DISTRICT DISASTER MANAGEMENT

PLAN-2017

SIVAGANGA DISTRICT

DISTRICT DISASTER MANAGEMENT AUTHORITY

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AN INTRODUCTION TO DISASTER MANAGEMENT

Concept and Meaning

A disaster is a consequence of a sudden disastrous event which seriously disrupts the normal function of the society or the community to the extent that it cannot subsist without outside help. A disaster is not just the occurrence of an event such as an earthquake, flood, conflict, health epidemic or an industrial accident; a disaster occurs if that event/process negatively impacts human populations. Disasters combine two elements: hazard, and the vulnerability of affected people. "A disaster occurs when a hazard exposes the vulnerability of individuals and communities in such a way that their lives are directly threatened or sufficient harm has been done to their community's economic and social structure to undermine their ability to survive.

A disaster can be defined as any tragic event stemming from events such as earthquakes, floods, catastrophic accidents, fires, or explosions. It is a phenomenon that disasters can cause damage to life, property and destroy the economic, social and cultural life of people. Disaster is the exposure of a group of people to a hazard, leading to a serious disruption of the functioning of a society and causing human, material, economic environmental losses which exceed the ability of the affected community or society to cope. A disaster results from a combination of hazards and vulnerability that exceeds the capacity of a society to reduce the potential negative consequences of risk. Hazard is an extreme event, natural or man-made , with a destructive potential to social, economic and human assets. These may include future threats, and may be “natural” (geological, hydro meteorological and biological) or man-made”

Disasters are often described as a result of the combination of: the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences. Disaster impacts may include loss of life, injury, disease and other negative effects on human physical, mental and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption and environmental degradation. A disaster is a calamitous, distressing, or ruinous effect of a disastrous event which seriously affects or disrupts (or threaten to disrupt) the critical functions of a community, society or system, for a period long enough to significantly harm it or cause its failure. It

is beyond the capapabilty of the local community to overcome it. The stricken community needs extraordinary efforts to cope with it, often with outside help or international aid.

Definition

The World Health Organization defines disaster as " any occurrence that causes damage, ecological disruption, loss of human life, deterioration of health and health services, on a scale sufficient to warrant an extordinary response from outside the affected community or area"

Types of Disaster

Disasters are broadly divided into two types

1) Natural disasters (2) Manmade disasters

Natural Disasters

Natural disasters occur as the result of action of the natural forces and tend to be accepted as unfortunate, but inevitable. They include famines, droughts, tornadoes , hurricanes, floods, sea surges, tsunamis, etc.

Man made Disasters

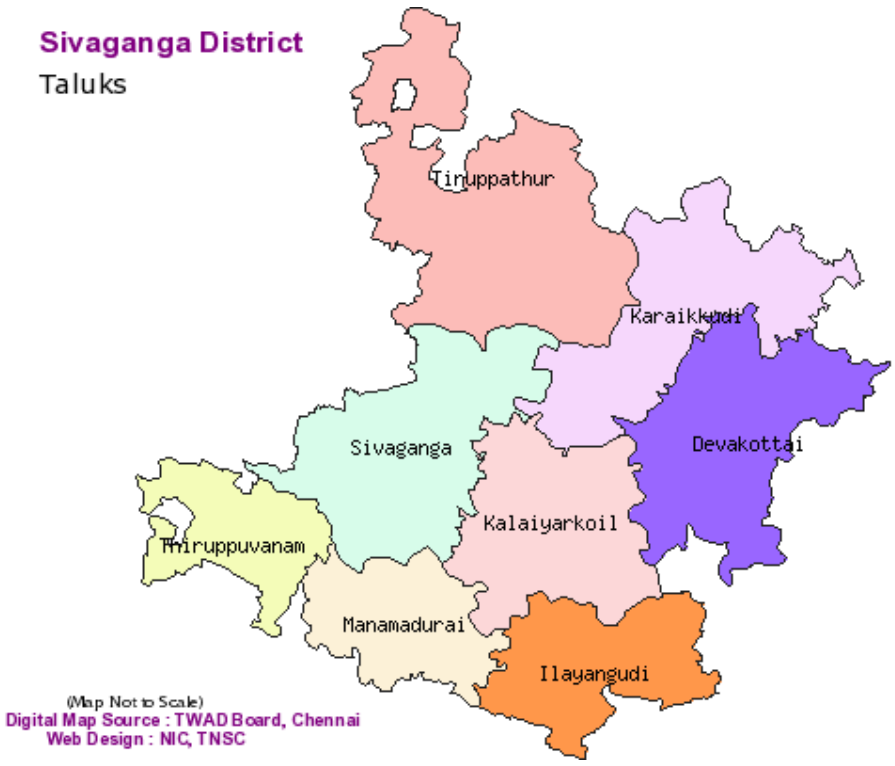
Accidents, industrial disasters, nuclear and radiation, famine, epidemics, wars, fires, terrorists attacks and riots are some of the man made disasters.

CHAPTER – I

PROFILE OF SIVAGANGA DISTRICT

District came to existence on	**15.03.1985**
Total area	**4189. Sq.km.**
Total population	**13,39,101**
Height from sea level	**39.83 m MSL**
Latitude	**9.49' N to 10.2 'N**
Longitude	**77.47 E to 78.49 E**
District boundaries	**<u>Land Locked by Districts</u>** **East – Ramanathapuram** **West _ Madurai and virudhunagar** **North – Pudukottai** **South _ Ramanathapuram and Virudhunagar.**
Tahsil (9)	**Sivagangai, Kalayarkovil, Manamadurai, Thiruppuvanam, Ilayangudi, Devakottai, Karaikudi, Thiruppathur and Singampunari**
Development Block(12)	**Sivagangai, Kalayarkovil, Manamadurai, Thiruppuvanam, Ilayangudi, Devakottai, Kannankudi, Sakkottai, Kallal, Thiruppathur, Singampunari and S.Pudur.**
Town Panchayat (12)	**Nattarasankottai, Manamadurai, Thiruppuvanam, Ilayangudi, Kottaiyur, Kandanur, Kanadukathan, Puduvayal, Pallathur, Thiruppathur, Singampunari and Nerkuppai.**
Municipalities (3)	**Sivaganga, Devakottai and Karaikudi**
Total Revenue Villages	**521**
Total Panchayat	**445**
Town Panchayat	**12**
Town Municipality	**03**
Population Density	**320 per Sq.Km**
Sex Ratio	**1003**

Average Rainfall	**904.7**
Major River	**Vaigai**
Literacy Rate	**79.9%**
Male	**87.9%**
Female	**71.9%**
Land holding pattern	**Plain area**
Cropping pattern	**Paddy, Cotton, Chilly, Groudnuts, Sugarcane, Rainfed crops, etc**
Horticulture crops	**All Vegetables and fruits**
Livelihood Activities	**Agriculture**
Major Drinking water sources	**Ground water, CWSS with Cauvery and Vaigai as source, Own ground water source**
Critical Establishment	**NIL**
Climate and Weather	**Moderate**
Critical Infrastructure as industries	**Small Scale and Moderate Industries**



Number of Taluks	9
Number of Revenue Villages	521
(Select any taluk)	
Taluk	Revenue Villages
Sivaganga	67
Kalaiyarkoil	63
Manamadurai	41
Thiruppuvanam	43
Ilayankudi	52
Devakottai	91
Karaikudi	64
Tirupathur	51
Singampunari	49

1.1 GEOGRAPHICAL LOCATION:

Sivaganga District is the 27th largest district by population size and the density of people per Sq.Km is 324 as per 2011 census Sivaganga district is located between 9˚.43' and 10˚.22' North Latitude and 77˚, 47' and 78˚.49' East longitudes. It covers area of 4189 sq.km. It is bounded by the Pudukottai District on the North. Madurai and Virudhunagar Districts the west and Ramanathapuram on the west and south. It is a landlocked district.

1.2 DISTRICT AT A GLANCE:

Sivaganga District has a population of 13,39,101 out of which 6,68,672 are males and 6,70,429 are females. The district is placed 29th (32) in respect of population density. The sex ratio is 1000. The total literacy rate 80.46%.

1.3 PHYSIOGRAPHY:

Sivaganga district has red soil and clay soil. The familiar landscape is of palm and acacias. The Vaigai River flows in the district which fill water to around 100 tanks. A small hillocks in Piranmalai and small hillock at Kundrakudi are the hills in the district worth mentioning.

1.4 CLIMATE:

The climate is almost dry and sultry, especially during summer months. During the winter season (i.e.) December to January the temperature is below the normal.

1.4.1. TEMPERATURE:

The district experiences sunshine and moderate high temperature through the year. The maximum temperature of 42˚-43˚C. The months of April and May are the hottest months and the cold weather prevails only during December – January.

1.4.2. RAINFALL:

The district receives normal, annual rainfall of 904.7mm and the season wise rainfall distribution is tabulated as below.

Season	Month	Normal Rainfall (rounded to nearest mm)
Winter	January-February	45
Hot weather	March – May	136
Southwest Monsoon	June – September	310
North east monsoon	October – December	414
Total		**905**

Sivaganga District lies in the rainfall receiving region of the State along with Ramanathapuram and Virudhunagar Districts.

1.5. GEOLOGY:

The mineral available in the District include yellow ochre, graphite, latarite and lime stone, the large portions of land comprises of sedimentary rock area covered by latarite soil.

1.6 HYDROGEOLOGY:

The major water bearing formation is the sedimentary and hard rock formation. The average depth of water level during pre monsoon level is 1.93 meter to 16.2 meters and for monsoon period the water level is 0.57 meter 15.5 meter.

1.7 SOIL AND AGRO CLIMATE ZONE:

The predominant soils of Sivaganga are black red sandy soil and it falls in the southern zone of agro-climatic zone of TamilNadu.

1.8 DRAINAGE SYSTEM:

Besides River Vaigai, the other small rivers are Uppar, Manimuthar, Virusuliyar, Saruganiyar and Thennar, Palar, Kottakariyar, Pambar, and two basins namely Manimuthar Basin Division, and Saruganiar Basin Division.

1.9 LAKES / RESERVOIRS:

There are no Major lakes (or) reservoirs on this district. The total number of major tanks are 1451. Besides this nearly 2928 union tanks are also available in the district, which forms the major source of water, received through Vaigai / Periyar canals as well as rain water.

1.10 FORESTS/NATURAL VEGETATION:

The total forest area in Sivaganga District is 16,533 hectares which accounts for only 4.3% of the land, which is very low when compared to the State forest cover of 17.59% which is also very low when compared to 33.33% of National Forest Policy 1988. The total cropped area is very far below than the State level as a whole. The total cropped area is 98,080 hectares.

1.11 Demography:

According to 2011 census, the total Population of the District stood at 13,39,101 person with a sex ratio of 1000. The official decadal growth of our district is 16.09%.

1.12 Administrative Units:

The total area of the district is 4189 sq.km. The Major administrative units of the District Constitutes 2 Revenue Divisions, 9 Taluks, 39 Firkhas, 521 Revenue Villages, 3 Municipalities, 12 Town Panchayats, 12 Blocks and 445 Village Panchayats.

1.13 Urbanization:

The total Urban Population of the District is around 30% of the total Population.

1.14.Health:

The District has a three tier health system comprising of Hospitals, PHCs, Health units, Community Help Centres and Sub Centres. The District has one Medical College, 29 Government Hospitals, 75 PHC and 275 Medical sub centres. The infant mortality rate (IMR) of Sivaganga District is lowest among the major districts.

1.15 Road Network:

National Highways connecting Rameswaram and Madurai passes through this District. Now major roads are being brought under NHAI and the district is very well connected by roads to the neighboring districts.

1.16 Railway Network:

The total length of Railway line is 131.49km. The Manamadurai and Karaikudi are important junctions in the District, and gauge conversion is in progress from Karaikudi-Aranthangi segments.

1.17 Airport:

There is no airport in the District and the major airport available nearest to the District is the Madurai Airport, which 45km from the District headquarters, Sivaganga.

