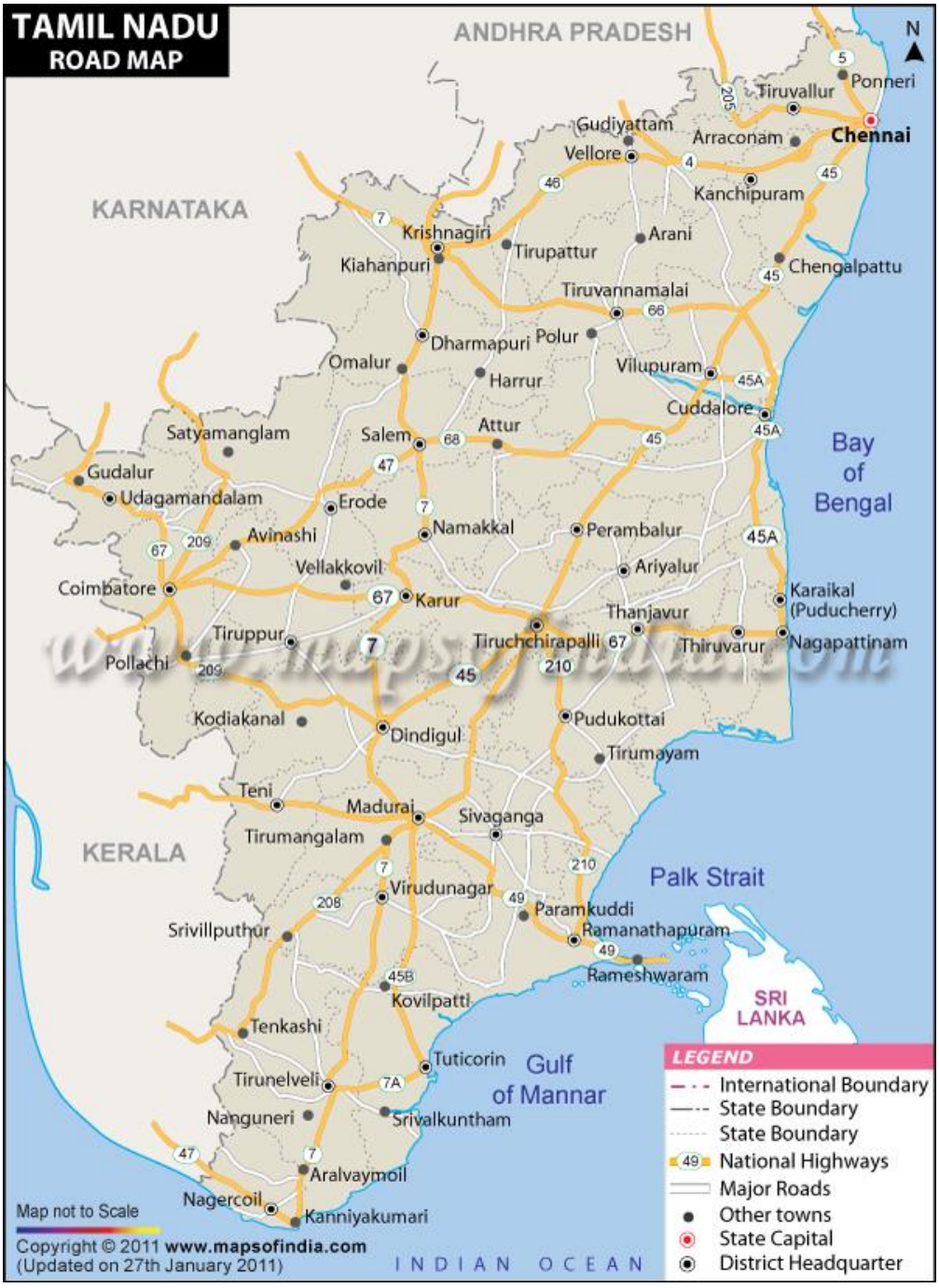
NIDM

Tamil Nadu

National Disaster Risk Reduction Portal



Map showing State boundary and road network[1]

1. STATE PROFILE

1.1 General [2, 3]

Tamil Nadu, with an area of 1,30,058 sq km is situated in the SE part of the Indian peninsula between North Latitudes 08°00' and 13°30' and East Longitudes 76°15' and 80°18'. It is

bound in the east by the Bay of Bengal, in the south by the Indian Ocean, in the west by the Kerala State and Arabian Sea while in the north by Karnataka and Andhra Pradesh.

The long coastline of over 1000 Km. forms a major natural resource with immense value for commercial, recreational and aesthetic purposes. Wetlands are transitional zones that occupy an intermediate position between dry land and open water. This term encompasses a diverse and heterogeneous assemblage of habitats ranging from rivers, flood plains and rainfed lakes to mangrove swamps, estuaries and salt marshes. Agricultural run off with pesticide residues and indiscriminate destruction of mangroves for fuel wood are posing a threat to this ecosystem.

