

10th Social Science Lesson 23 Notes in English

23. Human Geography of Tamil Nadu

Introduction

- Human geography refers to the study of ways of development of human societies and their operation in relation to their physical environment.
- This chapter focuses on the distribution, characteristics and utilisation of different resources in Tamil Nadu.
- We have studied earlier that the earth is endowed with a variety of natural resources such as **landforms, rivers, soil, natural vegetation, water and wildlife**. These resources are useful only when they are utilised.
- Human beings use these resources using their intelligence and skill. Thus, the human beings are the most significant resource on the earth surface.
- They turn all these natural resources into useful products with their skills and abilities.

Agriculture

- The word "**agriculture**" is derived from the Latin words "**ager and cultura**", which means field and growing.
- Agriculture is a practice of farming that includes the cultivation of crops, rearing of animals, birds, forestry, fisheries and other related activities. Agriculture is the major occupation in Tamil Nadu.
- Agriculture has been the mainstay of the state's economy since independence with more than 65% of the population depends upon this sector for their living. Agriculture provides employment for rural people on a large scale.
- There is a strong link between agriculture and economic growth. Agriculture constitutes about **21% of the state's economy**.
- However, it fluctuates from one year to another. Paddy, millets and pulses are the principal food crops of the state.
- Sugarcane, cotton, sunflower, coconut, cashew, chillies, gingelly, groundnut, tea, coffee, cardamom and rubber are the major commercial crops.

Geographical determinants of Agriculture

Landform, climate, soil and irrigation are the factors that determine the growth of agriculture.

Landform

- Tamil Nadu is a land of diverse landscape comprising of hills, plateaus and plains. Among them the plains are most suitable for agriculture.

- The plains with alluvial soil enhances agricultural productivity. Example: Plains of cauvery. Agriculture in the plateau is moderate and is poor on the hills.

Climate

- Tamil Nadu is situated in the tropical zone, which is nearer to the equator. The state experiences a tropical climate.
- Hence, the temperature in Tamil Nadu is relatively high almost throughout the year. So, only the tropical crops are cultivated.
- Water is another limiting factor of agriculture. Northeast monsoon is the major source of rainfall for Tamil Nadu.
- Therefore, the major cropping season begins with this season. The rainfall in this season and the irrigation facilities affect agriculture to a large extent.

Soil

Types and regions of Agriculture Practices in Tamil Nadu

Farming type	Area practiced
Subsistence intensive agriculture }	Practiced all over Tamil Nadu with few exceptions.
Plantation Agriculture }	Hill slopes of Eastern and Western Ghats.
Mixed farming	Banks of River Cauvery and Thenpennai.

- Soil is one of the most essential elements of agriculture. It provides essential minerals or nutrients for the growth of crops and vegetation.
- The regions of river valleys and the coastal plains are the most agriculturally productive regions of the state as they are covered with fertile alluvial soil.

Irrigation

Monsoon rainfall in the state is highly irregular. Further it is seasonal. Hence, irrigation becomes necessary for successful cultivation of crops in the state. In the dry regions, rain-fed crops are cultivated.

Cropping Seasons in Tamil Nadu

Name	Sowing	Harvesting	Major crops
Sornavari (chittirai pattam)	April-May	August- September	Millets and cotton
Samba (Adipattam)	July- August	January- February	Paddy and sugarcane
Navarai	November - December	February- March	Fruits, vegetables, cucumber and watermelon

Farmers select different crops for different seasons of cultivation. It is based on the temperature and availability of moisture in the soil. Accordingly, the state has the following cropping seasons.

Distribution of major crops in Tamil Nadu

Paddy

- Paddy is the most important staple food crop of Tamil Nadu. Ponni and kichadi samba are the major varieties of paddy grown in Tamil Nadu.
- About **3 million hectares** of the state is under rice cultivation. Though it is cultivated all over Tamil Nadu, its cultivation is highly concentrated in **Thanjavur, Tiruvarur, Tiruvallur, Kancheepuram, Villupuram, Cuddalore and Tirunelveli** districts.
- It ranks third in the production of rice among the states of India.
- The deltaic region of river cauvery (the undivided Thanjavur district) is the major rice-producing region of Tamil Nadu. So, this region is rightly called as the "**Granary of Tamil Nadu.**"

Millets

- Millets form staple food of nearly one- third of human population of Tamil Nadu. **Sorghum/jowar (cholam), ragi (kezhvaragu) and bajra (kambu)** are the major millets. These are grown not only in drier areas but also in the coastal plains.
- Sorghum is grown in the Coimbatore plateau and Kambam valley. Ragi is grown in Coimbatore, Dharmapuri, Vellore and Cuddalore districts.
- Bajra is mostly cultivated in Ramanathapuram, Tirunelveli, Karur, Perambalur and Salem districts.

Pulses

- Pulses are the major source of protein. Bengal gram, black gram, green gram, cowpea and horse gram are the important pulses grown in Tamil Nadu.
- Pulses are grown in a wide range of climatic conditions mostly in drier regions with or without irrigation. Mild cool climate and a low to moderate rainfall are best suited for these crops. Pulses serve as excellent fodder.
- Pulses are grown in almost all districts in the state except Chennai, Nilgiris and Kanyakumari. Coimbatore leads in the production of Bengal gram. Vellore and Kanyakumari districts produce red gram.
- **Tiruvarur, Nagapattinam and Thoothukudi** districts are the principal producers of green gram and black gram. Horse gram is widely cultivated in Dharmapuri and Krishnagiri districts.

Oil Seeds

- Groundnut, gingelly castor, coconut, sunflower and mustard are some of the oilseeds that are grown in Tamil Nadu.
- Apart from its use in food preparation, it is used in industries as a lubricant, in the manufacture of varnish, soaps, candles, cosmetics and pharmaceuticals. Groundnut is the major oilseed of the state.
- The cultivation of groundnut is mostly concentrated in Vellore, Tiruvannamalai, Villupuram, Salem and Pudukottai districts. It is also grown to some extent in Dharmapuri, Cuddalore, Perambalur and Madurai.
- Erode, Ramanathapuram, Sivagangai and Virudhunagar districts are its minor producers. Coconut is grown in Coimbatore, Thanjavur and Kanyakumari districts.