Chapter II

State Disaster Management Plan - Overview

2.1 District Disaster Management Plan (DDMP):

The objective of DDMP is to formulate a set of guidelines, based on the NDMP and SDMP which will be a well defined mechanism to meet any eventualities in future and which have to be updated based on the district needs, under the supervision of the District Collector in consultation with all line departments in accordance with the provisions of the Disaster Management Act. 2005. The various emergency support function of line departments are to be listed out in this plan. An inventory of resources available in the District is to be provided. The DDMA have to be fine tuned by the requirement of the individual areas and emergency situations.

2.2 Vision:

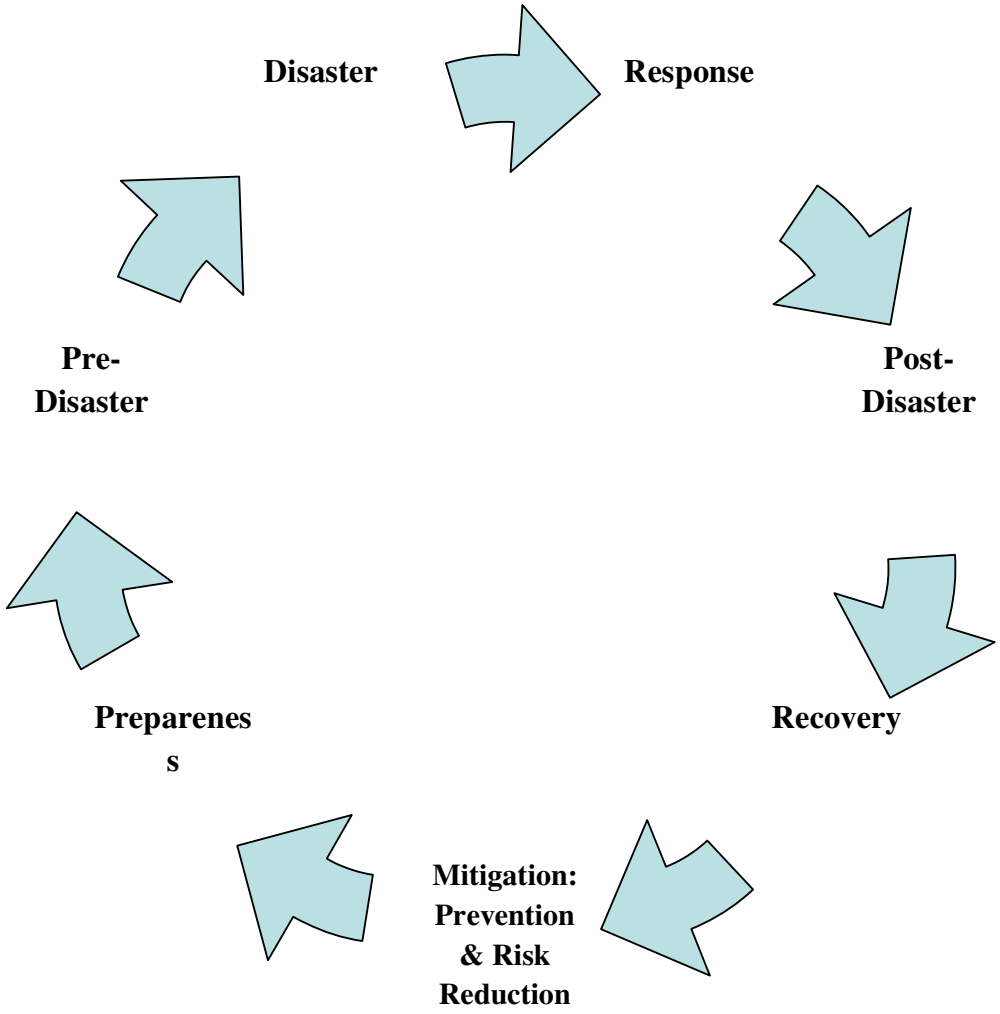
To build a Safer Disaster resilient district by developing a pragmatic, multifaceted strategy for disaster management that will harness collective efforts of all stake holders incase of any eventuality.

2.3 Aim of District Disaster Management Plan:

- To outline the vulnerability of different parts of district to different type of disasters
- Set in place a reliable forecasting and early warning systems
- To specify measures to be adopted for prevention & mitigation of disasters
- Highlights the role of NGO's and other NGO in different phases of managing disasters
- Develop Standard Operating Procedure (SOP) for various possible disaster
- Define roles and responsibilities of different line departments
- Integration of mitigation measures with all line departments

2.4 Scope of Plan:

The DDMP provides plan for approach that looks at the four possible phases of disasters in an overlapping manner, which requires different approaches and responses to the situation on hand



2.4.1 Non-Disaster:

The prepaid of normalcy and this period is suitable to prepare for sensitizing and to create awareness in facing any eventuality during this period, possible disaster risks are to be identified and steps to be taken to reduce causalities and damages.

2.4.2 Pre-Disaster:

The phase when the disaster is going to happen and there is regular possibility of panic and to mitigate the impact of likely disaster. The focus is on safeguarding lives and assets of area likely to be affected in a coordinated manner.

2.4.3 During-Disaster:

This phase will test the preparedness and training given to the community to face the immediate needs of the affected community in the shortest possible time. Quick response, mobilization of all resources to the safety & rescue of life to property and other mitigation activities will determine the effective response at this stage.

2.4.4 Post Disaster:

The impact of the disaster requires manifold steps to restore normally both in short term to long term. This phase will work on the measures to bring back the community to normalcy using all available resources within the shortest possible time.

2.5 Community based Disaster Management:

The local people (or) the community is the first to respond along with the departmental team. Hence the response to the disaster should naturally harnessed from the member of the community, local volunteers and organization before the Government step in each and every citizen should play a important role during and after emergencies.

They are the one to be involved in search & rescue activities. The government in partnership with community organization should educate & train the local community in the period of disaster.

2.6 Community Based Disaster Management (CBDM) Approaches:

It is the approach which will contribute to build the capacity of communities to assess their vulnerability to hazards and to develop strategies & resources and to respond, rehabilitate and reconstruct following the disaster.

- Sufficient training and awareness should be given to the community as they are the first responders to act incase of any disaster.
- To Provide adequate resources and support for risk reduction
- Identify the most vulnerable group [e.g] children, people with disabilities & old age persons
- To prepare local risk Mitigation & Management Plan
- Constituting teams at Village / Taluk / Block / District level and to train according
- Conducting mock drills / rehearsals at community level

2.7 Agencies Involved in Disaster Management:

The disaster management is cut across all section both public and private and requires involvement of multiple decisions in a cohesive manner.

2.7.1 District Disaster Management Authority (DDMA):

The DDMA is similar in functioning to the State level Authority and is the planning, coordinating and monitoring body at the district level headed by the District Collector.

The member of DDMA are

i) The District Collector – Chair Person

ii) The District Panchayat Secretary –Co-Chair Person

iii) The Superintendent of Police

iv) The District Revenue Officer (Chief Executive Officer)

v) P.A (General) to the Collector

vi) Additional Collector / PD (DRDA)

vii) Joint / Deputy Director of Health Services

viii) Superintendenting Engineer (PWD / WRO / Madurai)

ix) Dean, Sivaganga Medical College

The DDMA shall monitor the district preparedness throughout the year both during non disaster and disaster periods conducts periodical review of the arrangements available resources, seeking NDRF / Army for help in case of emergencies.

2.7.2 District Emergency Operation Centre (DEOC):

The DEOC is located in the office of the District Collector, who shall serve as the command and control centre. The District Collector shall constitute various teams for the effective coordination among line Department, which has to be well represented nodal officers shall be made available on easy contact basis sharing of information from top to village level and to cause for early remedial measures.

The DEOC shall send regular reports to SEOC

The list of important telephone No's to be used at time of emergency is provided in **Annexure 1**

2.7.3 Roles & Responsibilities of District Collector:

All departments of the State Government, including the Police, Fire Services, Public Works, Irrigation, Rural Development, Forests and others shall work in a coordinated manner under the leadership of the District Collector during disasters, in other parts of the state where the municipal corporation is located, the Collector shall be the main coordinator. Hence, the overarching role of the District Collector in handling the situation during the disaster is highlighted below.

On taking charge, a District Collector shall hold a full – fledged session within ten days with all key members of the District Department team heads to

(a) Take stock of the vulnerability of the district to different types of disasters

(b) To review the districts preparedness for tackling disasters

(c) To examine the Disaster Management Plan for the District and

(d) To Ensure a robust decision support system (online and offline communication system) is in place in the DEOC and connected with the sub- Division, Taluk / Block level.

- For nuclear emergency response, DSS is being developed at DAE. For nuclear emergency from Kalpakkam, the RDO office serves as the command centre.
- Access funds from the State Government for activities and ensure that a training calendar is in place for Disaster Management.
- Coordinate all disaster response activities with the DEOC and ensure that the Incident Response Teams are in place.
- Stay well-connected with community leaders through the line departments and their respective stakeholders at the field level.
- Give directions for the release and deployment of resources available with any department of the Government, Local Authority, Public / Private sector etc. in the District.
- Ensure that the NGO's carry out their activities in an equitable and non-discriminatory manner.
- Ensure provision for accountability of personnel and a safe operating environment.
- Mobilize experts and consultants in the relevant fields to advise and assist as may deem necessary.

In the event of a disaster – the District Collector is required to send a report immediately, to the SEOC that will indicate the severity of the disaster, action being taken, resources required in addition to the resources on hand, logistics for delivering relief and any other information found necessary. Thereafter, a daily situation report that will give a clear picture to the State administration needs to be sent.

2.8 Taluk / Block / Zone Level Disaster Management Committee:

A disaster can effectively be handled only to the extent that adequate delegation has taken place and involvement of all wings of Government are clear about their respective roles. A Taluk / Block level disaster management committee is necessary and shall be formed under the direction of the District Collector. This Committee will monitor the development and implementation of taluk level disaster management plans.

2.9 Village / Ward level Disaster Management Committee:

This Committee is perhaps the most important to be formed and requires maximum involvement of the District Collector in ensuring that there is no bias in its constitution. Every disaster requires maximum involvement and wholehearted cooperation of the village / ward level citizens and there needs to be good representation. The Panchayat, VAO, local institutions, NGO's, youth clubs and the like should be encouraged by the administration to be involved in the event of an emergency. They are the first responders to garners disasters response and an effort will be taken to make the communities strong and vibrant in proactively tackling the disasters.

- This will include to play a key role in organizing training (first aid, search and rescue, extrication from damaged buildings, road clearance, firefighting)
- Raising awareness (about hazards, risks, disaster response)
- Community drills (annual drills for disaster response in the community)
- Equipping the community with minimum resources (first aid kit, extrication equipment, lifejackets, lifebuoys, rope and the like)
- Awareness towards the safe drinking water to the community as it prevents Epidemic outburst.

Then that community is bound to be strong and vibrant in proactively tackling the disaster.

2.10 Emergency Ambulance System:

Government of Tamil Nadu with the assistance of GVK-EMRI, Provides free ambulance services to those in need of urgent medical assistance throughout the state. The State of the art fully equipped ambulances are being run to provide quality health services to the people of the state. The scheme has proved very effective in providing timely medical service and in saving lives. 24×7 emergency ambulance services are made available on dialing a single toll free emergency number **108**. During a disaster, they play a very important role as they are in easy access to any location in the state.

2.11 Departments & Directorates:

- Establishment of control room in all line departments
- To coordinate among all line departments
- To establish a special technical all
- To available department specific plans
- Monitoring the implementation

2.12 Fire & Rescue Services Department:

The Department is entrusted with the task of firefighting and rescuing operations. This department shall also undertake rescue activities during floods, and from the fallen debris of buildings and other rescue activities. They are to be involved in all types of rescue activities in event of disasters.

2.13 Armed Forces:

The District Collector, if exigencies arise may place the request to the Armed Forces through the Chief Secretary if the situations warrants.

2.14 National Disaster Response Force (NDRF):

For Tamil Nadu, NDRF is located in Arakonam of Vellore District, which may be called for by the District Administration in the event if any disasters.

2.15 State Disaster Response Force (SDRF):

State Disaster Response Force (SDRF) team has been constituted with a strength of 80 police personnel comprising one Deputy Superintendent of Police, 3 Inspectors of Police, 6 Sub-Inspectors of Police and 70 Police personnel from other ranks on OD basis from Armed Police, Chennai to TNCF. They have been trained in disaster management and rescue operation in consultation with nation disaster Response Force (NDRF)

The SDRF is trained on the lines of the NDRF to deal with any untoward situation. In the past the SDRF has also been effectively involved in conducting evacuation, rescue activities in disaster situation in the state. They are trained in Disaster response techniques such as detection and location; extrication and access, fire fighting, medical and first aid.