State at a glance [4, 5]

Sl No	Items	Remarks
1.	Area (Sq. kms)	130058
2.	Population (As per 2011 census)	72138958
3.	Population (As per 2011 census) - Male	36158871
4.	Population (As per 2011 census) - Female	35980087
5.	Population (As per 2011 census) - Rural	37189229
6.	Population (As per 2011 census) - Urban	34949729
7.	Growth Rate of Population	15.6
8.	Population density (Sq. kms)	555
9.	No of districts	32
10.	No of Revenue Divisions	78
11.	No. of Taluks	226
12.	No. of Revenue Villages	17,244
13.	No. of Municipal Corporations	10
14.	No. of Municipalities	152
15.	No. of Panchayat Blocks	385
16.	No. of Town Panchayats	562
17.	No. of Village Panchayats	12,618

1.2 Physiography [2, 3]

The topography of Tamil Nadu broadly consists of the coastal plains in the east; uplands and hills as one proceeds westwards; the plains account for more than half the area of the state.

Geomorphologically, three major units are recognised from west to east. The western part comprises the Western Ghats roughly trending N-S and marked by a continuous range of Hills, extending from Nagercoil in the south upto Nilgiri -Bilgirirangan Hills in the north and further northwards through Karnataka. The elevation of these Hills ranges between 1275 m and 2637 m. The prominent Hills are Mahendragiri, Agasthiarmalai, Anaimalai, Palani and Nilgiris. Doddabetta with an elevation of 2637 m is the highest peak in the Nilgiri Hills. The east-west trending Palghat Gap is a prominent physiographic break in the Western Ghats.

The central part of the state is a vast track of dissected pediments and pediplains. Residual Hills in this part viz., Shevaroy, Kalrayan, Chitteri, Kollimalai, Pachchaimalai and Javadi demarcate the extensions of Eastern Ghats, while Karandamalai, Sirumalai and Kodaikanal Hills form another set of residual Hills, further south.

The eastern part of Tamil Nadu and Pondicherry and Karaikkal are marked by a coastal plain with associated landforms like vast tidal flats, continuous beach ridges, estuaries and lagoons and a narrow but fairly continuous beach.

The area is drained by a number of Rivers such as Palar, Cheyyar, Ponnaiyar, Cauvery, Moyar, Bhavani, Amaravathi, Vaigai, Tambraparani etc. flowing ESE from the Western Ghats. Pondicherry and its surrounding lie in the drainage basin of the Gingee River. Karaikkal is located in the fertile Cauvery Delta and is fed by the waters of Arasalar, Nattar, Vanjiyar and Nandalar.

The coastline of Tamil Nadu and Pondicherry comprises a number of cusps, spits and wave cut platforms and several palaeo-shorelines. Some of the palaeo-shorelines extend inland suggesting periods of transgression and regression. The ongoing geodynamic process is generally progradation along the coast, which is modified at several places by erosion and deposition by aeolian and fluvial agents. The eastern areas of the central part of the state are marked by the depositional regime of many Rivers manifested by typical fluvial features like levees, channel bars and palaeochannels, back swamps and vast flood plains.

1.3 Climate [2]

The climate of the state is tropical monsoon type. In the plains, the temperature during winter seldom goes below 18°C while in peak summer it rises to 43°C. Tamil Nadu and Pondicherry receive rains from both the northeast and southwest monsoons. Maximum rainfall and occasional cyclones occur during the northeast monsoon. The Nilgiris receive the maximum rainfall while Ramanathapuram and Tirunelveli Districts receive low rainfall. The annual rainfall varies between 60 cm and 118 cm.

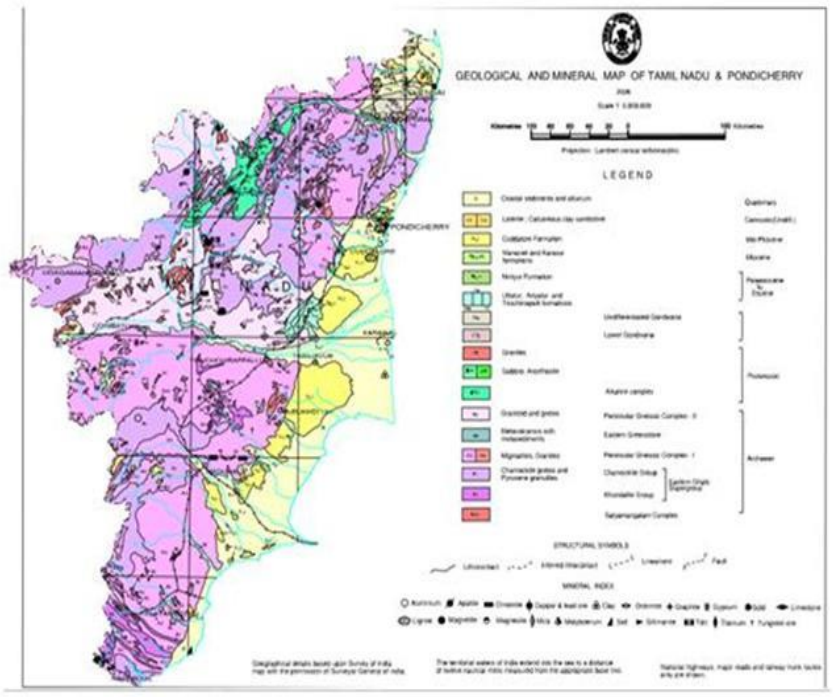
1.4 Rainfall [6]