Sugarcane

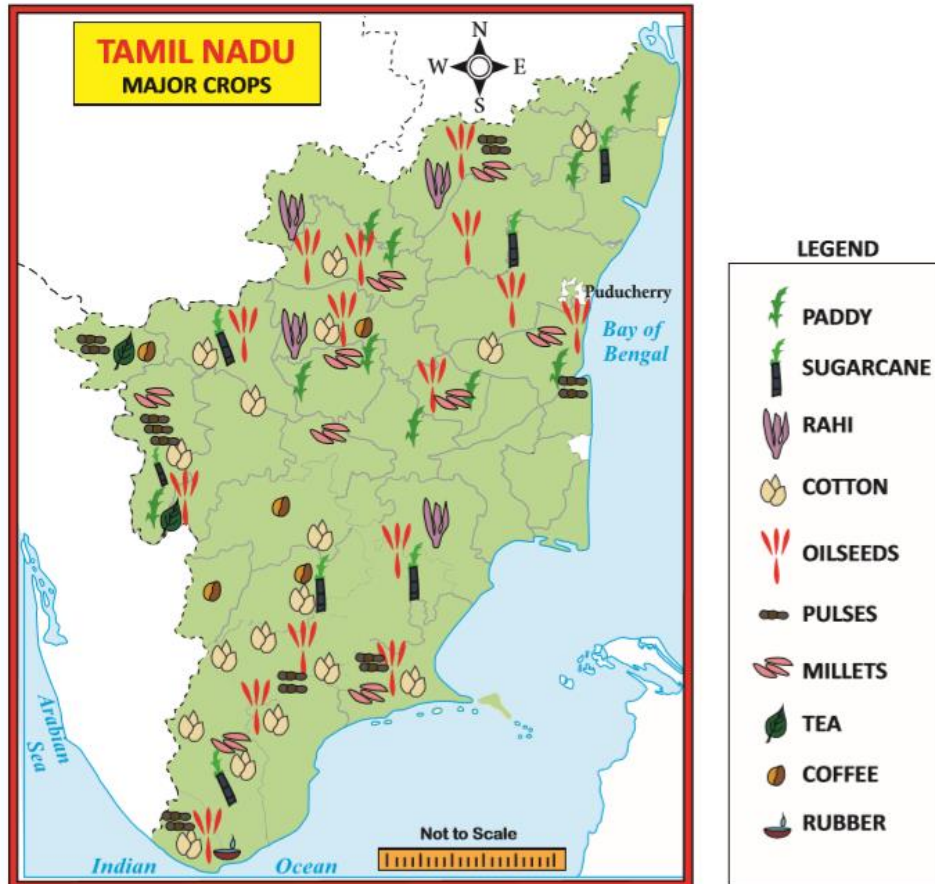
- It is one of the major cash crops of the state. It is an annual crop. It requires high temperature and heavy rainfall.
- It grows well in the tropical region. Major sugarcane-producing districts are **Tiruvallur, Kancheepuram, Vellore, Cuddalore, Tiruchirapalli, Coimbatore, Erode and Tirunelveli**.

Cotton

- Cotton is a fibre and cash crop. It requires black soil, long frost-free condition and warm and humid weather for its cultivation.
- Humid weather in the early stages and hot, dry weather during harvest period is suitable for this crop. It is predominantly cultivated in Coimbatore plateau and Vaigai-Vaippar river basins.

- It is also cultivated in **Madurai, Ramanathapuram, Virudhunagar, Tirunelveli, Thoothukudi, Salem and Dharmapuri** districts.

Plantation crops



- Tea, coffee, cashew, rubber and cinchona are the major plantation crops of the state. Tamil Nadu ranks second in area and production of tea in India next to Assam.
- Tea plantations are found in the hills of the Nilgiris and Coimbatore. The Nilgiris is the notable regions for tea plantations. Coffee plants are grown in the hills of Western Ghats as well as Eastern Ghats.
- It is also found in the hilly slopes of Dindigul, Madurai, Theni and Salem districts. Yercaud, Kolli Hills and Kodaikanal are notable for coffee plantations.
- Tamil Nadu stands second in area and production of coffee next to Karnataka. Rubber plantations are significant in Kanyakumari.
- Pepper is confined to the warm and wet slopes of Eastern and Western Ghats of Tamil Nadu. Cashew is extensively cultivated in Cuddalore district. Cinchona is planted at heights varying from **1060 to 1280 metres** in Anaimalai hills.
- Cardamom estates are located at few places in the hills of Madurai region at an elevation of **915 to 1525 metres**.

Livestock/Animal Husbandry

Livestock has remained an integral part of socio-economic fabric of rural people. The number of cattle found in Tamil Nadu is **88,92,473**. There are **47,86,680 sheep, 81,43,341 goats and 11,73,48,894 poultry animals**.

Goat

- Goat is also known as '**poor man's cow**' in India. It forms a very important component in dry land farming system. In the marginal or undulating lands unsuitable for rearing of other types of cattle like cow or buffalo, goat is the best alternative.
- With very low investments, goat rearing can be made into a profitable venture for small and marginal farmers.

Sheep

- Sheep is used for multiple purposes like wool, meat, milk, skins and manure, and forms an important component of the rural economy, particularly in the arid, semi-arid and mountainous areas of Tamil Nadu.
- It provides a dependable source of income to the shepherds through the sale of wool and animals. A variety of cattle breeds are reared in the state for the milk and forms a major component of the rural economy.
- The poultry hub of Tamil Nadu are Namakkal, Salem, Erode and Coimbatore districts.

Fishing

Since Tamil Nadu is a coastal state, fishing is one of the major occupations in the state. With widespread reservoirs and rivers, inland fishing also is also seen to a considerable extent. There are about **2500 species of fishes** found in different aquatic environments.

Marine Fishing

- The length of the coastline of Tamil Nadu is **1076 km (13% of the country's coastline)**. The coastal region of the state covers an area of **0.19 million sq.km**.
- **An area of 41,412 sq.km** of continental shelves of the state favours coastal fishing and Tamil Nadu is one of the leading states in marine fish production.
- Marine fishing is also called inshore fish or neritic fishing, carried out in oceans and seas. Large mechanised boats are used for fishing. In ocean or seawaters, fishing within few kilometres from the shoreline is called inshore fishing and the fishing far from the shore typically 20–30 miles out in water hundreds and thousands of feet deep is called off-shore fishing.
- The fish varieties caught are sharks, flying fish, cunch, catfish, silver bellies, and crabs. Chennai, Kanyakumari, Tirunelveli, Nagapattinam, Thanjavur and Ramanathapuram

districts contribute about 40% to marine fish production in the state. Their coastal location favours fishing in these regions.

- The state has three major fishing harbours, three medium fishing harbours and 363 fish landing centres. The export of marine products from the state during **2007– 08 accounted for 72,644 metric tons.**

Inland Fishing

- Inland fishing is carried out in lakes, rivers, ponds, estuaries, backwaters and swamps. Oysters and prawns are cultured in original nurseries. Catamaran, diesel boats and floating nets are used in fishing.
- Tamil Nadu Fisheries Department has introduced several programmes for the betterment of fishing. The major programmes are aquaculture in farm ponds and irrigation tanks, fish seed bank, fish seed rearing, ornamental fish culture and the establishment of Fish Farmer Development Agency.
- Vellore district leads in the production of inland fish production with 10% of state's production. Cuddalore, Sivagangai and Virudhunagar districts stand second with 9% of inland fish catch each. Fishing sector contributes **1.25%** of state's economy.