2.16 Home guards:

It is a voluntary citizen's force to assist the police in maintenance of law and order and for meeting emergencies like floods, fires, cyclone etc.

2.17 National Service Scheme (NSS):

NSS is the Social Service Unit at the College level and has a vibrant and easily approachable youth force which can reach a spot that is in close proximity to a college in an organized manner to take up challenges to provide preliminary help, aid and awareness to the victims. They are trained in disaster response techniques such as detection and location, extrication and access, fire fighting, medical and first aid.

2.18 National Cadet Corps (NCC):

There are 5 NCC Group Headquarters and 51 NCC units under the control of this Directorate. 5 NCC Group Headquarters are located in Chennai. (2) Coimbatore, Madurai and Tiruchirapalli. 51 NCC units are located in various places of Tamil Nadu. They were trained in formulation of SOPs / Plans within the State, Establishment of Control Room, check list of Warning Systems and Communication Systems, Capacity Building of units and cadets and assist during the emergencies.

2.19 Nehru Yuva Kendra Sangathan (NYKS):

It is an autonomous body under the Ministry of Youth Affairs and Sports with a nation – wide presence. In nearly 500 districts it is a large grass- root level youth organization. NYKS volunteers have traditionally been active in the forefront of assisting the civil administration in times of disasters. The organization has been active in relief management and distribution. Their involvement will need to be harnessed and they should be a part of mock drills.

2.20 Indian Red Cross Society:

The Red Cross Society function at the state and district levels. This is a movement for providing relief to the people when they are in dire needs. As an organization that provides relief internationally to people in distress, it has credibility at the field level.

2.21 Indian Railways:

Indian Railways is spread over a vast geographical length over 63, 000 route kilometers in India. In the event of a disaster, Southern Railways can assist in the rescue and relief operations. Railways are often the preferred mode of transport both for the movement of people and relief material in bulk. Railways will also have a disaster management plan that will involve coordination with the district or state administration. The more effective the networking mechanism is the better will the coordination be in times of difficulty.

2.22 Emergency Management Contact Directory:

An Emergency Management Contact Directory Containing contact numbers of all nodal officers in disaster management at the national, State and District level – of the Government, Private, NGO's and the community will need to be prepared and maintained. The Collector will supervise and coordinate the preparation and regular updating of this directory at the district level and send a soft to the TNSDMA.

- The TNSDMA and DDMA may develop a comprehensive resource inventory of NGO'S CBO's and Organizations in disaster management and emergency response. Web-enabled centralized database will need to be tapped. Networking will enable quick access resources minimize response time in emergencies. The system should give the location of specific equipment and resources as well as controlling authority for that resource so that it can be mobilized for response in the shortest possible time.

- The database will need to be made available at the district and state level and may be used for all emergencies.

- Similarly, an expect database comprising of trained experts in various disasters, volunteers, NGOs retired Government Servant, swimmers, rescuers etc. will need to be prepared by each district and sent to the TNSDMA.

  The District Collector will need to maintain an updated list of professionals like doctors, paramedics, civil and construction engineers, architects and town planners and send it to the TNSDMA every year for updating of the State list.

2.23 NGO:

NGOs play a key role in disaster situations and go along way in plugging the gaps during emergencies as they often have good relationship with the local Community. Here is why good, sincere and hard-working NGOs need to be involved in disaster mitigation activities.

- NGOs play a very important role in mobilizing communities and in initiating Disaster Risk Reduction activities.

- The strong linkages which NGOs have with grassroots communities can be effectively harnessed for creating greater public awareness on disaster risk and vulnerability, initiating appropriate strategies for strengthening the capacity of stakeholder groups to improve disaster preparedness, mitigation and improving the emergency response capacities of the stakeholders.

- In addressing the emerging concerns of climate change adaptation and mitigation, NGOs can play very significant role in working with local communities and introducing innovative approaches based on the good practices followed in other countries.

NGOs can bring it financial resources from bi-lateral and multilateral donors for implementing pragmatic and innovative approaches to deal with disaster risk and vulnerability, and also by effectively integrating and converging the various government programmers, schemes and projects to create the required synergy in transforming the lives of at-risk communities.

CHAPTER-III

HAZARD VULNERABILITY AND RISK ASSESSMENT IN SIVAGANGA DISTRICT

3.1 Disaster Risks in Sivaganga District:

Generally, Sivaganga District is prone for two kinds of disaster risks drought and occasionally floods.

The District has a history of floods and drought conditions. Due to depletion of ozone layer and pollution the average temperature during summer is becoming intolerable. The average day temperature may rise in the years which will be a major disaster to face. The people and the community are to be sensitized on this issue. Besides this, no disaster looms large in respect of Sivaganga District.

3.2 Flood / Cyclone Disaster:

The district has no coast line. Hence the chance of direct threat by cyclone is almost NIL; but due to heavy downpour on the formation of cyclone, flash floods are common in this district.

3.3 Incidents and spread of drought

Drought is an universally acknowledged phenomenon associated with scarcity of water. It is still largely unpredictable and varies with regard to the time of occurrence, duration, intensity and extent of the area affected from year to year. It is difficult to provide precise and universally accepted definition of drought due to its complex nature and varying characteristics.

3.3 Drought Proofing

To conserve every drop of rain water received during North East Monsoon season, drought proofing exercises like clearing of supply channels to water bodies, eviction of encroachments in water bodies, strengthening bunds, removal of prosophis in water bodies, desilting of culverts, storm water drains, canals, tanks, etc. will be undertaken before the onset of monsoon.

3.4 Details of disaster risks in the District for the last 10 years

Sl.No.	Year	Type of Disaster	Remarks
1	2005	Flood	Narrated as below
2	2006	Nil	

3	2007	Nil	
4	2008	Nil	
5	2009	Nil	
6	2010	Nil	
7	2011	Flood	
8	2012	Drought	Narrated as below
9	2013	Nil	
10	2014	Nil	
11	2015	Nil	
12	2016	Drought	Narrated as below

Flood 2005:

The district experienced heavy rainfall and flood during November 2005. During that monsoon period, out of 521 revenue villages, 148 villages were marooned. About 282 km of highway road 72 km of municipal road and 1901 km. of panchayat road were damaged. In case of emergency, navy and coast guard have to be called to assist in the resume and relief operations. Boats also has been called to reach the marooned villages for rescue operations.

Singampunari receives water from adjacent district, (i.e) Madurai and Dindigul. Due to heavy rainfall in catchment area of Palaar and forest rivers which flows from Dindigul passed through Singampunari and passed through Sanaveli ground level bridges on the adjacent Ramnad District. During this flood a passenger bus was caught in the floods, capsized the bus and 10 persons belonging the district were among those killed in the accident. Based on this experience, the police, highways, Public works department, Revenue and transport authorities were alerted to take precautionary measures sufficient to avert such kind of accidents.

FLOOD 2011:

Sivaganga District usually receives considerable rainfall during North East Monsoon wise than the rainfall during South West Monsoon.

The normal average rainfall during the North East Monsoon Sivaganga district is 413.7mm during the North East Monsoon of the year 2011. Sivaganga district recorded an average rainfall of 526.89 mm.

During the flod 2011 the loss of human life was 5 and cattle loss was 7 further lose of life was controlled by taking subsequent precautionary actions.

DROUGHT – 2012:

In G.O.MS, No.48 Revenue Disaster Management. 3(1) Department. District 13.02.2013 the Government has declared that all districts of the State except Chennai as drought affected and announced various relief measures to the district. The government in their order G.O.MS. NO.46 Revenue Disaster Management (111) (1) department, dated 13.02.2013 have formed a high level committee with the Hon'ble Finance Minister as Chairman for the assessment of drought condition and to suggest remedial measures in the non-delta districts.

Based on recommendation of High Level Committee and report from the concerned Districts Collectors, the Hon'ble Chief Minister has announced various relief measures to the farmers in the Non-Delta districts in the assembly on 19.04.2013, accordingly in the G.O.MS. NO.123 revenue (DM111) (1) department district 25.04.2013, the government among other things have sanctioned the fund towards relief assistance to the affected farmers whose crop loss is more than 50% in the non delta regions of Tamil Nadu and also authorized the competent authority for drawal and disbursement of amount sanctioned.

Accordingly a sum of Rs. 75, 64, 56, 361/- (rupees seventy five crore sixty four lakh fifty six thousand three hundred and sixty one only) was sanctioned towards the payment of relief to the affected farmers through the PACB/Commercial bank.

DROUGHT 2016-2017

In G.O.MS. NO..6. Revenue 3(1) Department. District 10.01.2017 the Government has declared that all districts of the State except Chennai as drought affected and announced various relief measures to the district. The Government in their order G.O.MS. NO.47. Revenue Disaster Management (111) (1) Department, dated 21.02.2017 have allotted a sum of Rs-90.49 crore (Rs. Eighty Eight Crore & Ninety Nine Lakh) as Agricultural input subsidy to the affected farmers.

Accordingly a sum of Rs. 80.97 crore (Eighty Crore and ninety seven lakh) was sanctioned towards the payment of input subsidy to nearly 90119 farmers and the amount credited to the accounts of the farmers through ECS

3.6 Man Made Disasters:

The district is also prone to various man made hazards including frequent fire in habitations, rail and road accidents, minor industrial and chemical hazards, biological hazards and bore well accidents.

3.7 Vulnerability of the District:

The district, as said earlier is mostly vulnerable to floods and droughts.

3.7.1 Flood Vulnerability:

Even though the district is a landlocked one, floods in the district are associated with cyclone with heavy rain and rainfall in the catchment area of Periyar and Vaigai dam, as the above two areas receives plenty of rainfall, the river carry heavy discharge of river water, which causes floods. Since elaborate arrangements were already made based on the past history, the vulnerable risk due to flood is minimized (almost nil).

3.7.2 Drought:

Low rainfall coupled with erratic behavior of the monsoon in the state makes the district most vulnerable to drought, which can have a devastating impact on the population, drought variability has a district and significant impact an food products and overall economy. Sivaganga district is frequently prone to drought as it has no perennial river and water source.

3.7.3 Fire and Explosive:

Tamil Nadu is vulnerable to fire risk disasters and some of the districts fall in the very high risk and risk categories. Sivaganga Districts does not fall in to the high risk category. The analysis was borne out of assessing the population density, residential built-up area and industrial areas in these districts.

The 2004 fire accident that occurred in a Kumbakonam school leading to 93 deaths is a tragedy that reminds us that fire related disaster can occur anywhere in the state.

3.7.4 Heat Wave Vulnerability:

A heat wave is a period of abnormal high temperatures, more than the normal maximum temperature that occurs during the (Hot weather) summer season. Heat waves typically occur between March and June. The extreme temperatures and resultant atmospheric conditions adversely affect people living in these regions as they cause physiological stress, sometimes resulting in death, in some of the districts in Tamil Nadu. Sivaganga is one among the Districts that have witnessed heat waves.

3.7.5 Physical vulnerability:

Physical vulnerability relates to the physical location of people, their proximity to the hazard zone and standards of safety maintained and relates to the technical capacity of building and structures to resist the forces acting upon them during a hazard event. Damage also occurs due to increased density of houses, construction of houses in vulnerable areas, use of poor quality materials as substitutes and the like which then leads to major building collapse which leaves much collateral damage such disasters can happen in any district and considering the large number of high-rise buildings.

3.8 Vulnerability Analysis:

The impact of a hazard becomes a disaster only when an interface with vulnerability occurs in term of vulnerable structures, people (or) the environment. The analysis report will enable the district to develop a sound Disaster Management Plan that will be based an assessment that has factored in all the grand realities.