Tamilnadu received an average annual rainfall of 1304.1 mm during the year 2005-06, which is higher by 36.1% over the normal rainfall of 958.5 mm. The comparison of rainfall recorded during 05-06 with the normal rainfall shows that the rainfall was Excess in 26 districts and Normal in 4 districts. During the year 05-06, the highest rainfall of 2356.5 mm. was recorded in Chennai district and the lowest rainfall of 678.0 mm was recorded in Thoothukudi district.

1.5 Geology [2]

Crystalline rocks of Archaean to late Proterozoic age occupy over 80% of the area of the state, while the rest is covered by Phanerozoic sedimentary rocks mainly along the coastal belt and in a few inland River valleys. The hard rock terrain comprises predominantly of

Charnockite and Khondalite groups and their migmatitic derivatives, supracrustal sequences of Sathyamangalam and Kolar groups and Peninsular Gneissic Complex (Bhavani Group), intruded by ultramafic-mafic complexes, basic dykes, granites and syenites. The sedimentary rocks of the coastal belt include fluviatile, fluvio-marine and marine sequences, such as Gondwana Supergroup (Carboniferous to Permian and Upper Jurassic to Lower Cretaceous), marine sediments of Cauvery basin (Lower Cretaceous to Paleogene), Cuddalore/Panambarai Formation (Mio-Pliocene) and sediments of Quaternary and Recent age.



Map Showing Geology of the State [7]

1.6 Soil [8]

The predominant soils of Tamil Nadu are red loam, laterite, black, alluvial and saline soils.

a) Red Loam

This soil occupies a large part of the State particularly interior districts including the coastal districts. It is found predominantly in Kancheepuram, Cuddalore, Vellore Salem, Dharmapuri, Ramanathapuram, Coimbatore, Trichy, Pudukkottai, Thanjavur, Sivaganga, Virudunagar, Madurai, Dindigul, Nagapattinam, Thoothukudi, Tirunelveli and the Nilgiris. The red or brown colour of the soil is attributed to the diffusion of iron content.

b) Laterite Soil

This soil is clayey and generally brick red with a little titanium present. It is found in parts of Kancheepuram, Thanjavur, Nagapattinam and the Nilgiris districts.

c) Black Soil

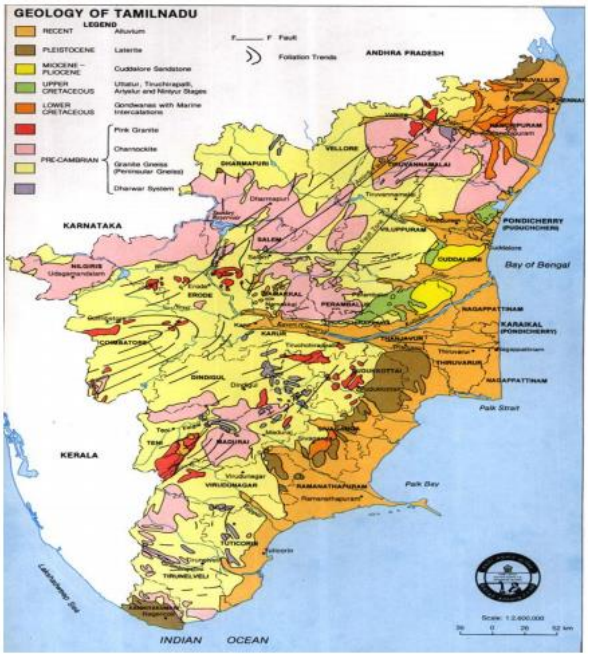
The black clayey alluvium rich soil is known as black cotton soil which is found in parts of Coimbatore, Madurai, Dindigul, Thoothukudi and Tirunelveli and in patches in the districts of Kancheepuram, Vellore, Salem, Dharmapuri, Ramanathapuram, Virudunagar and the Nilgiris.

d) Alluvial Soil

Coastal and deltaic areas of Thanjavur, Nagapattinam, Tiruchirappalli, Cuddalore, Kancheepuram, Tirunelveli, Tuticorin, Kanyakumari, Ramanathapuram and Sivaganga districts have this kind of soil.

e) Saline Soil

These soils are found in the regions of poor drainage and high evaporation. It is found in patches in all the districts except Kanyakumari and the Nilgiris.