Water Resource

Surface Water Resources	Numbers
River Basin	17
Reservoirs	81
Tanks	41,127
Tube wells and other wells	4,98,644
Open wells	15,06,919
Total (Million Cubic metres)	2046788 MCM
<i>Source: Statistical handbook of Tamil Nadu - 2017</i>	

- Water is the precious gift of nature to humankind and millions of other species living on the earth. Tamil Nadu constitutes **4% of India's land area and is inhabited by 6% of India's population, but has only 2.5% percent of India's water resources.**

- More than 95% of the surface water and 80% of the ground water have already been put into use.
- Major uses of water include human/animal consumption, irrigation and industrial use. The state is heavily dependent on monsoon rains.
- The annual average rainfall is around 930 mm (47% during the northeast monsoon, 35% during the southwest monsoon, 14% in summer and 4% in winter).

Multipurpose River Valley Projects

Multipurpose river valley projects are basically designed for the development of irrigation for agriculture and hydropower generation. However, they are used for many other purposes as well.

Mettur Dam

The Mettur Dam was constructed in a gorge, where river Cauvery enters the plains. It is one of the oldest dam in India. It provides irrigation to Salem, Erode, Karur, Tiruchirappalli, Thanjavur, Tiruvarur and Nagapattinam districts for about **2,71,000 acres of farmland**. The dam, park, major hydroelectric power stations and hills on all sides make this dam an important tourist spot.

Bhavani Sagar Dam

The Bhavani Sagar Dam is located **80 km away from Coimbatore city in the district of Erode**. It has been constructed across the river Bhavani. This dam is one of the biggest earthen dams in the country.

Amaravathi Dam

- The Amaravathi dam is situated **25 km away from Udumalpet in Tirupur district**. The dam has been constructed across the river Amaravathi, a tributary of Cauvery.
- The dam was built primarily for irrigation and flood control. A small hydropower station has also been installed recently.
- This reservoir is notable for the significant population of mugger crocodiles. It is also a familiar tourist spot.

Krishnagiri Dam

Krishnagiri dam is situated at a distance of **7 km from Krishnagiri towards Dharmapuri**. This dam drains an area of **5428 sq.km**. This is a famous tourist spot too. This dam is flooded with tourists during the weekends.

Sathanur Dam

- Sathanur Dam was constructed across the river Thenpennai in Chengam taluk. It is in the midst of Chennakesava hills. The waterholding capacity of the dam is **7321 million cubic feet (full level: 119 feet)**.
- About **7183 hectares** of land is drained by the left bank canal and **905 hectares** by the right bank canal of this dam. It irrigates the land in Thandrampet and Tiruvannamalai blocks.
- There is also a large crocodile farm and a fish grotto. Parks are maintained inside the dam for tourists and the gardens are used by the film industry.

Mullaiperiyar Dam

- Mullaiperiyar dam was built by the British administration in **1895**. It has been constructed on the Periyar river, which originates from Thekkady hills of Kerala.
- The dam was built mainly for watering the farming land of Tamil Nadu, which is perennially drought-prone. Though the dam is located in the state of Kerala, most of its water is used to irrigate Tamil Nadu. The dam is **175 feet in height and 1200 feet in length**.

Vaigai Dam

- This dam built across the river Vaigai near Andipatti. The dam with a height of 111 feet can store water up to 71 feet.
- It is located 7 km from Andipatti and 70 km from Madurai. This dam was opened on **21 January, 1959**.
- The dam has a unique garden that deserves the surname '**Little Brindavan**'. It is a popular picnic spot in Theni district.

Manimuthar Dam

Manimuthar dam is located about **47 km from Tirunelveli**. The gorgeous garden of the dam is located about 5 km from the dam and is accessible through a zig-zag ghat road. Pleasure boating and waterfalls are additional tourist attractions near the dam.

The Papanasam Dam

It is also known as Karaiyar dam and is located about 49 km away from Tirunelveli. The dam is used to irrigate **34,861 hectares of land** in Tirunelveli and Thoothukudi districts. It generates 28 MW of hydro power.

Parampikulam Aliyar Project

It is a joint venture of Tamil Nadu and Kerala states. It envisages the construction of seven interconnected reservoirs by harnessing the water of seven rivers, which include major rivers of Parambikulam and Aliyar. Parappalar project is located near Ottanchatram. Its storage capacity is **167 million cubic feet of water**. It is about 75 km from Madurai and is in Palani taluk.

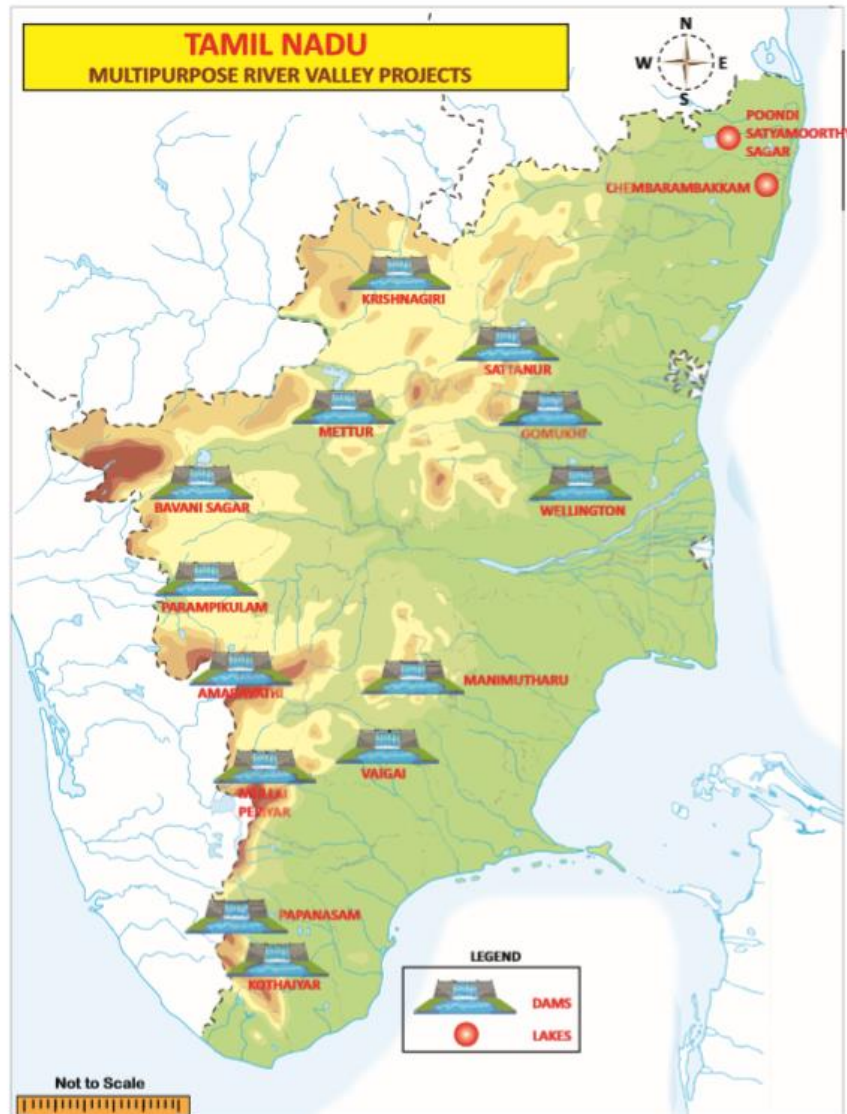
Surface water Resources

The total surface water potential of the state is about **24,864 mcm (million cubic metre)**. There are **17 major river basins** in the state with 81 reservoirs and about **41,262 tanks**. Most of the surface water has already been tapped, primarily for irrigation, where water use is largest. An area of 24 lakh hectares of the land are irrigated by surface water through major, medium and minor schemes.