Hazards	Time of Occurrence	Potential Impact	Vulnerable are
Flood	October - December	Loss of life, Loss of house of Agriculture land and crop, loss of livestock, Loss of infrastructure	Singampunari, Manamadurai, Thiruppuvanam Block
Drought	Any Time	Loss of crops	Entire District
Fire	Any Time	Loss of life, Loss of house Loss of infrastructure	Entire District
Thunderstorms & Lightning	Any Time	Loss of Human & loss of livestock	Entire District

Chapter-IV

PREVENTIVE MEASURES

A long – term disaster management approach requires that planning activities for development should include robust mitigation practices. Government of Tamil Nadu would ensure that the planning activities of the state administration and local authorities take into account disaster risks and provide for suitable preventive and mitigation measures. Sivaganga District is prone to only Flood, Drought and Heat waves:

- **Hydro-meteorological Related Disasters (6):** Cyclones, Droughts, periodical Floods/ Urban Floods, Cloud burst, Heat Wave, Thunder and lightening.
- **Geologically Related Disasters (1):** Earthquake.
- **Chemical and industrial & Radiological Disasters (2):** Industrial Fires, Gas & Chemical Leakages.
- **Accidents Related Disasters (9):** Forest fires, electrical fires, building collapses, urban fires/Village, oil spills, serial bomb blasts, festival fire, stampedes, road/ rail accidents.
- **Biologically Related Disasters (4) :** Pest attacks, food poisoning, waterborne diseases, and cattle epidemics.

4.1 Early Warning and Dissemination systems:

Disasters early warning is a major element of disaster risk reduction. Early action can often prevent a hazard turning into a human disaster by preventing loss of life and reducing the economic and material impacts. To be effective and sustainable they must actively involve the communities at risk.

4.1.1 Nodal Agencies for Early Warning:

The following nodal agencies in the government of India are mandated for early warning of different natural hazards.

Table 4.1: Name of the Nodal Agencies for Disaster Early Warning Dissemination

Disasters	Agencies
Cyclone/Hydro-meteorological	India Meteorological Department
Earthquake	India Meteorological Department
Floods	Central Water Commission

Drought	Ministry of Agriculture
Landslides	Geological Survey of India
Tsunami	Indian National Center for Ocean Information Services

Tamil Nadu State Disaster Management Agency will coordinate with central agencies. These agencies shall be responsible for keeping track of developments in respect of specific hazards assigned to them and inform the designated authorities / agencies at National, State and District levels about the impending disasters. All these agencies would develop guidelines for early warning of disasters.

4.2 Setting up of Emergency Operation Centers:

In order to monitor the natural disaster round the clock, a permanent control room is established in the office of the District Collector, with all infrastructure facilities including desktop computers, direct permanent telephone numbers, two way communication system of VHF/HF facilities, fax. A toll free public utility service toll free number has been installed in the office of the District Collector for receiving and communicating information on various disaster related incidents by the general public. The District Control Room public utility service toll free telephone number 1077 at the control room in the district functions under the control of the collector under the overall supervision of the P.A (General) to the Collector.

4.2.1 Mechanism of Communication:

The TNSEOC acts as a nerve center for coordination and management of disasters. For information flow, besides its own toll free number 1070 for the State EOC and 1077 for district EOC the SEOC shall be connected to the existing network of emergency 108, Police & Fire and Chennai corporation complaints service Number 1913. The calls received from various parts of the state will be recorded and diverted to the concerned departments or Districts for immediate action as per the TNSEOC protocol. The TNSEOC shall have direct connection with IMD/RMC and adequate communication facilities to get connected with the early warning networks of all nodal agencies at the national and state level. The TNSEOC as centralized coordination mechanism shall provide direction and control on the following:

- Receive and process alerts and warning from nodal agencies and other sources and communicate the same to all designated authorities.
- Provide data and information to SEC for taking appropriate decisions and to monitor emergency operations.
- Provide and facilitate coordination between the districts and other EOCs situated in the state.

- Provide inventory of resources and requisitioning additional resources during the disaster phases.
- Provide and issue disaster specific information/data to all concerned.
- Consolidate analysis and damage loss and needs assessment data.
- Forwarding of consolidated reports to all designated authorities.

In order to ensure voice data and video transfer the SEOC shall have fool proof network with NIC, Police, Fire, IMD and other major emergency responders. All District Emergency Operation Centre/Control rooms will be connected with the SEOC. The district control rooms will be connected with the subdivision and block level nodes. 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.

Hotline between India Meteorological Department and the State Emergency Operation centre (EOC) is established. Dissemination to the districts is done through telephone, e-mail 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, as well as in the districts.

4.3 Emergency Health Response:

Emergency Ambulance Service System: Tamil Nadu Government has signed an MOU with Hyderabad based GVK-EMRI to provide free ambulance services to the patients in different parts of the state. The state of the art fully equipped ambulances is being run under "108" Emergency Ambulance system and providing quality health services to the people of the state. Assistance can also be obtained at this number within twenty minute for emergencies such as fire, Police apart from medical. The response center equipped with latest technology and infrastructure is located at Chennai. This facility will be linked with SEOC & DEOC for responding to all calls related to Disaster Management.

4.4 District Policy on Disaster Management:

Recognizing the fact that the Disaster Management is a multi-agency function the government of Tamil Nadu published a State Disaster Management Policy in the year 2004 which was updated in the year 2016. It gives a overall picture of Disaster Management in the State. TNSDMA have issued guidelines and funding to the nodal departments for undertaking capacity building, training, and preparation of DMPS, IEC activities etc.

4.5 Ensure Public Private Partnership:

TNSDMA will enter into an agreement with major project developers to support preparedness, relief, recovery, rehabilitation and reconstruction initiatives of the

government. Dist wise inventory of resources available with projects will be provided to SEOC &DEOC's. Regular meetings will be held involving project authorities, DDMA & NGOs and HOD's of Nodal Departments to assess the coordination and readiness of resources. It will be mandatory for the project authorities to present their disaster management plans to SDMA.

4.6 Mitigation and Prevention Partnership:

The State Government will frame prevention plan for efficient execution of the State Disaster Management Plan, the plan will be organized as per the following four stages of the Disaster Cycle.

Non Disaster – Mitigation (L0) : During Non-Disaster phase, the plan has to be used to identify the existing and potential risks and to reduce potential causalities and damage from disasters.

Pre Disaster – Preparedness (L1) : During before disaster phase, the plan urges to build the capacities of all stakeholders for a safeguarding their lives and assets by taking appropriate action in the face of any disaster and to ensure that response agencies are able to reach out to potential damage areas in a prompt and coordinated manner.

During Disaster – Response (L2) : During any Disasters, this plan paves a holistic and effective approach to attend the immediate needs of the affected population in minimum time possible.

Post Disaster – Relief (L3) : After any disaster strikes the district, the plan guides the district administration to build back better to attain the normalcy of the community as well as the government machinery is an effective manner.

4.6.1 Mitigation Plan:

The primary objective of mitigation efforts would be:

- To identify, delineate and assess the existing and potential risks and to work towards reducing potential causalities and damage from disasters.
- To substantially increase public awareness of disaster risk to ensure safer environment for communities to live and work.
- To reduce the risks of loss of life, infrastructure, economic costs, and destruction that result from disasters.

In view of the prevailing risk and the vulnerabilities perception, the mitigation measures proposed have been categorized under following seven major groups:

1) Risk assessment
2) Construction work
3) Repair and maintenance
4) Research and technology transfer
5) Training and capacity building
6) Land use planning and regulations
7) Resources for mitigation

Since vulnerability and risks varies from area to area and so is the capacity and capability to respond hence mitigation plan has been evolved by taking into considered local specificities. Mitigation strategies also envisage higher level of community involvement and participation.

In rural areas, characterized by inadequate infrastructure and poverty groups, all mitigation efforts will be backed up by a strong and committed programme of special development for the communities. Constant re-examination, of development policies and programmers, leading to equity and social justice, will be ensured for the successful implementation of mitigation efforts that are being proposed.

The role of training, education and information dissemination will constitute the key intervention for ensuring the implementation and sustainability of the mitigation strategies.

The SEC, with inputs from the technical institutions and experts will plan and coordinate all the mitigation activities at the state level. All the concerned departments will develop and implement their respective mitigation plans. The departments nodal officers will coordinate the mitigation activities and appraise the SEC about also be responsible for communicating the status of the department's efforts formation time.

4.6.2 Components of Mitigation Plan:

Component 1: Risk Assessment and Vulnerability Analysis: The Revenue and Disaster Management Department will be the prime department responsible for upgrading risk assessment and vulnerability analysis of state and district level. Special focus will be given to areas highly vulnerable to disasters triggered by climate change. The department will engage the local bodies, NGOs and local community in order to develop a realistic ground based assessments by working with panchayat and the district administration. The District Disaster Management Authority will periodically hold meetings to review local vulnerabilities or any symptoms of early warning indicative of potential disaster.

- Improve understanding of the locations, potential impacts, and linkages between hazards, vulnerability, and measures needed to protect life safety and health.
- Provide updated information about hazards, vulnerabilities, and mitigation processes to state and local agencies.

The various studies and assessment for vulnerable districts of TamilNadu (HVRA Atlas) that is being prepared through Anna Institute of Management.

Component 2: Construction work:

Building by-laws:

The techno-legal regime for the state will incorporate appropriate

Construction related codes and building by-laws of the state, which will be revised from time to time. Adequate zoning laws such as flood plan regulation, etc will be put in place to regulate development away from unsafe locations.

Infrastructure and Housing Repair and Maintenance:

Lifeline buildings represents critical infrastructure for the state, such as schools and hospitals. the public works department will be the primary agency responsible for conducting structural assessment, retrofitting and renovation of lifeline buildings. Existing development programmes will be examined to incorporate disaster resistant technologies in all existing technologies in all existing and new public buildings. Similarly in order to reduce the potential risk to other constructions, strengthening of micro level protection features will be identified and taken on priority in areas with recurrent threat of floods, and other water related disasters along major drainage basins in the State.

4.6.3 Training and capacity Building:

Training and capacity buildings of Government Officials:

At the district level, training programmes will be conducted in coordination with NGOs, and Government training / research institutions and line Departments by Anna Institute of Management and other Agencies approved by the Government periodically, which can impart training to the government officials of all levels. Also Disaster Management Training were imparted to all ministerial Staff of Revenue Department at Civil Service Training Institute at Bhavani Sagar.

Community level training and public Awareness Activities:

The community awareness and training will basically be carried out in the form of training programmes through NGOs, private sector, and Government training institutions. Apart from spreading awareness of disaster, the focus will essentially be on community capacity building.

Primary agencies for community level training and public awareness are:

- State Institute of Rural Development
- Anna Institute of Management
- State Council of Educational Research and Training
- Tamil Nadu Fire and Rescue Services
- NGO
- Private sectors

Mobilizing community Efforts for Mitigation measures:

The community will be encouraged to reduce the impact of the next disaster. Demonstration model housing units indicating various technology features and options will be built by the Government/NGOs/Community. Priority will be given for buildings like panchayat, primary health centres, community center, schools etc. The objective of such activity will be to encourage local communities to undertake and adopt appropriate measures at individual, household or community level to avoid loss of life, damage to property and crop.

Land Use Planning and Regulations:

The Directorate of Town and Country planning will be the primary agencies to encourage new development to occur in locations avoiding or minimizing exposure to hazards or enhance design requirements to improve resiliency in future disasters. These departments would also ensure proper enforcement of existing regulation and Acts and revision of existing loss.

Incentives and Resources for Mitigation

It is proposed to create State Disaster Mitigation Fund to implement the above stated mitigation strategy. The fund will be used to provide incentives to developmental projects were mitigation measures have been adopted. Leveraging of funds from other developmental schemes also needs to be taken into account. The State Disaster Management Authority will be the authority in-charge of the State Disaster Mitigation Fund.

Chapter V

PREPAREDNESS MEASURES

5.1 Preparedness Measures:

Disaster preparedness refers to measures taken to prepare for and reduce the effects of disasters. That is, predict and – where possible – prevent them, mitigate their impact of vulnerable population, and respond to and effectively cope with their consequences. Disaster preparedness is best viewed from a broad perspective and is more appropriately conceived of as a goal, rather than as a specialized programme or stage that immediately precedes disaster response.

Disaster preparedness is achieved partially through readiness measures that expedite emergency response, rehabilitation and recovery and result in rapid, timely and targeted assistance. It is also achieved through community-based approaches and activities that build the capacities of people and communities to cope with and minimize the effects of a disaster on their lives.