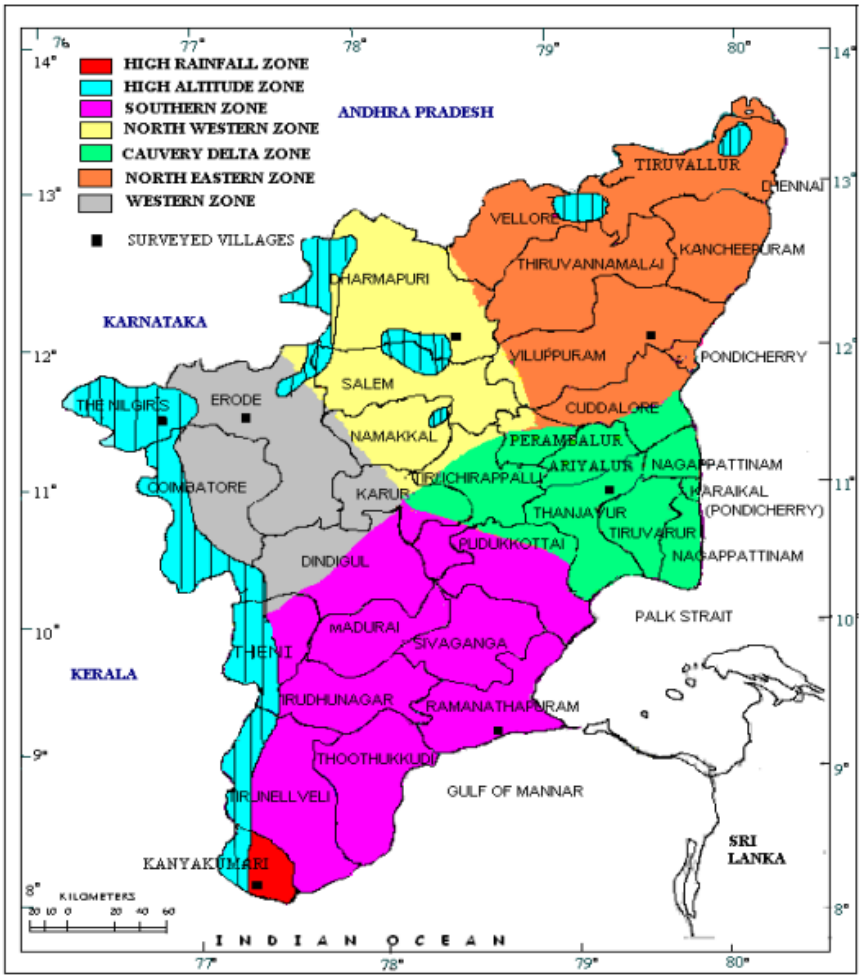
Soil map of Tamil Nadu [8] (Source:

Table showing the different types of soil present in the State [9]

Types of Soil	Place of occurrence
Red loan	Pats of Kancheepuram, Cuddalore, Salem, Dharmapuri, Coimbatore, Tiruchirappalli, Thanjavur, Ramanathapuram, Madurai, Tirunelveli, Sivagangai, Thoothukudi, Virudhunagar, Dindigul and Nilgiris districts.
Laterite soil	Parts of Nilgiris district.
Black soil	Parts of Kancheepuram, Cuddalore, Vellore, Tiruvannamalai, Salem, Dharmapuri, Madurai, Ramanathapuram, Tirunelveli, Sivagangai,

	Thoothukudi, Virudhunagar, Dindigul and Nilgiris districts.
Sandy coastal alluvial soils	Along the coasts in Ramanathapuram, Thanjavur, Nagapattinam, Cuddalore, Tiruvarur, Kancheepuram and Kanniyakumari districts.
Red sandy soils	Small patches in Coimbatore and Nilgiris districts.
Riverine alluvial soils	Parts of Kancheepuram, Tiruvallur, Villupuram, Cuddalore, Thanjavur, Nagapattinam, Tiruvarur, Ramanathapuram and Thoothukudi district.