Ground Water Resources

The utilizable groundwater resource of the state is **22,423 mcm**. The current level of utilization of water is about **13,558 mcm which is about 60 percent** of the available recharge, while about **8875 mcm (40 percent)** is the balance available for use.

Water Resource Management



- Water resource management is the activity of planning, developing, distributing and managing the optimum use of water resources.
- The demand for water in Tamil Nadu is increasing at a fast rate both due to increasing population and also due to larger per capita needs triggered by economic growth.
- The per capita availability of water resources is just 900 cubic metres when compared to the national average of **2,200 cubic metres**.
- Agriculture is the largest consumer of water in the state using **75%** of the state's water resources. Demands from other sectors such as domestic and industries have been growing significantly.
- The state is heavily dependent on monsoon rains. Since the state is entirely dependent on rains for recharging its water resources, monsoon failures lead to acute water scarcity and severe droughts. So, it is important to save water for us and the future generation.

Mineral Resources

- Tamil Nadu is the leading holder of country's resources of vermiculite, magnetite, dunite, rutile, garnet, molybdenum and ilmenite.
- The state accounts for the country's **55.3% of lignite, 75% of vermiculite, 69% of dunite, 59% of garnet, 52% of molybdenum and 30%** of titanium mineral resources. Important minerals are found in the state are as follows: Neyveli has large lignite resources. Coal is also available in Ramanathapuram.
- Oil and gas are found in the Cauvery basin. Iron deposits are found in Kanjamalai region in Salem district and Kalrayan Malai region of Tiruvannamalai district.
- Magnesite ores are available near Salem. Bauxite is found in Servarayan Hills, Kotagiri, Udagamandalam, Palani and Kollimalai areas.
- Gypsum is obtained in Tiruchirappalli, Tirunelveli, Thoothukudi and Virudhunagar districts. Ilmenite and rutile are found in the sands of Kanyakumari beach.
- Limestone is available in Coimbatore, Cuddalore, Dindigul, Kancheepuram, Karur, Madurai, Nagapattinam, Namakkal, Perambalur Ramanathapuram, Salem and Tiruvallur districts.
- Magnesite is obtained in Coimbatore, Dharmapuri, Karur, Namakkal, the Nilgiris, Salem, Tiruchirappalli, Tirunelveli and Vellore districts. Feldspar, quartz, copper and lead are also found in some parts of the state.

Industries

Industries use raw materials and convert them into usable product or goods. Textiles, sugar, paper, leather, cement, electrical equipment, automobiles, information technology and tourism are the major industries of Tamil Nadu.

Textile Industry

- Textile industry is one of the traditionally well-developed industries in Tamil Nadu. The textile mills are concentrated in Coimbatore, Tirupur, Salem, Palladam, Karur, Dindigul, Virudhunagar, Tirunelveli, Thoothukudi, Madurai and Erode.
- Tamil Nadu has about **3,50,000** power looms manufacturing cotton fabrics and accounts for 30% of India's exports of textiles products.
- Erode in Tamil Nadu is well known for marketing of handloom, power loom and readymade garments.
- Coimbatore is also known as the '**Manchester of Tamil Nadu**'. Coimbatore, Tirupur and Erode contribute a major share to the state's economy through textiles.
- So, this region is referred as '**Textile Valley of Tamil Nadu**'. Karur is known as '**The Textile capital of Tamil Nadu**'.

Silk Textiles

- Tamil Nadu occupies fourth position in the country in silk production. Kancheepuram silk is unique in its quality and is known for its traditional value all over the world.
- The annual silk production in Tamil Nadu is around **1200 metric tons**. Kancheepuram, Arani, Kumbakonam, Salem, Coimbatore, Madurai and Tirunelveli are the important silk-weaving centres in Tamil Nadu.
- Ramanathapuram has some specialised areas for the manufacturing of synthetic silk clothes.

Leather Industry

GI Tag

GI(Geographical Indication)is a name or sign used on products which corresponds to a specific geographical location. It provides rights and protection of holders.

Some important GI Tags of Tamil Nadu are:

Place	Products
Arani	Silk
Kancheepuram	Silk
Coimbatore	Wet Grinder and Coracotton
Thanjavur	Paintings, Art plate, Doll and veenai
Nagercoil	Temple Jewellery
Erode	Turmeric
Salem	Venpattu(salem silk)
Bhavani	Jamakkalam
Madurai	Sungudi
Swamimalai	Bronze Icons
Nachiarkovil	Kuthuvilakku
Pattamadaai	Mat
Nilgiri	Orthodox Embroidery
Mahabalipuram	Stone sculpture
Sirumalai	Hill banana
Eathomozhi	Coconut

- Tamil Nadu accounts for 60% of leather tanning processes of India and **38%** of all leather footwear, garments and components.
- Hundreds of leather tanneries are located around Vellore and nearby towns, such as Ranipet, Ambur and Vaniyambadi.
- The Vellore district is the top exporter of finished leather goods in the country.
- Vellore leather accounts for more than **37%** of the country's export of leather and leatherrelated products (**such as finished leathers, shoes, garments and gloves**). **Central Leather Research Institute (CLRI)**, a CSIR research laboratory, is located in Chennai.

Paper Industry

- Many paper industries are located in the state. Tamil Nadu Newsprint and Papers Limited (TNPL) is a government of Tamil Nadu enterprise producing newsprint and printing and writing paper at its mill located at **Kagithapuram in Karur district**.
- **It was started in 1979 with an installed capacity of 2.45 lakh MT** of production per annum.
- TNPL is one of the most accomplished mills in the world, producing different varieties paper of acceptable quality primarily from bagasse and pulpwood.
- Other paper mills of the state are found in Pukkathurai of Kancheepuram district, Bhavanisagar, Pallipalayam, Paramathi Vellore, Coimbatore, Udumalaipet, Thoppampatti, Nilakkotai and Cheranmahadevi.

