)	
		Direct	Indirect
1	Thalai anaicut	590.06	1467.32
2	Adivattamparai anaicut	114.08	157.72
3	Valvilakudi anaicut	153.27	-
4	Puliyoor anaicut	381.00	911.48
5	Pavoor anaicut	488.00	3110.08
6	Thiruchittambalam anaicut	163.00	163.25
7	Marandai anaicut	1361.00	2543.04
8	Veeranam anaicut	231.15	2207.70
9	Manoor anaicut	821.75	2677.52
10	Mettur anaicut	500.10	1027.50
11	Pallicottai anaicut	249.81	2135.00
12	Ukkirancottai anaicut	421.00	47.18
13	Azhakiapandiapuram anaicut	-	440.48
14	Pillaiyarkulam anaicut	66.90	413.19
15	Shelianallur anaicut	67.81	372.71
16	Piranjeri anaicut	344.39	409.40
17	Gangaikondan anaicut	216.28	779.80
	<b>Total</b>	<b>9963.83</b>	<b>37062.19</b>

## Pachaiyar river system

There are altogether nine anaicuts built across Pachaiyar river. The details of 9 anaicuts and its ayacuts area are as follows:

Sl. No.	Name of anaicut	Ayacut
1	Mud Korambu	41.02 acres
2	Madathu anaicut	141.33 acres
3	Palambathu anaicut	438.89 ha
4	Padmaneri anaicut	681.48 acres
5	Sambankualam anaicut	38.40 acres
6	Devanallur anaicut	610.70 ha
7	Kattalaikaduveti anaicut	85.26 ha
8	Subbukuti anaicut	2,690.87 acres
9	Ponnakkudi anaicut	1,383.51 acres

## vi) Fisheries production

The fisheries sector of this district can broadly be categorized as Inland fisheries and marine fisheries.

### Inland fisheries

To develop inland fisheries on scientific lines with latest fish culture technology in Tirunelveli district, the Office of the Asst. Director of Fisheries (inland fisheries) was established on 01.07.2000 at Tirunelveli after the reorganization of the Fisheries Department. The various inland Fisheries Development Programmes implemented by this office are given below:

#### 1. Reservoir fisheries

The fishery rights of 5 reservoirs viz. Gundaru, Karuppanathi, Nambiaru,

Kodumudiaru and Vadakku Pachayaru and two rural fishery demonstration tanks viz. Ramanathi and Srimoolaperi are under the control of Fisheries Department. The fishery rights of Gadana reservoir hitherto looked after by the fisheries department have been leased out to the private entrepreneur with effect from February 2013. Quality seeds of Indian major carps viz. catla, rohu, mrigal and common carp are stocked in the above reservoirs by the department every year. Fishing is conducted with the help of share fishermen from Inland Fishermen Corporation Societies. The fish are sold to the public at the selling rates fixed by the department.

#### 2. Gadana fish seed rearing centre

A Fish Seed Farm is functioning at Gadana Dam. Fingerlings of Indian major carps viz., catla, rohu mrigal and common carp are reared and distributed for stocking in the Reservoirs and RFD tanks of Tirunelveli district viz. Gadana Gundaru, Karuppanathi, Simoolaperi, vadakku-acuaiyar, Kodumudiyar, Nambiyar and neighboring districts of Kanyakumari and Tuticorinches Remaining seeds are sold to fish farmers of Tirunelveli, Kanyakumari, Virudhunagar and Madurai districts at the rates fixed by the department.

#### 3. Issuing of fishing license for fishing in hope lake

Licences are being issued for fishing in Hope lake (Papanasam – Upper Dam), the diversion weir (Lower Dam) and the section of the Tamiraparan river below the latter upto the Papanasam bridge near the temple and all streams emptying into any of these water bodies in Tirunelveli district.

Fishery production (2011 – 12)				
Name and address of fishing centres	Inalnd fish catch (tonne)	Marine fish catch (tonne)	Number of fisherman engaged	
			Inland	Marine
Tirunelveli district	1342.3	2750	2294	4000
Souce : Assistant, Director of Fisheries, Tirunelveli and Ramanathapuram.				