1.7 Agro-climatic zone [8]



Map showing agro-climatic zones of the State [8]

Table showing details of agro-climatic characteristics of the State [10]

Sl No	Agro Climatic Zone	Soil Type	Districts	Altitude (m)	Annual Rainfall (mm)	Annual PET (mm)
1.	North Eastern Zone	Red Sandy Loam, Clay Loam, and Saline coastal	Kancheepuram, Thiruvallur, Cuddalore, Villupuram,	100-200	1105	1700

		Alluvium	Vellore, Thiruvannamalai			
2.	North Western Zone	Non Calcareous Red, Non Calcareous Brown, and Calcareous Black	Dharmapuri, Salem, Namakkal	200-600	875	1727
3.	Western Zone	Red Loamy, and Black	Erode, Coimbatore, Karur (part) Namakkal (part), Dindigul (part), Theni (part)	200-600	715	1622
4.	Cauvery Delta Zone	Red Loamy, and Alluvium	Tiruchi, Perambalur, Pudukottai (part), Thanjavur, Nagapattinam, Tiruvarur, Cuddalore (part)	100-200	984	1932
5.	Southern Zone	Coastal Alluvium, Black, Red Sandy soil and Deep red soil	Madurai, Sivagangai, Ramanathapuram, Virudhunagar, Tirunelveli, Thoothukudi	100-600	857	1825
6.	High Rainfall Zone	Saline Coastal, Alluvium and Deep Red Loam	Kanyakumari	100-2000	1420	1816
7.	Hilly Zone	Lateritic	The Nirgiris, Kodaikanal	2000	2124	1213

1.8 Socio-Economic conditions[9]

Tamil Nadu had a population of 55.9 million according to the 1991 census, which rose to 62.1 million in 2001 making it the sixth most populous State in the country. Tamil Nadu is not only one of the most populous states of India but also densely populated. Density of population in Tamil Nadu is 478 persons per sq. km. whereas the national average is 324 persons per sq. km., and is the sixth highest among the major states of India.

The population growth rate has declined during 1991-2001 as compared to 1981-1991 in practically all the major states except Bihar (excluding Jharkhand). The southern states have shown a decline in growth rate from their already relatively lower levels. In Tamil Nadu the growth rate between 1981 and 1991 was 15.39 percent whereas growth rate between 1991

and 2001 was only 11.19 percent. The decadal growth rate of Tamilnadu was lower than the national level.

Tamil Nadu is also relatively more urbanised than the other major states of India. According to the 2001 Census, 43.86 percent of the population of Tamil Nadu lives in urban areas whereas the level of urbanization at the national level is less than one-third (27.78%). According to 1991 census also the level of urbanization of Tamil Nadu (34.15%) was high; however, in 2001 it became the state having the highest percentage of urban population in India.

The production of food-grains during the year 2001-2002 was 8842400 tonnes. Rice is the dominant crop constituting 85.2% of the total food-grains production. About 43% Tamil Nadu's area is under agriculture with a per capita figure of 0.0982 ha. of agricultural land. The size of operational holdings is going down fast and sub-marginal holdings below 0.5 ha constitute the majority with cropping intensity of 118% and irrigation intensity of 119%. Tamil Nadu has roughly 7% of the country's population, 4% of the land and 3% of the water resources. While agriculture and allied sectors account for nearly 62% of the total employment of the state, their contribution to the state's economy is only 22%.

Net area sown represents the area sown with crops during the year only once. Out of the 12991322 hectares of geographical area 5464376 hectares of land constituting 42% was cultivated once with various crops during the year 1999-2000. Of the total net area sown in the State, the share of Dharmapuri district was 7.2% followed by Villupuram district with 6.2%. Thiruvarur district ranked first contributing 72.7% of its geographical area towards this category followed by Cuddalore with 62.7%, Thanjavur district with 59.8%, Perambalur with 58.4%, Namakkal with 58%, Nagapatinam with 55.9% and Salem with 49.8% respectively.

The gross area sown represents the total area cultivated under all food and non-food crops including the area sown more than once. The gross area sown during 1999-2000 is 6519109 hectares as against 6627125 hectares during 1998-99, registering a decrease of 1.6%. The area sown more than once during 1999-2000 is 1054733 hectares as against 992611 hectares in 1998-99, the increase being 6.3%. The area sown more than once is 16.2% of the gross area sown in the state during 1999-2000.

In Tamil Nadu, an extent of 475850 hectares of land comes under barren and unculturable land category, which represents 3.7% of the total geographical area of the state. Villupuram district alone accounts for 57297 hectares which is 12.0% of the state's barren and unculturable land and about 7.9% of its geographical area is under this category. The area under this category is very meagre in Thiruvarur district with 0.2% of the total geographical area.

In Tamil Nadu Dharmapuri district ranks the first with a forest cover area of 3,66,226 hectares. This works out to 17.2% of the state's total forest area. This is followed by Erode district with 2,28750 hectares (10.7%). The Nilgiris district has about 56.3% of the total area as forests followed by Dharmapuri with 38.0%. Dharmapuri, Erode, Vellore, Coimbatore,

Thiruvannamalai, The Nilgiris, Dindigul, Salem, Thirunelveli and Theni Districts account for 79.8% of the total forest area of the state.