Cement Industry

- Cement production and consumption continue to grow despite the general recession in the economy. India is one of the largest cement producers and ranked second in the world with an annual production capacity of **181 million tons**.
- Tamil Nadu Cements Corporation Limited (**TANCEM**) is one among the major cement producers in Tamil Nadu operating two cement units: one at Ariyalur and another at Alangulam.
- Asbestos cement sheet plant at Alangulam and stoneware pipe unit at Virudhachalam are the other units of TANCEM.
- Sankar Cement, Zuari Cement, Ultratech Cement, Madras Cement and Dalmia Cement are the major private cement brands produced in Tamil Nadu.

Information Technology

- According to National Association of Software and Services Companies (**NASSCOM**), the southern states continue to account for more than half of the country's total export of software.
- Tamil Nadu and Andhra Pradesh together account for **59.6%** of India's total software exports.
- Tamil Nadu is the second largest software exporter in the country next to Karnataka.

Special Economic Zones

- Special economic zones (SEZs) provide an internationally competitive and hasslefree environment for exports. Units in SEZ manufacture goods and provide a range of services. SEZs are located in **Nanguneri, Ennore, Hosur and Perambalur**.
- IT & ITES SEZ named TIDEL-II and TIDEL-III and Bio-Pharmaceuticals SEZ are located in Chennai and Coimbatore SEZ called the TIDEL Park-IV is located in the city.

Manufacturing & Engineering Industry

- The manufacturing industry is one of the vibrant sectors of the state economy and contributes significantly to the industrial output.
- The manufacturing industry broadly covers manufacture of machinery and equipment, motor vehicles, basic metal and alloy industries, metal products and repair of capital goods.
- Tamil Nadu's share of the industrial output is around 11–12% of the country's output and 15% of the country's exports excluding software. Tamil Nadu accounts for about 17% of India's software exports.

Automobile Industries

- The share of Tamil Nadu in all-India production of automobiles and heavy vehicles is rather significant.
- Automobile industry plays a crucial role in the state's economy and has been one of the key driving factors contributing 8 percent to state GDP and giving direct employment to 2,20,000 people.
- Tamil Nadu accounts for about 21% of passenger cars, 33% of commercial vehicles and 35% of automobile components produced in India.
- Major automobile manufacturers like **Ford, Hyundai, HM-Mitsubishi, Ashok Leyland, and TAFE** have their manufacturing base in Tamil Nadu.

Chemical & Plastic Industry

The chemical industry is one of the fastest growing sectors of industry and the economy. The sector contributes **13% to the state's GDP and constitutes 8% of the total exports of the country.**

Handlooms and Powerlooms

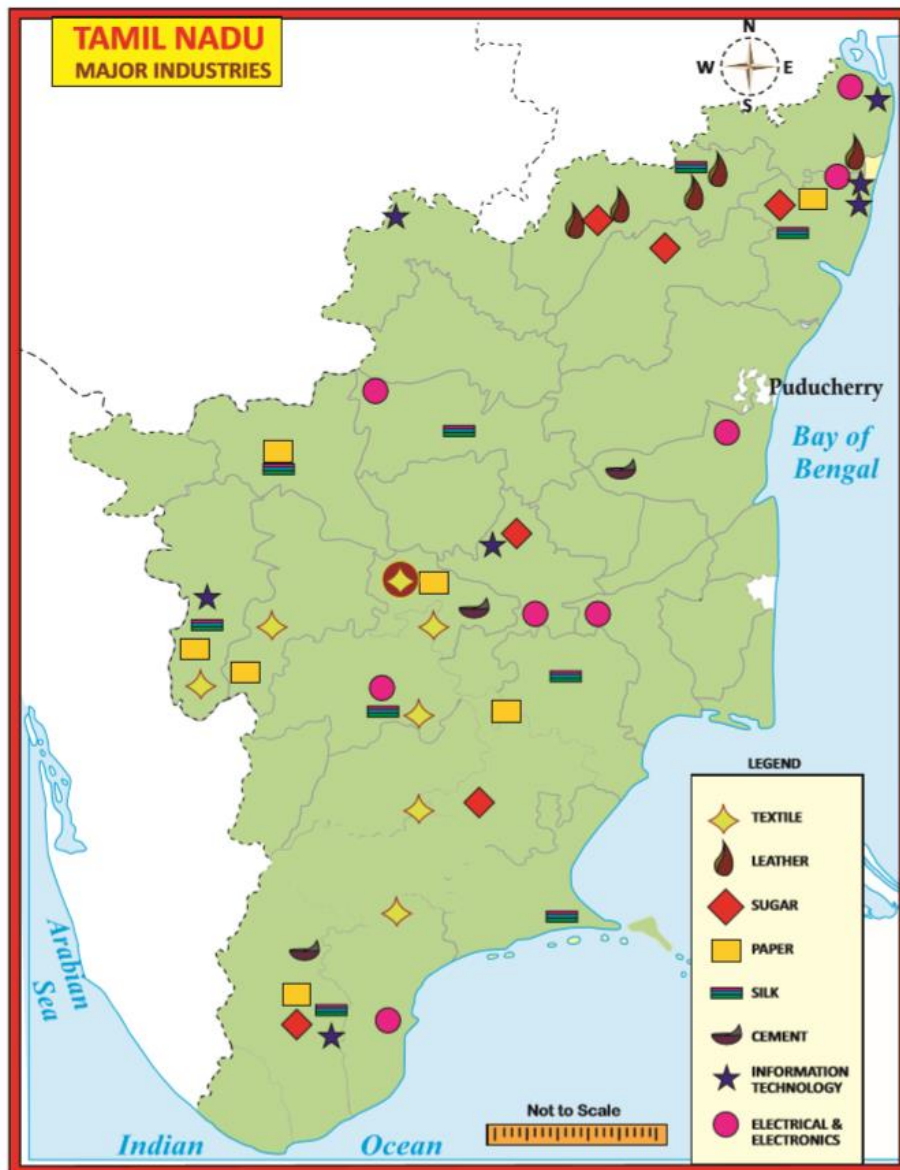
The handloom sector in the state is the single largest cottage industry providing livelihood to a large number of rural people and promoting export earnings. The handloom sector and its related economic activities generate gainful employment for more than **4.29 lakh weaver households and 11.64 lakh weavers in the state.** These societies mainly produce the cloth required for the scheme of 'Free Supply of Uniforms to School Children and Free Distribution of Sarees and Dhotis Scheme'.