## vii) Heritage resources

### Protected and conserved monuments

Monuments founded in six villages located in the taluks of Ambasamudram, Nanguneri and Palayamkottai, Mottai Andavar and Siva temple are located in Pudukottai village of Ambasamudram taluk and Thiruneelakandan temple located in Panajadi village of Ambasamudram taluk are maintained by Department of Archaeology. Rajakalmangalam sculptures are located in Rajalakkalmangalam village of Nanguneri taluk and Pola Udaiyar kalvettu in Seevalaperi village of Palamkottai taluk are maintained by department of Archaeology. Bakthavatchala temple at Cheranmahadevi and Thiruvalaisuram temple at Thiruvalaisuram are maintained by the ASI.

### Places of tourist attraction

The district has many interesting places like Courtallam famous for its waterfalls and health resort, large ancient temples of Tirunelveli etc. 2400 temples are listed by the Hindu Religious and Charitable Endowments Department, of which about 1500 are assessed by the department. More than 50 per cent of these temples are located in the taluks of Tirunelveli, Ambasamudram and Tenkasi. Out of the total of 2400 temples, village deity's account for 1300; Vinayakar 500 and the rest by Murugan, Siva, Vishnu and others.

## viii) Bio diversity

Wildlife strictly means "the uncultivated flora and undomesticated fauna" which otherwise includes both "plants and animals". The faunal population both territorial and avifauna, of this division is also varied and fascinating like its varied floral composition.

The unique primate, which is endemic to the Western Ghats, namely the lion tailed monkeys is said to be confined to Kalakadu Hills where a sanctuary has been created solely for that species, and it is reported, in the high ranges of this division. The reason deserves investigation by naturalists especially in Kerala frontier in Vallam beat of Courtallam range.

The tiger, leopard, the busy spotted cat, common palm civet, brown palm civet, common palm civet, small indian civet, common mongoose, striped hyena, ruddy or long tailed mongoose, jackal, dhole or indian wild dog, sloth bear, common otter are also found here .

## 3. Impacts

### i) Urbanization

An 8.88% increase in population was recorded during 2001. During 2001 urban versus rural population was 48/52%. The average of 399 persons/sq.km was recorded during 2001. Total number of family cards for rural was 4,43,172 for 2011-12 and for urban it was 3,93,438. The decadal growth rate indicated that there is considerable growth in the corporation, municipalities and town

panchayats of the district. The trend in urbanisation indicated that both the percentage of urban population and the percentage of slum population to the total population have increased in Tirunelveli Corporation.

Surface water and ground water are the major sources for protected water supply system for corporation and town panchayats. The estimated sewage generation is 326 lakh litres in corporation, 120 lakh litres among municipalities and 179 lakh litres among town panchayats. The corporation has underground drainage system in parts of town and the municipalities and the town panchayats have completed open sewerage system. The solid waste generation by corporations, municipalities and town panchayats are 48 tonnes, 49.75 tonnes and 66 tonnes respectively. The solid waste collection of Tirunelveli corporation, municipalities and town panchayats are 38 tonnes, 36.5 tonnes and 27 tonnes respectively. Overall the solid waste generated adds up to 163 tonnes with a collection efficiency of 62% with a manpower of 1,509 on solid waste management. It is observed that 73.6% of the waste are compositable matter and 26.4% of the waste being rags, plastics, bricks and stones etc.

#### **ii) Industrial development**

Though the main occupation of the people is cultivation, in recent years industries and services are also competing with this ancient occupation. There have been 24 red categories, 52 orange categories and 8 green category industries, which are classified, based on the nature of hazardness by TNPCB. Red category industries are mostly chemicals, textiles and pharmaceutical industries. Talaiyattu and Sivagiri are the air pollution stressed areas with major air pollutant being particulate pollutant and odour.

The ground water in this district is generally good. But surface water quality in the areas around Cheranmadevi, Ambasamudram and Papanasam is affected by the discharges from industries. The groundwater in the towns of Tirunelveli-Palayamkottai, to some extent is contaminated by the municipal and industrial discharges. The public sector companies located in Tirunelveli, Papanasam and Tenkasi also discharge the effluents into the Tamiraparani and Chitaru rivers.