Socio-Economic profile at a glance [4]

Sl No	Items	As per 2011 census
18.	Density of Population per sq.km.	555
19.	Literacy Rate 2011	80.3
20.	Sex Ratio (Female per 1000 Males) - (2011 Census)	995
21.	Birth-rate per thousand 2011 (SRS)	15.9
22.	Birth-rate per thousand 2011 – Rural	16.0
23.	Birth-rate per thousand 2011 - Urban	15.7
24.	Death-rate per thousand 2011 (SRS)	7.4
25.	Death-rate per thousand 2011 - Rural	8.1
26.	Death-rate per thousand 2011 - Urban	6.4
27.	Infant Mortality Rate 2011 (SRS) (Per 000 Live Births)	22
28.	Percentage of Cultivated area to Total area	45.19
29.	Total Workers (As per 2001 census)	27878282
30.	Workers (As per 2001 census) - Male	18100397
31.	Workers (As per 2001 census) - Female	9777885
32.	Workers (As per 2001 census) - Rural	17559768
33.	Workers (As per 2001 census) - Urban	10318514
34.	Agricultural Labourers	8637630

2. DISASTER RISK PROFILE

2.1 Vulnerability of the State [11]

Tamil Nadu is prone to multi hazards, higher than other States and is frequented by hazards of various nature and different intensities. The vulnerability of the coastal community became exceedingly evident when Tsunami struck the southern coast of India. Besides Tsunami, the coastal community faces disasters like cyclone and floods periodically. Communities in other hazard prone plains and hilly regions of the State face threats from Landslides, Earthquakes and Floods. Urban flooding is also becoming a growing concern in the State.

2.2 Cyclone [9]

In general, the coastal area of Tamil Nadu is prone to cyclones and depressions. Cyclone forms in low-pressure zones in the Bay of Bengal. The cyclone along the Tamil Nadu coasts is not as severe as in Andhra Pradesh. A severe cyclone causes furious wind and torrential rain in the coastal region.

There are few specific zones along the coast that are identified as cyclone affected areas. Cyclones normally occur on the east coast during the monsoons months of May to November during the southwest and northeast monsoons are active. The areas mostly affected along the

Tamil Nadu coast are in between 1) Mamallapuram and Puduppattinam zone, 2) Marakkanam and Cuddalore zone, 3)Tharangambadi, Nagapatinam and Vedaranyam zone

Major cyclone

Sl No	Date of Crossing	Place of Crossing	Details of damages
1.	Nov' 1992	Nagapattinam	Nearly 400 lives and thousands of cattle were lost
2.	Nov' 1977	Nagapattinam	560 human lives were lost, several lakhs of acres of paddy fields, plantations, sugarcane, coconut topes were inundated
3.	Nov' 1975	Chennai coast	Caused continuous heavy rains in Chennai city and neighbourhood for 3 to 4 affected City life.Many thousands of hut dwellers rendered homeless and huts damaged.
4.	Dec' 1972	Cuddalore	23 human lives, 121 livestock were lost and about 25000 acres of cultivable land was inundated and road communications were affected
5.	Feb' 1964	Tondi	Caused immense damage to Dhanushkodi and the death toll was 900 lives. A passenger train with all its passengers swept off. Mandapam railway bridge was washed a away and communication with the island was cut off.
6.	Oct' I963	Cuddalore	Dislocated telecommunication, rail and traffic

2.3 Tsunami [12]

An earthquake of magnitude 9.00 on the Richter scale struck seabed off the Sumatra Coast, Indonesia at 6.28 AM on 26.12.2004. The resultant seismic giant sea wave (Tsunami) battered the coast of South India. These giant sea waves ravaged the coastline of Tamil Nadu ferociously on 26.12.2004 at 8.30 A.M. The people living in villages and towns all along the coastline of 13 Districts viz. Chennai, Kancheepuram, Tiruvallur, Villuppuram, Cuddalore, Nagapattinam, Tiruvarur, Thanjavur, Pudukkottai, Ramanathapuram, Thoothukkudi, Tirunelveli and Kanniyakumari were affected. Due to this sudden attack of tsunami, a large number of fishermen living in coastal areas have been most severely affected and thousands of them lost their lives and their means of livelihood. In this catastrophe, lakhs of people lost their houses and huts and were rendered homeless. This tsunami caused very heavy damages

both to the belongings of fishermen viz., catamarans, vallams, mechanized boats, fishing nets and belongings and properties of the non-fishermen communities living along the coast of Tamil Nadu.