Sugar Industry

Sugar industry in Tamil Nadu is an important agro-based industry. It plays a vital role in the economic development of the state, particularly in rural areas. The sugar industry provides large-scale direct employment to several thousands and indirect employment to several lakhs of farmers and agricultural labourers in the rural areas who are involved in cultivation of sugarcane, harvesting, transporting and other services. There are **34 sugar mills in Tamil Nadu, in which 16 are in the cooperative sector and 18 in the private sector.**

Tourism Industry

- Tourism is considered as an industry because of its enormous potential in creating employment for a large number of people. In recent years, the state has emerged as one of the leading tourist destinations for both domestic and foreign tourists.
- Tourism in Tamil Nadu is promoted by Tamil Nadu Tourism Development Corporation (TTDC).
- The state currently ranks the highest among Indian states with about **25 crore arrivals (in 2013)**. **The annual growth rate of this industry stood at 16%**. Approximately 28 lakh foreign and 11 crore domestic tourists visit our state annually.
- The presence of ancient monuments, pilgrim centres, hill stations, a variety of natural landscapes, long coastline, along with rich culture and heritage make Tamil Nadu the best destination for tourists.



- The term '**population**' refers to the number of people living in a defined area. The statistical study of the characteristics of human population is called demography.
- Demographers make a deep and detailed study of the population. The rapid increase of population may be responsible for retarding economic growth.
- Hence, overpopulation is one of the major problems confronting our nation with all its evil effects.

Growth of Population in Tamil Nadu

- The total population of Tamil Nadu is 72,140,703 or 7.21 crores as per 2011 Census. Its population was 6.24 crore in 2001 and registered a growth of nearly 1 crore population in a decade.
- The male and female population of the state in 2011 is 36,137,975 and 36,009,055 respectively and it was **31,400,909 and 31,004,770 in 2001**.
- It shows that the population of the state is shared almost 50% each by male and female. The growth rate of population in the decade 2001–2011 was 15.61% while in the previous decade it was 11.19%.
- The population of Tamil Nadu forms 5.96% of country's total population as per 2011 Census. In 2001, it was 6.07%.

Distribution of Population

Based on the actual size of population, Tamil Nadu is divided into the following regions.

Regions of High Population

Chennai has the highest urban population with 4.219 million people, but the city ranks second in the district-wise count, next to Coimbatore district, which had 4.224 million people as per 2011 Census. **Coimbatore, Chennai, Tiruvallur, Kancheepuram, Villupuram, Dharmapuri, Salem, Madurai and Tirunelveli** are the most populous districts in the state. Agriculture and industrial development are the main causes of high concentration of population of these districts.

Regions of Moderate Population

Tiruvannamalai, Cuddalore, Tiruchirapalli and Thanjavur districts have a population 30–35 lakh. Vellore, Dindugal, Virudhunagar and Thoothukudi districts each have a population of 15–20 lakh. Other than agriculture, small-scale industries and fishing along the coastal areas are the major occupations of people in these districts.

Regions of Sparse Population

The coastal districts Nagapattinam, Tiruvarur, Pudukottai, Ramanathapuram and Sivagangai have a less than 15 lakh. The Nilgiris district has a population of less than 10 lakh (764,826) population and it is the least populated district as per 2011 Census.

Population Density

- The density of population in Tamil Nadu is 555 per sq.km as per the 2011 Census, while it was 480 per sq.km in 2001.
- The state ranks 12th among the Indian states in population density. The national average density of population as per the 2011 Census is 382.
- Chennai is the densest district with 26,903 persons per sq.km followed by **Kanyakumari (1106), Tiruvallur (1049), Kancheepuram (927), Madurai (823), Coimbatore (748), Cuddalore (702), Thanjavur (691), Nagapattinam (668), Salem (663), Vellore (646) and Tiruchirappalli (602).**
- These are the regions with high density of population. The least density of population is recorded in the Nilgiris (288 per sq.km) and the other districts have moderate density of population.

Religion

Hinduism, Christianity and Islam are the major religions in the state. The Hindus constitute 87.58% of the population, followed by Christians (6.12%) and Muslims (5.86%). Jainism (0.12%), Sikhism (0.02%) and Buddhism (0.02%) also have a presence in the state. People of other religions constitute 0.01% and the percentage of people with unstated religion is 0.26%.

Urban and Rural Population

As per 2011 Census, the urban population of Tamil Nadu is 3,49,17,440, which constitutes 48.40% of the total population of the state. The rural population of the state is 3,72,29,590, which constitutes 51.60% of the state population.

Sex Ratio

- The sex ratio represents the number of females per 1000 males. The sex ratio of the state increased from **987 in 2001 to 995 in 2011.**
- The sex ratio in India is 940 in 2011 as against 933 in 2001. It shows that the sex ratio is more favourable in the state than the country.
- As per 2011 Census, 15 out of 32 districts have recorded the sex ratio of more than 1000 and a similar trend was noticed in the 2001 Census also. Only Sivagangai has recorded the sex ratio of exactly 1000.
- It is noted that 12 districts have the sex ratio of less than 1000 and it ranges between 980 and 1000.
- The highest sex ratio is found in the Nilgiris district (1041) followed by Thanjavur district (1031). The lowest sex ratio is reported in Dharmapuri district (946) followed by Salem district (954).

Literacy Rate

- The literacy rate of Tamil Nadu as per the 2011 Census is 80.33%. It was 73.45% in 2001. The male literacy rate is 86.81% and the female literacy rate is 73.86%. The corresponding rates in 2001 were 82.42% for males and 64.43% for females.
- It may be observed that more than three-fourths of the population is literate among males in all the districts (except Dharmapuri), while more than two-thirds of the population is literate among females in all but eight districts.
- The districts are Dharmapuri (60.03%), Krishnagiri (64.86%), Tiruvannamalai (65.71%), Villupuram (63.51%), Salem (65.43%), Erode (65.07%), Perambalur (66.11%) and Ariyalur (62.22%).
- The literacy rate for India as per 2011 census is 74.04, of which the male literacy rate is 82.14 and the female literacy rate is 65.46. In 2001, the literacy rate of India stood at 64.8. It was 75.3 and 53.7 for males and females, respectively.
- The district of Kanyakumari has reported the highest literacy rate (92.14%) while Dharmapuri district has the lowest rate (64.71%).
- A high level of literacy rate is also seen in Chennai (90.33%), Thoothukudi (86.52%), the Nilgiris (85.65%) and Kancheepuram (85.29%) districts.

Transport and Communication

Types of the Roads	Length (Km)
National Highways	4994
State Highways	57291
Corporation & Municipalities Road	23350
Panchayat Union	147543
Village Panchayat Union	21049
Others(Forest Roads)	3348
Commercial	12.13
Non commercial	20.34 Lakhs
Source: Statistical Handbook of Tamil Nadu - 2017	

Roadways

The State has a total road length of 167,000 km, In which 60,628km are maintained by state Highways Department. It ranks second in India with a share of over 20% in total road projects under operation in the Public-Private Partnership (PPP) model.

Railways

- Tamil Nadu has a well-developed rail network as part of Southern Railway, headquartered at Chennai.
- The present Southern Railway network extends over a large area of India's southern peninsula, covering Tamil Nadu, Kerala, Puducherry, minor portions of Karnataka and Andhra Pradesh.
- Tamil Nadu has a total railway track length of 6,693 km with 690 railway stations in the state. The system connects it with most of the major cities in India.
- Main rail junctions in the state include Chennai, Coimbatore, Erode, Madurai, Salem, Tiruchirappalli and Tirunelveli.
- Chennai has a well-established suburban railway network, a mass rapid transport system(MRTS) and is currently developing a Metro system, with its first underground stretch in operation since May 2017.