#### **iii) Rare earths mining**

Occurrence of red garnet sands in the beds of the river Nambiar and Uvari has been recorded. The proportion of garnet is 75 % in the rich deposits and 45% in the surface sands. A total of 53 garnite mining units is in Radhapuram taluk.

#### **iv) Natural disaster prone areas**

Seasonal and flash floods have become very common in Tirunelveli district. Few blocks are affected by cyclone in the district. Coastal area along the district is always prone to tsunami as a significant damage was experienced during 2004 Indian Ocean tsunami.

### **4. Government initiatives**

#### **i) Initiatives to improve fisher folk livelihood**

The Fisheries sector, which started only as a subsistence livelihood activity during the early plan period is now emerging as a vital sector, contributing to employment generation, food production and foreign exchange significantly.

In recent years as in the past, most of the tanks were leased out by the revenue department, PWD etc.,. Now Fish Farmers Development Agency (FFDA) has taken

only 3 tanks for fish culture and allotted to 2 fish farmers. Subsidy assistance of Rs 2,18,824 was given to two farmers for construction of fish pond in an area of 2.5 acres and as input subsidy for first year.

The World Bank funded Tamil Nadu IAMWARM project is being implemented in 5 sub basins in Tirunelveli district viz. Kalingalaru, Nishabanathi, Deviaru, Hanumanathi and Karumeniaru. The main objective of this project is to enhance unit productivity of water thereby to help the farmers to get additional income. The following activities are being implemented under this scheme.

- Aqua culture in farm ponds
- Aquaculture in irrigation tank
- Fish seed rearing in cages
- Construction of earthen fish seed rearing center
- Establishment of ornamental fish culture unit
- Setting up of fish kiosk for fish marketing.
- Information, education, communication (IEC)/capacity building (CB)

#### **Fish seed production units**

A maximum of 50% cost towards the construction and operation of fish seed production centre can be availed as subsidy subject to maximum of Rs. 5.00 lakh per centre.

#### **Fish seed rearing units**

A maximum of 50% cost towards the construction and operation of fish seed rearing centre can be availed as subsidy subject to maximum of Rs.1.5 lakh per centre. The unit cost for establishment of fish seed rearing centre with 5 lakh advanced fingerlings production is worked out to be Rs. 3.00 lakh.

#### **Input subsidy assistance (50%) to earthen fish seed rearing farms.**

To encourage private fish farmers who own and operate fish seed rearing centers, it has been proposed to provide one time input subsidy (fish seed and feed) at the rate of 50% to small fish farmers having rearing space upto 2 ha

- Unit cost Rs. 1.00 per/ha
- 50% subsidy assistance is subject to a maximum of Rs. 50,000 per/ha
- The subsidy amount is paid to the beneficiary to produce only advance fingerlings.

#### **Fish culture activities in multipurpose farm ponds**

Fish culture in multipurpose farm ponds with a size of approximately 2500 sq.m

- Multipurpose farm ponds excavated under MNREGS have to be taken up by the fisheries department to carryout fish culture activities.
- 25 beneficiary per district
- Size of pond 2500 sq. mt.
- Expected total input cost Rs. 46,000/-
- Subsidy at the rate of 50% Rs.23,000/-
- Culture duration 6-8 months
- Expected yield 1000 kg.
- Expected revenue Rs.75,000/-

#### **Green house scheme for fishermen cooperative members**

All the marine or inland fisherman/fisherwomen being a member of fishermen/fisherwomen cooperative societies living below poverty line in rural areas and having no own house will be eligible for Chief Minister Solar Powered Green Houses constructed through the rural development department.



- Area 300 sq.ft
- Unit cost 1.80 lakh
- Fisher folk only with patas for their land be will eligible under this scheme
- Beneficiaries should not own any pucca concrete house in the village or elsewhere.
- Should not have benefited under any housing scheme.

### **Tamil Nadu Fishermen Welfare Board**

It was established with a view to provide social security and for ensuring welfare to fishermen and laborers engaged in fishing and allied activities.