On 26th December.2004, 13 coastal districts were severely affected by tsunami. Nearly 373 villages were affected. Further, there were 8036 human loss and 16519 cattle loss. About 3136 persons suffered grievous injuries. There were damages to 1.5 lakh dwellings. About 5 lakh people were brought to safer places. 3.09 lakh affected people were accommodated in 412 relief centres. Medical Teams consisting of 547 doctors headed by Government Doctors were formed and deputed to the affected areas to attend to the injured persons, to prevent outbreak of epidemic diseases and to maintain public sanitation etc. in the affected areas and relief centres.

3. INSTITUTIONAL SETUP [11]

3.1 The Revenue Administration, Disaster Management and Mitigation Department (RADMMD) [11]

The Revenue Administration, Disaster Management and Mitigation Department (RADMMD), is in the process of strengthening disaster management capacity in the State by providing access to essential facilities, creating support systems and building human capacities. To cope effectively with crisis and emergency situations, the department coordinates with the other State departments, policy makers and technical institutions to develop well-defined strategies to manage crises and also to mitigate the risks caused by the same. The Commissioner of Revenue Administration undertakes all activities relating to Disaster Management and Mitigation besides managing relief and rehabilitation activities of any disaster in the State. The Principal Secretary/Commissioner of Revenue Administration is also the Relief Commissioner of the State.

The Department places equal importance on preparedness, response and mitigation to develop a robust disaster management unit in the State. Information on 'State of the Art' technology and equipment to be used during emergencies are collected and necessary actions are being taken to strengthen the control rooms in the State and districts. Efforts are also on to strengthen emergency management systems at the Taluk and Sub-divisional levels. The procedures and systems pertaining to preparedness and relief are periodically reviewed and necessary improvements made. Further the department also reiterates the necessity to continuously undertake measures to build capacity among all the disaster management stakeholders and to create awareness among the community members. The State relief Commissioner is the Member of the State Disaster Management Authority (SDMA), which has the Honorable Chief Minister as its Chairperson.

At the district level, the District Collector has the responsibility for the overall management of disasters. He has the authority to mobilize the response machinery and has been given financial powers to draw money under the provisions of the General Financial Rules/Treasury

Codes. All departments of the State Government including the Police, Fire Services, Public Works, Irrigation etc., work in a coordinated manner under the leadership of the District Collector during disasters, except in Metropolitan areas where the Municipal body plays a major role. NGOs have also participated in providing relief, rescue and rehabilitation in recent times.

3.2 State Disaster Management Authority (SDMA) [11]

The Authority has been established with the Hon' ble Chief Minister as the Chairperson. SDMA consists of:-

- Honourable Chief Minister – Chairperson – Ex-officio- Chairperson
- Honourable Minister for Revenue- Member
- Chief Secretary – Ex-officio- Member
- Secretary – Revenue- Member
- Secretary – Finance- Member
- Secretary – Home - Member
- Special Commissioner and Commissioner of Revenue Administration- Member
- Dr. S. Rajarathinam, Director, Centre for Disaster Management and Mitigation, Anna University, Chennai – 600025. – Member
- Prof. K.N. Sathyanarayana, Department of Civil Engineering, Indian Institute of Technology Chennai-600036. - Member

3.3 District Disaster Management Authority [11]

District Disaster Management Authority is notified with the respective District Collectors as the Chairperson.

4. INITIATIVES

4.1 Disaster Management Policy[12]

The Government formulated the Tamil Nadu Disaster Management Policy for the management of disaster in the State.

The aim of Tamil Nadu Disaster Management Policy is to reduce the negative impact of all kinds of disasters through a vibrant disaster management machinery so that loss of lives, property & critical infrastructure is minimized and economic and development gains made by the State are not lost due to such calamities/ disasters.

Objectives of the Policy

- To replace the existing approach of re-active relief by a proactive approach.

- To develop a new culture of prevention, preparedness and quick response for management of disasters
- To reduce the vulnerability of the community through proper risk assessment
- To put institutions and structures in place for efficient and effective management of disasters.
- To establish a clear chain of command with well defined authority and responsibility of various stakeholders.
- To identify and utilize the available resources efficiently.
- To ensure transparent, consistent and equitable relief to the victims.
- To make disaster management planning an integral part of development planning
- To design appropriate disaster prevention and mitigation strategies for different disasters.
- To enhance the capacities of various players including the community in disaster management and mitigation.
- To create database about the policies, resources and strategies of disaster management.
- To create awareness among all sections of society especially students to develop expertise in the disaster management discipline