A comprehensive disaster preparedness strategy would therefore include the following elements:

1.Hazard, risk and vulnerability assessments	2.Response mechanisms and strategies	3.Preparedness Plans
4.Coordination	5.Information Management	6.Early warning systems
7.Resourse mobilization	8.Public education, training & rehearsals	9.Community-Based disaster preparedness

5.2 Hazard, Risk and Vulnerability Assessments (HVRA):

All planning and implementation of disaster preparedness measures should be based on an assessment and prioritization of the hazards and risks that people face, as well as their ability or inability to cope with and withstand the effects of those hazards. The assessment should.

- Identify the characteristics, frequency and potential severity of the hazards a community faces
- Identify the particular geographical areas and communities that are most susceptible and vulnerable to those hazards
- Identify the main sectors of a community (population, infrastructure, housing, services, etc.) that would be affected by a specific type of hazard and anticipate how they might be affected
- Assess the ability of those sectors to withstand and cope with the effects of hazardous phenomena

5.3 Response mechanisms and Strategies:

There are many preparedness mechanisms and strategies that will be strengthen and increase the effectiveness of an emergency response. These include development or formation of:

- Evacuation procedures (including how to disseminate these procedures to the public)
- Search and rescue teams (including plans for training them)
- Assessment teams (including plans for training them)
- An assessment process and information priorities for an emergency response
- Measures to activate special installations, such as emergency or mobile hospital facilities
- Procedures for activating distribution systems
- Preparations for emergency reception centres and shelters
- Procedures for activating emergency programs for airports, harbours and land transport
- Preparations for storing or making arrangements for rapid acquisition of emergency relief supplies and equipment

5.4 Preparedness Planning:

The concept of preparedness planning is very important for those involved in disaster management. During an actual emergency, quick and effective action is required. This action often depends on having made and implemented preparedness plans. If appropriate action is not taken or if the response is delayed, lives may be needlessly lost. In a preliminary plan, even though the details of a disaster remain uncertain, it can identify emergency shelter sites, plan and publicize evacuation routes, identify emergency water sources, determine chains of command and communication procedures, train response personnel and educate people about what to do in case of an emergency of the response to a disaster.

Disaster Preparedness planning involves identifying organizational resources, determining roles and responsibilities, developing policies and procedures and planning preparedness activities aimed at ensuring timely disaster preparation and effective emergency response. The actual planning process is preliminary in nature and is performed in a state of uncertainty until an actual emergency or disaster occurs. The aim of preparedness planning is to identify assignments and specific activities covering organizational and technical issues to ensure that response systems function successfully in the event of a disaster.

5.5 Capacity Building:

The District Disaster Management Authority shall assure that all line departments implement their respective preparedness / contingency plans such as:

- Display of warning boards for general public in sensitive area
- Inventory of human and material resources available with government, private and civil society.
- Training, capacity Building of the state search and rescue task forces
- Training, capacity building of the state first aid task forces
- Training, capacity building of civil Police, Fire Brigades, NCC, CBOs
- Medical preparedness-nominate / designate hospitals, doctors and paramedics to cover emergency health management.
- District, Block & Village level mock drills and rehearsals.
- Public Awareness generation and community evacuation training.
- Community based disaster management (CBDM)
- Ensure that GP, Block/Taluk and districts develop and maintain its disaster management planning.
- Inventory of lifeline buildings such as of Schools, Hospitals, Administration buildings and assess their safety and take measures for improving safety.
- Knowledge management
- Yearly-Upgrading of the District plan incase of a disaster the plan will be reviewed right after that.

5.6 Community and Local Level Preparedness:

The plan recognizes the fact that it the event of disaster communities are the first responders and hence there is no better alternative to community and local level capacities for disasters response. in order to enhance communities' capacity to take action to help themselves in the absence of necessary outside response for days the plan envisages creating necessary awareness about hazards, risks and response. Areas which would be specifically addressed for community preparedness are-

1) Medical first aid
2) Search and rescue extrication from damaged buildings
3) Road clearance
4) Fire fighting

Plan also envisage equipping community at panchayat level by ensuring the provision of medical supply, communication such as radio, TVs, extrication equipment. Panchayat will be encouraged to establish local early warning systems in higher vulnerable areas and for holding community level disaster response drills. Development of response capacity at panchayat level for first response would help min avoiding desperate situation.

5.7 Sustainable Development Practices and Climate Change:

Disasters have also negative impacts on environment as they affect natural resources. Therefore, considering society, economy and environment as three main components of sustainable development, disaster have negative impacts on them and hence negative impact and delay on sustainable development. Sustainable development and use of new technologies will be a must in the implementation of this plan. Priority would be given for promoting understanding of climate change adaptation strategies, energy efficiency and natural conservation.

5.8 Fire and Emergency services:

The fire services in the District will be well equipped to meet out any disasters.

5.9 Role of National Cadet Corps (NCC), National Service Scheme (NSS) and Nehru Yuva Kendra Sangathan (NYKS):

Potential of these youth based organizations will be optimized to support all community based initiatives and DM training would be included in their programmers. Special training campaign will be launched to strengthen their capacities.

5.10 Pre-Contract for Essential Commodities:

The civil supplies and consumer protection department will ensure storage and availability of essential commodities including medicine in the vulnerable districts. Necessary provisions will be made for, to enter pre-contract with the suppliers of essential commodities, medicines, tents etc. on an annual basis for supply of these items at pre-decided rates within stipulated time framework.

5.11 Medical Preparedness:

Identification of the hospitals, doctors and para-medics teams including mental health and psycho-social service provider at sub-divisional and district levels will be carried out by CMO's in a manner that the teams are in a position to be deployed at short notice. Their names, addresses, telephone numbers, mobile numbers, email etc. will be available at the State Disaster Emergency Operation Centers. The list will be updated half yearly. The stock of medicines, accessories and equipment for each of identified teams at the district and sub-divisions would be decided in advance as per need and disaster.

5.12 Animal Care:

Animal both domestic as well as wild are exposed to the effects of natural and main-made disasters. The Department of Animal & Husbandry would devise appropriate measures to protect animals and find means to shelter and feed them during disasters and their aftermath, through a community effort, to the extent possible. It is pertinent to note that many communities have shown compassion to animals during disasters, and these efforts need to be formalized in the preparedness plans including Carcass Disposal Management plan by the department of animal husbandry at the state level.

5.13 Social Inclusion-Needs of Special Vulnerable Groups:

When addressing the preparedness and relief requirements of the disaster victims, focus would be placed on the special needs of the vulnerable population that is, children, women, aged and the disabled. Socio-cultural needs would be accounted for in all phases of disaster management planning. A specific strategy for addressing the risk reduction needs of these vulnerable groups will be developed by every line department.

5.14 Mock Drills:

Search and rescue teams at State/District levels will carry out mock drills on various disasters situation annually. For floods/flash floods these will be carried before the monsoon period. For earthquakes, landslides etc, such drills will be done periodically at the district and State levels, mock exercises will be carried out for assessing and evaluating preparedness machinery including manpower and equipment.

5.15 Responsibilities of Departments in Preparation for Disaster Management:

The State DDMA will need to ensure that all line departments that are either likely to be affected in any disaster of will need to be involved in tackling a disaster are fully prepared with up-to-date contingency plans that will not be restricted to this but shall include the following:

- Each Department shall have their own Departmental Disaster Management plan
- Micro-Hazard zonation for each hazard will be taken up.
- Display of warning boards for general public in sensitive areas.
- Inventory of human and material resources available within the department at the local, district and state level is kept up-to-date and as broad based as possible.
- Training Capacity Building of the key members of the department
- Medical preparedness – nominate/designate hospitals, doctors and paramedics and, emergency health management systems.

- State, District, Block and local level mock drills and rehearsals.
- Public Awareness generation and community training.
- Community Based Disaster Risk Management (CBDRM)
- Inventory of lifeline buildings such as schools, hospitals, administration buildings to assets their safety and initiate measures for improving safety.
- Knowledge management of disaster management skills.
- Budgetary allocations for various mitigation, planning and preparedness activities.
- Yearly updating of the state plan. In case of a disaster, the plan will need to be reviewed immediately thereafter.
- Documentation of success stories, lessons learnt overall and review of the outputs of the plan.

5.15.1 Revenue Department:

- To coordinate the preparedness functions of all the departments; It is also overall in charge of formulating and implementing the disaster management policies of the state.
- Ensure adequate resources are allocated for preparedness work for all departments.
- Main support department for District Disaster Management Authority.
- Quick mobilization of resources for relief and rehabilitation to the Disaster spot.
- Ensure basic facilities for personnel who work on disaster response.
- Prepare a list of potential shelters while clearly specifying their capacity and check upon their suitability for accommodating people.
- Prepare a detailed contingency plan for disposal of dead bodies and carcasses that will include adequate documentation.
- Constitute village-level preparedness teams with the help of local bodies, local NGOs and Revenue officials.
- Coordinate Village / Habitation level mock drills with the assistance of the Rural Development Department and Police.
- Prepare and update inventory of manpower and resources database every quarter inclusive of earthmoving equipment, tipper lorries, power saws, cranes, boats and any other lifesaving equipment.
- Annually facilities the DDMA to update the District Disaster Management Plan.

- Maintain, activate and monitor the District level Emergency Operations Centre (DEOC).
- Establish collation of expense accounts for sanctions and audits and to ensure full accountability for funds utilized through the department.
- The revised norms of assistance for sanction of relief to the victims of the natural calamities under State Disaster Response Fund and Minimum standards of relief to placed at **Annexure-IV**.

5.15.2 Transport Department:

- Develop a plan for mobilization of vehicles at short notice and to dovetail it into the disaster management plan for the department.
- Carry out survey and report condition of all highway systems at state and district level.
- Prepare an inventory of vehicle, trucks, buses, jeeps, tipper lorries and tractors of government and private agencies district wise and provide the list to the SEOC and DEOC.
- Issue standing instructions to the State transport department for providing buses for evacuation and relief.
- It is the primary agency for dealing with road accidents and in bringing in policies in this area.

5.15.3 Police Department:

- Prepare an operational plan for responding to any type of disaster.
- Impart training to the members of the Police Force in first aid, evacuation, rescue and relief operations.
- To conduct search and rescue training to local volunteers and motivate youth and college students to participate; with the trained group, to constitute district wise 'Search & Rescue ' Teams.
- Prepare an inventory of all manpower and equipment available to be utilized in managing a disaster.
- Identify the 'Risk' areas for different disasters and instruct the existing police installations located in those areas for keeping themselves in high alert for undertaking emergency rescue, evacuation and relief operations.
- Hold quarterly mock drills on disaster preparedness and response and involve local community and volunteers.
- Keeping police vehicles and other transport in readiness for deployment.

- Review maintenance of equipment and machinery that will be utilized during a disaster.
- Ensure the availability of adequate warning mechanism for evacuation.
- Installation of radio communication at the affected site, during disaster.
- Identify alternative routes for possible hot spots.

5.15.4 Fire and Emergency Services:

The fire Services in the States will be strengthened and made-hazard response outfit.

The Fire and Rescue Service will perform the following functions:

- Organize public fire education programmes.
- Create and sustain awareness of the hazards of fire and other emergencies.
- Heighten the role of the individual in the prevention of fires and other disasters.
- Provide technical advice for building plans in respect of machinery and structural layouts to facilities escape from fire, rescue operations and fire management.
- Inspect and offer technical advice on fire extinguishers.
- Co-ordinate and advice on the training of personnel in firefighting to the departments / institutions in the District.
- Offer rescue and evacuation services to those trapped by fire or in other emergency situations and
- Train and organize emergency volunteer squads at community level.

5.15.5 Public works Department (PWD):

It is the primary agency for maintenance of public infrastructure ranging from buildings, major irrigation tanks, dams and has the expertise to take up flood prevention works.

- Department of Public Works takes precautionary steps for the protection of Government property against possible loss and damage during a disaster.
- Formulates guidelines for safe construction of public buildings.
- Prepare source lists with specifications and position of heavy construction equipment in the state.
- Organize periodic training of engineers and other construction personnel on disaster resistant construction technologies.