### **Marine fisheries**

The welfare activities in Tirunelveli district and implementation of Marine Fisheries Regulation Act is Tirunelveli District are carried out by the office of the Assistant Director of Fisheries (Extension & Training) Radhapuram. The 7 marine fishing villages of Tirunelveli district are Kooduthalai, Kootapanai, Uvari, Kuthenkuly, Idinthakarai, Perumanal and Kootapuly.

Coastal length : 48 km

Fishermen population : 22,900

There are 12 fishermen/fisherwomen Co-operative societies with 9,000 members. The following schemes are being undertaken by this office.

1. Issuing registration certificate and licensing for fishing crafts
2. Issuing bio-metric identity cards to active fishermen

### **Lean period assistance**

During lean period of fishing Rs. 4,000/- per fishing family is disbursed annually to 4,500 fishermen families in Tirunelveli district.

### **Fishing ban period assistance**

During Fishing ban period an amount of Rs.2,000/- per fishing family is disbursed annually to 4,000 fishermen families.

### **National fisherman / fisherwomen savings relief scheme**

An amount of Rs. 1,800/- per member is disbursed under national fisherman / fisherwomen savings relief scheme annually. Besides group accident scheme and personal accidental relief scheme are also undertaken by this office through fishermen / fisherwomen Co-operative societies.

### **Subsidized kerosene**

Subsidized kerosene at the rate of Rs. 25 per litre with a total quantity of 200 litre per fishing boat is supplied by this office. Also fishing equipments such as outboard motor, inboard engine with a maximum subsidy of Rs. 30,000/- per engine are supplied by this office through Co-operative Societies.

### **ii) Coastal protection initiatives**

In Kootupuli, the presence of the rocky outcrops offers considerable attenuation to the waves. In this stretch of the coast, the shoreline oscillates as per monsoon and the net effect is a stable shore line. Hence, no protection is necessary at present. In Perumanal, the coastal stretch is located at the confluence point of the river Hanumanadi. The beach is said to be more or less stable with seasonal oscillations. Damages due to tsunami were very less compared to other stretches of the Tamilnadu coast. No intervention is necessary at present, except for plantations. In Idinthakarai, there is a penetration of the shoreline into the land forming a bay like feature. Just south of this area, the presence of outcrops act as barriers for the propagating waves on to the land.

Long groynes of about 200 m up to a water depth of 5 m on the south and two small groynes on the northern side is recommended. In Koothankuli, it is learnt that there is a long pending request for a groynes A pair of groynes is recommended for protecting the coast and one of the groynes, i.e, the southern groynes has to be slightly bent. These groynes will not only serve for the coastal protection but also help the local fishermen to park their boats.

### iii) Bio diversity

Corals have been recorded by Suganthi Devadason Marine Research Institute during 2010 near Idindhakarai area. The rare phenomenon of coral spawning was also witnessed near Kudankulam area. Not only corals, but gorgonians, soft corals, seagrasses, sponges and other important flora and fauna have been recorded.

### 5. Summary / Conclusion

- Tirunelveli district is having a geographical area of 6,759 sq.km in the south eastern portion of Tamil Nadu and is triangular in shape.
- Tirunelveli has fertile soils only in scattered regions. Less fertile red soils are found distributed over most of the region.
- Paddy occupies the largest area of cultivation, followed by cotton. Paddy is cultivated mainly in Tirunelveli, Palayamkottai, Tenkasi, Shencottai, Ambasamudram and Nanguneri taluks.

- The total area of the forest of the district is 1,22,055 ha of which 81,700 ha is set apart for Tiger reserve at Mundanthurai and Kalakadu.
- Tirunelveli district enjoys the benefit of the early showers of south west monsoon and of the later rains of the north-east monsoon.
- The district is chiefly irrigated by rivers rising in Western Ghats.
- The faunal population both terrestrial and avifauna, of this division is also varied and fascinating like its varied floral composition.
- The decadal growth rate indicates that there is a considerable increased in population in the corporation, municipalities and town panchayats of the district.
- Though the main occupation of the people is cultivation, in recent years industries and services are also competing with this traditional occupation.
- Total coastal length of the district is 48 km with 22,900 fishermen.
- Corals, seagrasses, soft corals, sponges and other resources have been recorded here.