Airways

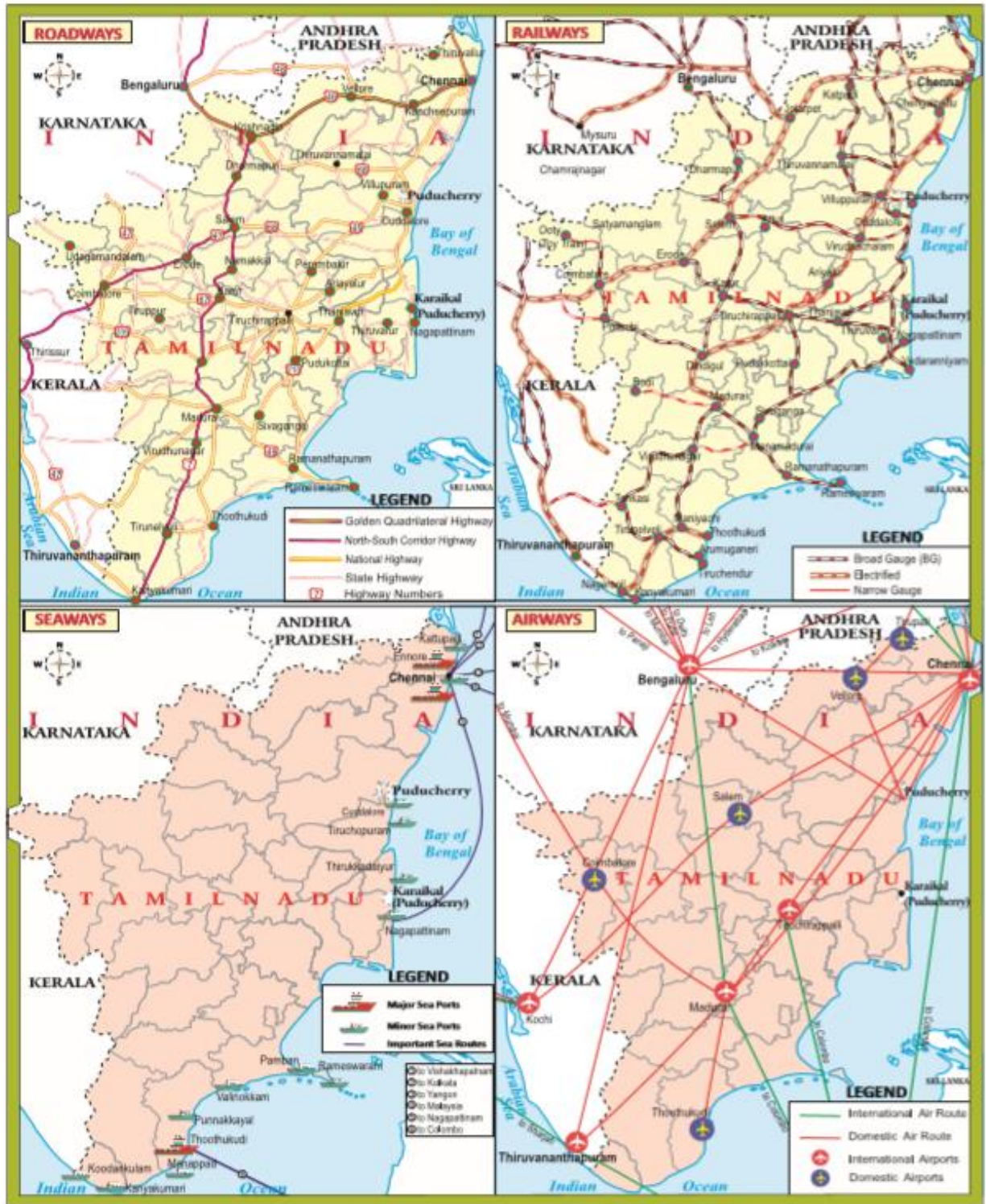
- Tamil Nadu has four major international airports. Chennai International Airport is currently the third largest airport in India after Mumbai and Delhi. Other international airports in Tamil Nadu include Coimbatore, Madurai and Tiruchirapalli airports.
- It also has domestic airports at Tuticorin and Salem connecting several parts of the country.
- Increased industrial activity has given rise to an increase in passenger traffic as well as freight movement, which has been growing at over 18% per year.

Waterways

- Tamil Nadu has three major ports. They are in Chennai, Ennore and Tuticorin. It has an intermediate port at Nagapattinam and 15 minor ports.
- The ports are currently capable of handling over 73 million metric tonnes of cargo annually **(24% share of India)**.
- All the minor ports are managed by the Tamil Nadu Maritime Board, Chennai Port. This is an artificial harbour and the second principal port in the country for handling containers. It is currently being upgraded to have a dedicated terminal for cars capable of handling 4,00,000 vehicles.
- Ennore intermediate port was recently converted as a major port and handles the major coal and ore traffic in Tamil Nadu.



TAMIL NADU - TRANSPORT



Not to Scale

Communication**Postal Districts and Headquarters in Tamil Nadu**

Zone /districts	Head quarters
Chennai	Chennai
Western	Coimbatore
Central	Thiruchirapalli
Southern	Madurai

Communication is derived from the Latin word *communicare*, meaning 'to share'. The act of conveying or exchanging information is called means of communication. They are mass communication and personal communication.

Trade

Major Exports of Tamil Nadu	
(i) Agricultural Products	tobacco, cereals, cotton, sugarcane, paddy, groundnut, spices and vegetables.
(ii) Leather Products	wallets, purses, pouches, handbags, belts, footwear and gloves
(iii) Gems and Jewellery	pearls, precious stones, gold jewellery, decorations and antiques
(iv) Chemicals and related products	paper, chemicals, rubber and glass.

Export and import are the two components of trade. Export means goods and services sold for foreign currency. Tamil Nadu contributes **12.2%** to the country's exports. Import refers to goods and services are brought from overseas producers. Tamil Nadu imports many goods from outside. The difference between the values of export and import is called the balance of trade.

Imports of Tamil Nadu

- Machineries like transport equipment, machine tools, non-electrical machinery, electrical machinery, pharmaceutical products, petroleum, fertilizers and newsprint are its major imports.
- The state contributes **10.94%** to the country's trade through major ports. The above discussion shows that Tamil Nadu is an important state of India in terms of size, population, resources and economic development.
- People in the state are well secured. The new schemes introduced by the state government periodically have enabled notable progress in various fields.

Man made Disasters in Tamil Nadu

Definition

A disastrous events caused directly or indirectly by human actions are called as manmade disaster. Man-made disaster can include hazardous material spills, fires, groundwater contamination, transportation accidents, structure failures, mining accidents, explosions and acts of terrorism.