- Establish communication with State Emergency Operations Center (SEOC), DEOC and departmental HQ within the division and State.
- Create an inventory of earth moving machinery available with each division and with private contractors; boats that could be used in times of floods and major inundation.
- Create linkage and communication with power project authorities and identify resources available with them.
- Officers at SDO level should be familiar with pre-disaster precautions and during/post-disaster procedures for road clearing and have a clear idea of alternative safe evacuation routes. Routes strategic for evacuation and relief should be identified and marked in close coordination with police and DEOC.
- Undertake rapid visual inspection of critical buildings and structures of the state government (including hospital buildings) by a specialized team and identify structures which are endangered requiring retrofitting or demolition.
- Emergency tool kits to be organized for each division.

5.15.6 Agriculture / Horticulture Department:

- This Department will need to prepare a composite Disaster Management Plan for drought related disasters.
- The department is the primary agency for assessment of crop damages.
- Organize the distribution of seeds, seedlings, fertilizer and implements to affected farmers;
- Arrange for keeping stock of certified seeds, fertilizers and pesticides.
- Establish communication with TNSDMA, DDMA, and District Control Room and Agriculture Universities.
- Check available stock of equipment and materials which are likely to be most needed during disasters like floods and drought. Suggest a variety of seeds and cropping pattern, which can reduce losses and risks to farmers.
- Determine the type of damage, pests or disease affected crops.
- Setting up extension teams for crop protection and accordingly ensure that extra supplies and materials be obtained.

5.15.7 Fisheries Department:

- During floods boats are most effective way of mass rescue and relief operation and fishermen are naturally prepared to assist during these contingencies.
- To keep the list of swimmers in respect of the District and Taluk level.

5.15.8 Animal Husbandry Department:

- It is the primary agency for animal epidemics; fodder assessment disposal of dead animals – and will advise the DDMA on these matters.
- The department will identify areas likely to be affected in the event of a disaster and incorporate it into the disaster plan of the department. Identify disaster prone areas, livestock population at risk, requirement of medicine, vaccines, equipment, disinfectants and other materials will feature in this.
- Prepare inventory of human recourses along with their contact number (Veterinary) Doctors, Para Vets, and helpers).
- Identify shelters for animals.
- Prepare a list of water borne diseases that are preventable by vaccination. Publicize the information about common diseases afflicting livestock and the precautions that need to be taken.
- Stock emergency medical equipment which may be required during and post disaster.
- Capacity building of all veterinary hospital staff in dealing with likely damages and effects in the aftermath of disaster.
- Prepare kits for veterinary diseases, which could be provided to veterinary doctors at the block level and extension officers at the village level. The kits may also be provided to village level veterinary volunteers.

5.15.9 Rural Development Department:

- It is the primary agency to implement vulnerability reduction projects to alleviate poverty and improve people's livelihoods.
- Capacity building of rural population for managing disasters and incorporating disaster management measures in rural development schemes where the bulk of the funding is towards improving the quality of life of the rural poor.
- Work on mock drills at the community level particularly in populations that are vulnerable.
- Develop a state level disaster management plan for the department and update it annually.
- Encourage disaster resistant technological practices in buildings and infrastructure.
- Analyze the training needs of the department's personnel, which will include its officials and elected representatives.

- Conduct Village Panchayat level mock drills as part of preparedness;
- Assist in establishing village disaster management teams.

5.15.10 Health and Family Welfare Department:

- They are the primary agency for health related disasters and epidemics which plays a major role in all disasters in ensuring that health concerns that are an indirect fall-out of any disaster are adequately addressed.
- Ensure that disaster management plans are developed for health centers and hospitals and that these places are well prepared to deal with sudden rush of patients at the time of a disaster; check stocks of equipment and drugs which are likely to be most needed in disaster management.
- Ensure that all hospital staff are well informed about possible disasters in the district-likely damages and effects – and information about ways to protect life, equipment and property.
- Equip all casualty departments and trauma care centers to deal with large numbers, in event of a disaster.
- Ensure adequate availability of emergency health kits in high risk areas;
- Train volunteers on emergency preparedness programmes such as first aid and preventive measure against diseases in disaster prone areas.
- Prepare a list of medical and para-medical personnel in disaster prone areas and make available to DEOC.
- Establish and operate an early warning system for health threats based on routine health information. Review and update precautionary measures and procedures.
- To facilitate mobilization of generators to the hospitals and this will help the hospital administration to maintain uninterrupted power supply during the disasters.

5.15.11 Department of Environment & Forests:

- Primary Agency responsible for forest fires and disasters related to forest areas.
- Primary agency for research and development on climate change impact and adaptation activities for the state.
- Prepare a department disaster management plan.
- Forest fire prone areas should be identified and extra vigilance be ensured in such cases.
- Organize community awareness programs and create task forces for forest fire fighting.

5.15.12 Municipal Administration & Water Supply Department:

- Develop s disaster management plan for the department, including the identification of location of camps for different type of disasters, existing locations that can be used as shelters, inventories of agencies that can be used for establishment of tents.
- To conduct regular training for staff on minimum standards for shelter, relief camps and tent structures.
- The department should facilities all corporations and Municipalities to develop city Disaster Management Plan and to ensure regular updation of the plan.

5.15.13 Department of Civil Supplies and Customer Protection:

- Develop a plan that will ensure timely distribution of flood to the affected population. Plan for food storage locations and maintain a stock of food relief items for any emergency.
- Act as a nodal agency for collection, storage and distribution of flood and other relief materials during emergencies.
- The Department may closely monitor supply of diesel / petrol to bunks during the disaster.
- Fair price outlets for vegetable need to be quickly setup in the affected area.
- Identify and delineate vulnerable areas – prepare departmental contingency plan.
- Make an inventory of storages & godowns and assess and ensure the safety of storage places.
- Constitute district wise/vulnerable zone wise response teams and delineate roles and responsibilities.
- Estimate the quantity and nature of the supplies required district / vulnerable zone wise.
- Ensure that all ration shops in vulnerable areas are fully stocked.
- Fair price shops located in low lying areas vulnerable to flood due to monsoon and cyclone will be identified and steps will be taken to shift them to higher locations.
- Essential commodities especially rice and wheat will be safely stored with water proof gunny bags stored in full storage in full storage capacity of fair price shops to meet any emergency during flood.
- Liftment and movement of PDS commodities will be watched daily and it will be ensured that no godown or FPS shall go without stock.

- New ration cards will be issued to those people who have lost their ration cards and necessary arrangements will be made to enable the cardholders to get essential commodities through fair price shops.
- In the Tamil Nadu Civil Supplies Corporation godowns, three months stock of rice and wheat will be kept as buffer stock especially in the 14 coastal districts during monsoon season.
- Also sufficient number of gunny bags will be stored in the godowns of Tamil Nadu Civil Supplies Corporation for emergency utilization.
- Additional allocation of PDS kerosene be mobilized from GOI by taking internal arrangement and additional quantity of PDS kerosene will be made available to 14 coastal districts for the supply of kerosene to affected families during flood. Further the additionally allotted quantity of kerosene will be lifted by the kerosene wholesaler in advance and kept as reserve stock.

5.15.14 Information and Public Relations Departments:

- Disseminate Disaster Management information and warnings to the public such as would enable safety measures being taken and panic lessened.
- Media coordination: ensure that proper and adequate information is provides to the media.
- Develop a disaster management plan for the department on its roles and strategy for dealing with responsibilities; Prepare guidelines / policy for necessary action by mass media on reporting disasters.
- Conduct education and awareness for local communities.
- Popularize the techniques for preparedness and survival during a pre-disaster, disaster and post-disaster period through television, radio and other publicity media.
- Setup a media center to dissipate information to press and Media during disasters of higher magnitude.

5.15.15 Tamil Nadu Generation and Distribution Corporation (TANGEDCO):

- Develop a disaster management plan for the department.
- Carry out survey of condition of all power supply lines at state and district level.
- Review and update precautionary measures and procedure and review with staff the precautions that have been taken to protect equipment.
- Ensure that alternate power supply arrangements for emergency supply are available for critical facilities.
- Stock spare parts for usage during crisis.

- Protect Power Stations from disaster.
- Take a call on disconnection of electricity supply to prevent electrocution incidences.
- Make deployment teams which can be quickly moved to area where disaster has struck.

5.15.16 Labour Welfare Department:

- Issue disaster management guidelines to all the industries and ensure on-site and off-site plans for all industries.
- Prepare and disseminate guidelines for labour security and safety.
- Prepare and disseminate public awareness material related to chemical accidents.
- Revise, update and implement rules and regulations for industrial safety and hazardous waste management.
- Ensure that Local Crisis Groups are formed and are functional in places were major accident hazards industries are located.

5.15.17 School Education Department:

- Develop a state disaster management plan for the department.
- Preparing curriculum related to disaster management and to introduce at varied levels in the subjects taught.
- As students can get hurt easily with falling objects, the institutions should need to do their own safety audit.
- Coordinate with local authority and carry out mock drills once in a year to ensure safety for the children who are studying.
- Awareness campaigns amongst students teachers.
- Arrange for training of teachers and students of disaster prone areas about the steps to be taken at different stages of disaster and organize them, in coordination with volunteers and inspire them for rescue, evacuation and relief works.
- To encourage all schools to prepare school Disaster Management Plan in compliance with NDMA guidelines.
- Involve Scout and Guides and NCC units in the school in disaster related training and awareness.

5.17.18 Department of Higher Education:

- Develop a state disaster management plan for the department;
- All activities similar to that of the school education department will need to be carried out here.
- Rescue clubs have been outlined in the capacity building chapter. Depending upon the degree to which this is successful, it will tantamount to a massive youth trained force that is well equipped to deal with most disasters at ground zero.

5.17.19 Tamil Nadu Water supply and Drainage Board (TWAD):

- Identify flood prone areas and activate flood monitoring mechanism.
- Often in a flooded area, there will be a shortage of good drinking water. This need has to be made good.
- Collect all the information on weather forecast and the water levels of all water storage area.
- Draw a schedule for chlorination and other required bacteriological analysis for ensuring safe public water supply.
- Keep in readiness essential tool kits and protection material at critical places for emergency development.
- Materials likely to be damaged by rain, such as cement bags, electric motors, office records etc. should be covered with plastic even though stored inside.
- A standby water supply plan should be available in the event of damage or pollution of the regular supply sources in disaster prone areas.
- Make an inventory provision to acquire tankers, containers and storage tanks and establish other temporary means of distributing water on an emergency basis.
- Prepare plans for water distribution to all transit and relief camps, affected villages and cattle camps and ensure proper execution of these plans.

5.17.20 INSTITUTIONAL (Education, Industry, Health, etc) PREPAREDNESS:

The plan recognizes that in the event of disaster, institutions such as colleges, factories, commercial establishments, hospitals have to respond quickly to ensure safety of the inmates. The plan envisages creating awareness about the hazardness, risk and response. The plan will facilitate preparation of Disaster Management Plan for each institution and also to establish linkages with state / District Disaster Management Authorities for better coordination during disaster with specific reference to rescue and relief operations. The institutions will be encouraged to establish Early Warning Systems and develop preventive strategies and this will be sensitized on preparedness measures required to avoid desperate situations;

5.17.21 Coordination and Implementation:

In view of the multi departmental and multiple stake holder participation disaster management, there is a imminent for effective and efficient coordination of various efforts under taken management of the disasters. The DDMA in the District level will be primarily responsible for ensuring coordination among all the agencies involved. The DDMA will extensively use the knowledge networks that will be put in place to meet the requirements of disaster management.

Chapter VI

Disaster Response

The Revenue Administration, Disaster Management and Mitigation Department (RADM&MD), 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 which develop well- defined strategies to manage crisis 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.

At the district level, the District Collector has the responsibility for the overall management of disasters (the Commissioner of Greater Chennai Corporation will be responsible for the overall management of disasters in Chennai corporation areas). 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 are also involved in providing relief, rescue and rehabilitation in recent times.

6.1 Disaster Response

Disaster Response measures are those which are taken instantly prior to, and following, a disaster aimed at limiting injuries, loss of life and damage to property and the environment and rescuing those who are affected or likely to be affected by disaster. Response process begins as soon as it becomes apparent that disastrous event is imminent and lasts the disaster is declared to be over.

Since response is conducted during periods of high stress in a highly time–constrained environment and with limited information and recourses (in majority of the cases), it is by far, the most complex of four functions of disaster management.