The Key Components of Tamil Nadu Disaster Management Programme are (i) to establish a Disaster Management Authority (DMA), a Nodal agency to guide, facilitate, coordinate and monitor various aspects of disaster management, (ii) to take steps for convergence of disaster management and development planning, (iii) to take steps to formulate comprehensive disaster management plans at all levels after taking into account the local conditions, (iv) to focus on the reduction of vulnerability of communities instead of mere disaster relief, (v) to provide necessary legislative support for recognizing the role of present and future stakeholders, (vi) to recognize the need for an integral approach based on multi-disciplinary process in dealing with the disaster, (vii) to foster a culture of prevention, among the community and various organs of Government through training and awareness campaigns, (viii) to involve the community at all stages in the disaster management activities, (ix) to give due importance to NGOs community based organizations and other voluntary/philanthropic institutions, (x) not allowing discrimination on the basis of caste, creed, community or sex while distributing the assistance/relief, (xi) to ensure transparency in decision-making and information sharing, (xii) to create a trained and committed volunteer force on the line of Home Guards for disaster Management..

A State Steering Committee has been constituted under the Chairmanship of the Chief Secretary to Government for implementing the project in Tamil Nadu.

4.2 Disaster Management Plans[12]

A State Disaster Management (DM) Plan has been prepared and is being updated. District disaster management plans are in place and are periodically updated. Standard operating procedures (draft) have been prepared for chemical, biological, radiological and nuclear disasters.

As part of the strengthening of disaster management information systems in the State, it is essential to systematically develop district disaster management plans that will be instrumental for effective preparedness, response and mitigation of disaster risks in the respective districts. The existing plans will be reviewed and updated during the said process. The exercise will be undertaken in all the 32 districts. The same exercise will be undertaken to update State DM plan. Regular mock drills based on the DM plans are being planned in the State and Districts.

4.3 Strengthening of Emergency Operation Centers in the State/Districts[11]

Sensing the need to create an effective emergency operation center, it is proposed to provide all essential facilities to promote effective coordination between stakeholders and enhance efficiency of emergency management operations Details of existing Early Warning System in the State.

It is being proposed to strengthen the emergency management systems at the Sub-divisional and Taluk levels also. Towards this end, it is proposed to provide emergency equipment to the Sub-divisional/ Taluk offices, which will be used during times of emergencies. It is also proposed to form State Disaster Response Force (SDRF) by training a Battalion of Tamil Nadu Special Police. The training will be imparted by National Disaster Response force.

Hotline between Indian Meteorological Department and the State Emergency Operation Centre (EOC) is established. Dissemination to the districts is done through telephone and fax. IP phones are also available, which connects the State with the district headquarters, taluks and blocks of the State. Wireless radio network; both high Frequency and very high frequency are available in the State.

4.4 Strengthening of Emergency Response at Hospitals[11]

Hospitals are one of the crucial players during emergencies and hence it is proposed to strengthen their emergency response capacities. Towards this end, it is proposed to support major Government hospitals in the State to develop a disaster management plan, to handle emergency situations effectively. The proposal also envisages training of hospital personnel and organizing mock drills in the premises based on the plan.

4.5 State Disaster Response Force (SDRF) [11]

State Disaster Response Force (SDRF) is being constituted by designating Tamil Nadu Special Police (TSP) Battalion II, Avadi as SDRF.

4.6 State level Resource Database[11]

A database of trained personnel, Disaster Management related studies etc., is being developed.

4.7 Capacity building programmes[11]

Sensitization of PRIs / ULBs on disaster management in the districts has commenced. Awareness generation on disaster safe construction is being carried out in engineering colleges. School Safety Programme is also being carried out in selected districts. Programmes are being implemented to create awareness on Community Based Disaster Preparedness among vulnerable community members. Training of NGOs on Disaster Management under various programmes are underway.

4.8 Other Initiatives for the Disaster Risk Reduction in the State[11]

- It is proposed to revisit existing "Building By-laws" to make necessary amendments to ensure safe construction especially in disaster prone areas
- Recommendations will be made to undertake disaster resistant constructions under IAY (Indira Awaas Yojana) scheme
- Recommendations will be made to lay underground electric / communication cables in cyclone prone coastal areas
- It is proposed to develop bio-shield along the coastal areas, which will serve as wind brakes/ shelterbelts to mitigate damages due to strong winds. Farmers will be encouraged to take up the said activity.
- Special Insurance for cattle and crops in disaster prone areas will be provided. Establishment of a State Disaster Management Training Center is to be proposed.

4.9 Publications

1. Disaster Management. http://www.spc.tn.gov.in/annualplan/ap2005-06/ch_1_3.pdf
2. Twelfth Five Year Plan Tamil Nadu, Disaster Management in Tamil Nadu. http://www.agritech.tnau.ac.in/12th_fyp_tn/5.%20Natural%20Resource%20Management/5_5.pdf
3. Tsunami Rehabilitation Programme, http://www.tn.gov.in/tsunami/index.html
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