Industrial Disaster

- Disasters caused by industrial companies either by accident, negligence, or incompetence fall under industrial disasters. Electrical faults seem to be the major reason for industrial disasters in the country.
- Overheating, aging of the material and use of sub-standard quality of electrical gadgets have been the main factors contributing to the increasing fire accidents in industries.
- Electricity is not just a life line; It can also take away life when handled improperly', Apart from these, explosions, leaking of poisonous gases, injuries and deaths caused by machines are the other causes of industrial disasters.
- **Sivakasi, is considered the "fireworks capital" of India.** Series of industrial accidents causing deaths are reporting frequently in the regions of Virudhunagar and Sivakasi where a number of fireworks and match units are in operation. An explosion occurred on **5 September, 2012** in a private firework company.
- In this incident 40 workers were killed and more than 70 workers were injured. Various measures are being taken by the Government to reduce the fire accidents and casualties caused by industries.
- In another industrial accident which took place at Coimbatore on **2nd February 2016** in a tyre melting unit, six migrant workers were critically injured.

Stampede

- A situation in which a large number of animals or people running in the same direction in an uncontrolled way causing injuries and deaths is called stamping On **21st April, 2019** seven

people were killed and 10 injured in a stampede during a local festival at a temple near Thuraiyur in Tamil Nadu.

- The incident took place when hundreds of devotees gathered at the Karuppasamy temple in Muthiampalayam village for the 'padikasu' (temple coin) distribution ceremony.

Mitigation

Hazard mitigation refers to any sustained action taken to reduce or eliminate the longterm risk to human life and property from hazardous conditions.

- Regular maintenance of machines and wires may reduce the frequency of accidents,
- Creating awareness and training the workers to be cautious during work hours may help them to reduce risk during disasters
- Wearing specially designed dresses and other safety materials would help the workers to protect themselves from any serious injuries
- Conducting periodical medical camps would help them to assess their health status. The Provision of having life insurance policies will secure their future
- Besides these, the administration should be employees friendly and ready to extend their help in case of any untoward incidents.

Road Accidents

- The road accidents in India is on very high level. Tamil Nadu leads in the number of road accidents in the country. Increase in road traffic, high speed of vehicles and violation of traffic rules are the causes of major of accidents.
- In 2013, 14504 accidents had taken place in the state which resulted in **15563 deaths**. In the ten years from 2002-2012, Tamil Nadu tops the list in number of road accidents among the states of India.
- It is reported that about 15 percent of accidents of the country takes place in Tamil Nadu.
- The figure of 2017 also puts Tamil Nadu on top with recording of 16157 deaths out of 147913 deaths recorded in the country. Death toll came down rapidly in 2018 to 12213 deaths, a decline of 24.5 percent

Risk Reduction Measures

Before:

Avoid Speeding, Drunk and driving, use helmets and seat belts and follow traffic rules

After:

Call police or ambulance; seek medical attention; make an accurate record and exchange information.

Basic Road Safety Rules

- Aware of the road signals
- Stop, look and cross
- Listen and ensure whether a vehicle is approaching
- Don't rush on roads
- Cross roads in pedestrian crossings
- Don't stretch hands while driving vehicles
- Never cross road at bends and stay safe in a moving vehicle.

Accelerated changes in demographic and economic trends disturb the balance which leads to increased frequency and the negative impact of disaster. At present the society face a challenging mix of demographic, ecological and technological condition which make population more vulnerable to the impact of the calamities. Though the number of natural disasters are in decline than they were in the past, the increasing level of magnitude poses a threat. Besides the various measures taken by the government and the public, education on awareness regarding the disasters may help in the reduction of risks during disasters

More to Know:

1. For the management of disasters in the state, the following forces and organizations are in service.

- (i) State Disaster Management Authority (Chairman-Chief Minister)
- (ii) Relief/ Disaster Management Department
- (iii) Police
- (iv) Forest Department
- (v) Fire and Civil Defence Services
- (vi) Health Services
- (vii) Transport Department
- (viii) Public Works Department
- (ix) Veterinary Services
- (x) Food & Civil Supplied Department.

The Organizations at District Level

- (i) District Magistrate (Chairman District Collector)

- (ii) Revenue Department
- (iii) Civil Administration,
- (iv) Local Police,
- (v) Civil Defence,
- (vi) Fire & Emergency Services,
- (vii) Home Guards (also Local Community, Non-Governmental Organisations, Voluntary Agencies) etc.

2. Disaster emergency contact number 1077 - Control room of District Collector/Magistrate.

3. NH - 44 is the longest national highway in Tamil Nadu which runs from Hosur to Kanniyakumari (627.2 km) Via Dharmapuri-Salem-KarurDindigul-Madurai-Tirunelveli.

4. NH - 785 is the shortest national highway in Tamil Nadu which runs from Madurai to Natham (38 km).

5. The list of IT parks in Tamil Nadu

Tidel Park, Ascendas, Mahindra world city 4 IT & ITES SEZ TIDEL-II, IT & ITES SEZ TIDEL-III, Coimbatore SEZ - Tidel Park

6. A special economic zone (SEZ) is an area in which the business and trade laws are different from the rest of the country. SEZs are located within a country's national borders, and their aims include increased trade balance, employment, increased investment, job creation and effective administration

7. Second Green Revolution (Eco-Farming or Organic Farming)

In organic farming synthetic fertilizers, pesticides, growth regulator and livestock feed additives are not used. This type of farming rely on crop rotation, crop residues, animal manure, off-farm organic wastes and biological pest control to maintain soil productivity. This farming method is being adopted by very few farmers in the state. It has to be increased in number.

8. TANTEA (**TANTEA Tamil Nadu Tea Plantation Corporation Limited**) is one of the Biggest Black Tea Producers in India with high quality clonal tea. Its plantation spreads over nearly 4500 hec. Tamil Nadu Dairy Development Corporation Ltd. was transformed into the newly registered Tamil Nadu Co-operative Milk Producers Federation Limited Popularly known as "Aavin".

9. India observed 2018 as national year of millets. FAO has decided to observe 2023 as the International year of millets.

10. To promote organic farming a central scheme named 'National Project on Organic Farming' was launched Apart from general things (**creating awareness, promoting organic fertilizers, training, capacity building etc.**), the scheme provides financial assistance through Capital Investment Subsidy Scheme for agro-waste compost production units, bio-fertilizers/ bio-pesticides production units, development and implementation of quality control regime, human resource development etc.

11. The Tamil Nadu Rice Research Institute (TRRI) is an Indian research institute working in the field of rice under Tamil Nadu Agricultural University (TNAU).It is situated at Aduthurai, in Thanjavur district, it was established in **April, 1985** in TNAU to meet the research requirements of the region with the help of existing Agricultural Colleges and Research centres and perform lead function for rice and rice based cropping system research.