Response includes not only those activities that directly address the immediate needs, such as search and rescue, first aid and shelters, but also includes systems developed to coordinate and support such efforts. For effective response, all the stakeholders need to have a clear perception/ vision about hazards, its consequences and actions that need to be taken in the event of it.

The Revenue Department of the state is the Nodal Department for controlling, monitoring and directing measures for organizing rescue, relief and rehabilitation. All other concerned line departments should extend full cooperation in all matters pertaining to the response management of the disaster whenever it occurs. The state

EOC, ERCs and other control rooms at the state level as well as district control rooms will be activated with full strength.

Primary tasks during this phase would be:

- Proper need assessment through village response
- Deployment of resources to all affected sections in an equitable manner
- Besides food, cloth and shelter facilities such as public health and sanitation is to be provided in shelters or camps.
- Ensuring total transparency in the distribution of relief material
- putting in place an objective method of assessing damage

The major response measures which have to be undertaken cutting across different types of disasters listed below for guidance of the concerned agencies.

The emergency support function deal with the first response whenever a disaster strikes. The major areas of emergency response activities and the respective responsible agencies are listed below.

S.NO	Emergency Response Activities	Responsible Agency
1	Activation of Trigger Mechanism	SDMA, DDMA
2	Risk Communication	RADM&M Dept., SEOC, DEOC, DIPR, Media and Telecommunication networks
3	Evacuation of people	RADM&M, Urban and local bodies, Police, Home Guards, Fire and Rescue services, SDRF, NDRF, Armed Forces, volunteers, "108" ambulance, community and others
4	Shelter arrangement for rescued people	RADM&M, Urban and Local bodies.
5	Traffic control and diversions	Traffic police, Home Guards, Volunteers
6	Cordoning off the disaster affected areas	SDRF, NDRF, Police, Home Guards and volunteers
7	Law and order maintenance	Police and Home Guards
8	Search and Rescue operation	Fire and Rescue Services, SDRF, NDRF, Police etc.,
10	Relief camps and basic amenities in shelters	RADM&M, Health Department & Local bodies

11	Identification of dead and injured	RADM&M, Police, Health Department and local bodies
12	Arrangement of medical support for causalities	Health Department
13	Impact & Resource Assessment	RADM&M, Urban and local bodies, Experts
14	Clearance of the disaster affected areas	RD, PWD, Highways & Urban local bodies
15	Prevention of epidemics & organizing health camps	Health Department and local bodies
16	Need based Establishment of temporary shelters	RADM&M and local bodies
17	Mobilizing resources for relief and restoration	RADM&M, civil supplies, RD&PR and urban local bodies
18	Clearance of debris / Solid waste	SDRF, F&RS, PWD, Highways Department and local bodies
19	Restoration of communication & Road networks	PWD, Highways, Urban / Rural local bodies, RD&PR, TANGEDCO
20	Provision of water	TWAD, CMWSSB and local bodies
21	Restoration of Electricity	TANGEDCO
22	Resumption of transportation	Road transport and highways
23	Food Arrangements	RADM&M, civil supplies and local bodies
24	Provision of relief supplies	RADM&M, civil supplies, RD&PR and Urban local bodies
25	Temporary mortuary / dead body disposal	Health, RADM&M and local bodies
26	Evacuation and shelter arrangements for cattle/Livestock	Animal Husbandry Department, Blue Cross local bodies and volunteers
27	Carcass disposal	Animal Husbandry
28	Back to normalcy	RADM&M, all line departments

Chapter VII

Reconstruction, Rehabilitation and Recovery Programme

Reconstruction and rehabilitation activities come under the post-disaster phase. Currently, the activities in this phase are primarily carried out by the local bodies (Gram Panchayat, District, Taluk, Municipal corporations, and Municipalities etc.) and various government departments and boards. However, their activities in this phase shall be in accordance with the reconstruction and rehabilitation plans framed by TNSDMA, in conjunction with implementing authorities.

The reconstruction and rehabilitation plan is designed specifically for the worst case scenario. It is activated in case of a disaster in which the capacity of State and District authorities have been overwhelmed and require assistance from the central government for re-establishing normalcy in the state.

Once the response process is in place the recovery process is activated by resorting to the following actions.

- Providing and erecting temporary housing to the victims and displaced persons.
- Facilitating and providing claims and grants as per the relief manual.
- Providing counseling to the victims.
- Providing and facilitating medical support for the victims requiring long term care.
- Clearing and disposing off the debris created as a result of collapse of physical infrastructure and elements.
- Initiating the process of reconstruction by adapting improvised technologies for safe construction.

The approach to the reconstruction process will be aimed at converting adversity into opportunity. Incorporating disaster resilient features to 'Build-Back-Better' will be the guiding principal. The choice of technology will be based on its likely impact on physical, social-cultural or economic environment of the communities in the affected areas or in their neighborhood.

The key activities in this phase are as below;

7.1 Detailed Damage Assessment:

While a preliminary damage assessment is carried out during disaster phase, a detailed assessment will be conducted before commencing reconstruction and rehabilitation activities.

The relevant government department and local authorities will initiate detailed assessment at their respective level for damages sustained in housing, industry/services, infrastructure, agriculture, health/education assets in the affected regions.

7.2. Assistances to restore houses and dwelling units:

The Government of Tamil Nadu may, if needs, will formulate a policy of assistance to help the affected to restore damaged houses and dwellings in commensurate the nature and quantum of damages. This will neither be treated as compensation for damage, nor as an automatic entitlement.

7.3 Relocation:

The Government of Tamil Nadu believes that need-based considerations and not extraneous social factors driven relocation of affected community. The local authorities, in consultation with the affected communities and under the guidance of TNSDMA, will determine relocation needs taking into account criteria relevant to the nature of the calamity and the extent of damage.

- Relocation efforts will include activities like:
- Gaining consent of the affected population
- Land acquisition
- Urban/rural land use planning
- Customizing relocation packages
- Obtaining due legal clearances for relocation
- Getting the necessary authorization or rehabilitation
- Livelihood rehabilitation measures for relocated communities, wherever necessary

7.4 Finalizing Reconstruction & Rehabilitation Plan:

The effectiveness of any reconstruction and rehabilitation is based on detailed planning and careful monitoring of the relevant projects. TNSDMA will oversee reconstruction and rehabilitation work and ensure that it takes into account the overall development plans for the State. TNSDMA will approve reconstruction and rehabilitation projects based on:

- identification of suitable projects by relevant departments;
- Project detaining and approval by the relevant technical authority.

7.5 Funds Generation:

Reconstruction & rehabilitation projects are fairly resource intensive. These projects have been financed in the past primarily through the sate exchequer. In the recent past, funds have also been raised from international agencies. Government of Tamil Nadu shall finalize the fund generation mechanism, including the covenants and measures that govern fund inflow and disbursement and usage. This includes:

- Estimation of funds required based on detailed damage assessment reports and consolidation of the same under sectoral and regional heads;
- Contracting with funding agencies and evolving detailed operating procedures for fund flow and corresponding covenants.

7.6 Funds disbursement and audit:

The funds raised from funding agencies are usually accompanied by stringent disbursement and usage restrictions. It is therefore important to monitor the disbursement of such funds to ensure that none of the covenants are breached. TNSDMA, in conjunction with relevant agencies, shall monitor disbursal of funds by:

- Prioritizing resource allocation across approved projects;
- Establishing mechanisms(like a chain of banks, collection centres, nature of accounts, spread etc) for collection of funds;
- Ongoing monitoring and control of fund usage throughout actual project implementation.

7.7 Information, Education and Communication Technology (IECT):

Communication activities are necessary to convey to the larger community the scope and nature of the proposed reconstruction and rehabilitation effort so as to increase the stakeholder awareness and buy-in for the ongoing activities. Hence, TNSDMA and relevant Government departments, district administration and local authorities shall undertake.

Media Management/Public Relations: To ensure accurate communication of the reconstruction and rehabilitation measures being taken to various stakeholders

Community Management: This includes communicating to the affected communities with a view to apprising them of the efforts being made for their relocation/rehabilitation/reconstruction.

Feedback Mechanisms: Using the communication network to get feedback on reconstruction and rehabilitation measures.

7.8 Dispute Resolution Mechanisms:

DDMA, in consultation with line Departments will formulate mechanisms to address beneficiary grievances at various levels, as well as explore innovative ways of dispute minimization like involving the community in reconstruction initiatives. Appropriate mechanism with penalties for dealing with false claims will be evolved to prevent misuse of assistance.

Chapter VIII

Disaster / Risk Management Strategies

Nine major types of disasters have been identified on order to provide an understanding that is necessary to tackle the situation effectively. These is often a commodity of issues faced in a disaster and this indicates that with minimum appropriate preparedness it is possible to manage disasters effectively

8.1 Cyclone:

Since Sivaganga District is a landlocked district disaster on this type of disaster is remote.

8.2 Floods:

Floods are often a result of heavy rains associated with the natural course of surplus water flow being hindered by encroachments, unplanned developments and the like. Heavy rainfall in excess of normal capacity to manage the quantity of water can also results in cityscapes historically built on flat levels. The Central Water Commission has developed a network of food forecasting stations and issues Daily Flood Bulletins to all designated Authorities/Agencies of the Central Government and State Governments/District Administration during the Monsoon seasons for all the major river basins in the following categories:

1) **Category IV Low Flood stage** (Water level of the river is flowing between Warning level and Danger Level)

2) **Category III: Medium Flood** (Water Level Below 0.050m.less than HFL and above Danger Level)

3) **Category II: High Flood** (Water Level less than Highest Flood Level but still within 0.50.m. of the HFL)

4) **Category I:** Unprecedented Flood (Water Level equal and above Highest Flood Level (HFL)

8.2.1 Pre Disaster:

- Effective early warning shall be given when a decision has been taken to release water from a reservoir/dam
- Public Address System/sirens and other methods shall be planned for all habitations that are in the course of the river.
- All the sirens/hooters should be connected by laying cable or other modern techniques/systems so that they will ring simultaneously at the press of a button.

- Flood warning mechanism should be ensures. Activate flood warning to vulnerable communities and stakeholders.
- Evacuation of vulnerable people to safe are as and [re-designated shelters to be done.
- If Flood risk is reduces, a Flood de-warning may be issued in consultation with PWD (WRO)
- Boats become an essentiality on account of the flooding and hence need to be sourced from various sources. The problem is more acute when the flooding occurs inland.

8.2.2 During Disaster:

- In case Flood occurs, rescue and relief activities shall be initiated immediately (to be read along with chapter 6) Police/Fire – Rescue teams/Ambulances will need to be pressed into service. Citizen Rescue and swimming teams will need to be put to work.

8.2.3 Non-Disaster:

The District Collector must arrange for a full-fledged review of PWD tanks and dams separately to ensure that the flood level release protocol is fully understood by the officers themselves. Maintenance issues of the lakes and dams will also need to be looked along with surplus run off.

8.2.4 Declaration of Stage of Flood:

The standard phrases that are used in declaring the stages of the flood situation are as follows:

- **Flood Alert:** Flooding is possible. Be prepared
- **Flood Warning:** Flood is expected require immediate action
- **Severe Flood Warning:** Danger to life and property
- **De Warning:** Flood warning/Flood alert is withdrawn

8.2.5 Reservoir Operations:

Non-Disaster period:

- The Reservoir Operation Manual prescribing the Standard Operating Procedure (SOP) for release of water, prepared by the PWD units operating and maintaining projects after being periodically updated will need to be made available to the SEOC.

- The SEOC/DEOC will need to monitor the levels in all reservoirs – big and small – and maintain a position of alert to ensure that there is no system failure in monitoring.
- A similar procedure should be followed in all hydroelectric projects including run of river mode projects and clear cut hierarchy declared to the SEOC/DEOC on the protocol/SOP for decision making on release of water and flood levels through the water course.
- A computerized reporting systems may be devised to monitor the water discharge system in all the projects across the state so that there is adequate coordination amongst the various projects to avoid any kind of mishap.
- A robust warning system will need to be installed in the water discharge route that will caution the public about releases and flood levels reaching the danger mark.
- All the vulnerable points along the course of the waterway should be restricted in such a manner that it may be closed in the event of a flood level warning.
- Safety audit of all the projects should be got done through an independent agency.
- An Emergency Action Plan (EAP) for each dam is a crucial activity to minimize the loss of life and property and damage in the event of occurrence of any emergency situation.
- Periodical checking of the stability of bund/working of sluice gates have to be carried out without compromise.

Flood 2005:

The district experienced heavy rainfall and flood during november 2005. During that monsoon period, out of 521 revenue villages, 148 villages were marooned. About 282 km of highway roads 72 km of municipal roads and 1901 km of panchayat roads were damaged. In case of emergency, Navy and Coast Guard have to be called to assist in the resume and relief operations. Boats also have to be called to reach the marooned villages for rescue operations.

There was heavy flooding on 20.11.2006 due to a jungle stream on Sanaveli ground level bridge on the adjacent Ramnad District. A passenger bus was caught in the floods, capsized the bus and 10 persons belonging to this district were among those killed in the accident. Based on this experience, the Police, Highways, PWD, Revenue and Transport authorities were alerted to take precautionary measures sufficient to avert such kind of accidents.

FLOOD 2011:

Sivaganga District usually receives considerable rainfall during North East Monsoon other than the rainfall during South West Monsoon.

The normal average rainfall during the North East Monsoon for Sivaganga district is 413.7mm during the North East Monsoon of the year 2011, Sivaganga district average rainfall was recorded 526.89 mm.

Singampunari received water from adjacent district, Madurai and Dindigul. Heavy rainfall in catchment area of Palaar and forest rivers which flows from Dindigul through Singampunari during 2011.

During the flood 2011 the loss of human life was 5 and cattle loss was 7 further lose of life was controlled by taking subsequent precautionary actions.

8.3 Tsunami:

Since Sivaganga District is a land locked district and has no coast. Hence the disasters an this front is NIL.

8.4 Drought:

Drought is an universally acknowledged phenomenon associated with scarcity of water and is in all climatic zones. It is still largely unpredictable and varies with regard to the time of occurrence, duration, intensity, and extent of the area affected from year to year. It is a temporary condition caused by significantly less rainfall for an extended period of time, usually during a season when substantial rainfall is normally expected over the area. The deficiency in the rainfall is measured relative to the long-period average of rainfall over the area. The severity of the drought can also be aggravated by other climatic factors such as high temperature, high wind and low humidity. With this background, drought is broadly perceived in different ways.

1. **Meteorological drought:** When actual rainfall over an area is significantly less than the climatological mean.
2. **Hydrological drought:** When there is marked depletion of surface water causing very low stream flow and drying of lakes, reservoirs and rivers.
3. **Agricultural drought:** When inadequate soil moisture particularly in rain fed areas which may not support crop growth.
4. **Soil Moisture drought:** Inadequate soil moisture particularly in rain fed areas which may not support crop growth.
5. **Socio economic drought:** The reduction of availability of fund and income loss on account of crop failures endangering food and social security of the people in the affected areas.

6. **Famine:** When large scale of collapse of access to food occurs which without intervention, can lead to mass starvation.

7. **Ecological drought:** when the productivity of a natural eco system fails significantly as a consequence of distress induced environmental damage.

8.4.1 Pre Disaster and During Disaster:

- A Block- Wise Drought Management plan will need to be prepared by the Agriculture department.
- Agriculture department will need to provide seeds for drought resistant crops and any other assistance. Soft loans, subsidies and micro credit may need to be arranged.
- Weekly monitoring of the season and crop condition from June onwards till the end of the season will be needed to make the required crop corrections.
- Drinking water may need to be provided to the affected pockets with lorries.
- Existing water sources such as ponds and small tanks may need simple treatment of bleaching powder to keep the water pure and free from contamination.
- The thrust will also have to be on employment generation schemes that will provide cash liquidity in the hands of the people to survive drought.

8.4.2 Non Disaster:

- Strengthening of storage levels of dams, reservoirs and canals for surface irrigation and percolation ponds and check dams will help to mitigate this disaster. This will also include effective desilting and clearing of encroachments in the supply and surplus run channels.
- Enforcement of laws regulating ground water levels is necessary before this disaster strikes.
- Agriculture department will need to play a major role in choice of drought resistant crops, improved techniques of irrigation and advising the farmer on crops that are like to destroy livelihoods even if found successful initially.
- Popularizing rain- water harvesting will need to be a priority.
- Advanced technologies of irrigation will need to be promoted such as drip and sprinkler irrigation and water harvesting for agricultural requirements. This will bear benefits in the long – term.
- In residential areas, water recycling for gardening purposes will ensure more economical use of water and promote water conservation. Similar to the insistence of rain water harvesting technology being incorporated

in building plan approvals, the concept of water recycling technologies being integrated in building plan will need to find approval.

- Ensuring that parks and public spaces use recycled water will help to promote a culture of water conservation.
- In the long – term, a culture of respecting the water bodies that the state has and preservation and maintenance of the same is essential to keep Tamil Nadu a drought free state.

8.5 Heat waves:

Extreme positive departures from the normal maximum temperature result in a heat wave during the summer season. The rising maximum temperature during the pre – monsoon months continues till June and in very rare cases till July. Heat waves, apart from causing potential fatal condition among people may also cause death of birds, poultry and cattle.

8.5.1 Early Warning and Indicators of heat wave:

In response to the devastating mortality and morbidity of recent heat-wave events, many countries have introduced heat – wave early warning systems. Heat- wave early warning are designed to reduce the avoidable human health consequences from heat – waves through timely notification of prevention measures to vulnerable populations. India Meteorological Department has developed criteria for heat waves based on temperature at stations and is issuing weather warning forecasting on the level of heat waves likely to prevail in the regions for 5 days at a time. The Regional Meteorological Centre (RMC) in Chennai has been publishing weather projections for Tamil Nadu on its website, keeping people informed with regular updates of projections of average temperatures for a week ahead for every district in the state. Such information can provide timely warning to the public to take adequate precautions to prevent being affected by the heat wave and thus mitigate the disaster.

8.5.2 During Disaster:

- Healthcare professionals will need to advise on heat –related illnesses to reduce mortality and morbidity.
- Public need to be made aware on how to be protected against extreme heat wave conditions.
- Do's and Don'ts on heat – related illnesses must be widely publicized in press, television and social media.
- Education institutions may need to rework the timings to lessen exposure to the heat wave.
- Local school and colleges will need to equip teachers with knowledge on heat protection tips.

- Awareness needs to be built constantly – LED Screen in public places can display temperatures and rolling forecasts.
- Stockpiling of ORS is necessary in Primary Health Care centers.
- Making good drinking water available to the public in Bus stands and other public places is necessary. Public minded citizens, Clubs, Associations, Educational Institutions, religious places and the like may be encouraged to provide simple shelters in public places that will have drinking water.

8.6 Landslides:

Sivaganga District has no mountain (or) hilly regions expect 2 hillocks in S.pudur and Kundrakudi hence the disaster on this front is Nil.

8.7 EARTHQUAKE:

8.7.1 Introduction:

An earthquake is a sudden event and gives hardly any time to react. Early warning or prediction of an earthquake is not easy. Preparing for an emergency situation in advance will save precious lives, infrastructures and facilities. Death and destruction happen due to failing of buildings infrastructure or other hanging / flying objects.

The protocol for early warning and prediction of an earthquake is not presently available India Meteorological Department (IMD) monitors seismic activity in and around the country. The IMD estimates the earthquake source parameters on the occurrence of earthquake and disseminates information to all the concerned agencies responsible for relief and rehabilitation measures. The SEOC will provide the information to the districts likely to be affected. In Tamil Nadu, three seismological network stations are available and the details are as follows;

Location of seismological monitoring centers

Location	**Code**	**State**	**Latitude (Deg: Min)**	**Longitude (Deg: Min)**	**Altitude Above MSL**
Chennai	MDR	TamilNadu	13:04.08N	80:14.78E	15
Kodaikanal	KOD	TamilNadu	10:14.00N	77:28.00E	2345
Salem	SALM	TamilNadu	11:39.00N	78:12.00E	278

The Anna University, Chennai also monitors seismological events from four different locations namely:

1) Ranipettai Engineering college, Wallajah
2) Bharathidasan Institute of Technology, Tiruppattur
3) Idhaya Engineering College, China Salem
4) Periyar Maniammai Engineering College, Hosur

8.7.2 Non – Disaster and Pre – Disaster:

As there is no warning time for an earthquake and these two phases merge into one.

- Precautionary steps in construction related activities are the only way to mitigating earthquake related disasters.
- Vulnerability and Risk Assessment will need to be done in earthquake prone areas and according zoned and the district administration made aware of the same. The vulnerability and risk assessment map should then be made available to DDMA / TNSDMA.
- Awareness is necessary among different stakeholders ranging from the communities involved, builders, contractors, government officials and others.
- The stability of existing buildings will need to be assessed.
- Earthquake resistance features need to be promoted in such zones by the Town planning departments. Training sessions need to be organized for Builders, contractors and real estate promoters until such a time that it has been fully assimilated in the community.
- Building technologies that have been successful in countries exposed to frequent earthquakes need to be promoted
- A permanent exhibition center will need to be created in such zone to provide a model approach to construction that the average citizen can relate to. A model home – to indicate the style of construction at different stages – could also serve to bring greater awareness.
- Large buildings such as community halls, marriage halls, malls, theatres and the like will need design compatibility with earthquake resistant structures.
- Educational institutions for Architects, both public and private, will need to be directed to incorporate design elements of earthquake resistant technology into their syllabus.

8.7.3 During the Disaster:

- Occurrence of the earthquake will need to be disseminated in all available means and the DEOC shall take extra efforts to do so.
- The only option in an event of an earthquake happening is to leave the building immediately and move into an open space where one does not have to be threatened by failing objects. This should be announced in the media by SEOC / DEOC.

8.7.4 Post Disaster:

- Search and Rescue measures and post disaster Relief as outlined in chapter 6 are relevant in dealing with the situation.

8.8 CHEMICAL INDUSTRIAL DISASTER:

As there are no major chemical industrial the disaster on this front is nil.

8.9 Management of contamination:

8.9.1 Contamination of water supply:

The management of incidents of CBRN contamination of water supply provides for a model SOP as given below which needs to be followed.

8.9.2 Incident Reporting:

Any breach of security or suspected event of accidental or intentional contamination will need to be communicated to the Executive Engineer and others in charges of the water facility through the quickest possible means. The local police, law enforcement and intelligence agencies will also need to be informed and physical quarantine done of the contaminated site. The incident would also need to be reported to SEOC with a request for any help as assessed.

8.9.3 Site characterization:

The water supply in charge along with law enforcement agencies should visit the site and carry out on – site inspection for the identification of physical evidence to confirm the incident. Police & Law enforcement agencies would collect and preserve physical evidence for further investigation and necessary action. Water facility in charge will also need to make an initial hazard assessment based on available evidence to determine the need for specialized men, material, techniques or equipment to deal with the problem. Based on the findings of the initial site evaluation, both inflow and out flow of water supply should be stopped immediately.

8.9.4 Preliminary Screening:

Specifically trained public health personnel should be deployed for sample collection and spot – testing. The sample would be collected from the nearest point. A sample collected would be divided into two, one for spot testing and another for laboratory testing. The first set would be subjected to spot testing by prescribed methods. Once the incident and nature of contamination is established, the same would be communicated to the district administration in precise and clear language for activating their crisis management plan. Following a positive screening, second half of the sample would be immediately sent to pre identified reference laboratories in consultation with TNSDMA

8.9.5 Risk Communication:

The District administration will then need to make a public announcement of a contamination event in clear and precise language along with requisite precautions to be taken. All care will need to be taken to avoid an undue panic situation.

8.9.6 Alternate Supply:

The concerned Executive Engineer in association with district administration would also need to make alternate water supply arrangements. In the absence of alternate supply, water would need to be decontaminated through reverse osmosis. The mobile water purification van developed by DRDO will be of help for which NDMA will need to be contacted.

8.9.7 Decontamination:

Supply lines and storage facilities will need to be decontaminated using appropriate and available technology such as Reverse Osmosis, Carbon Columns and other water purification systems (WPS) suitable for purification of water contaminated by CBRN agents. The State Pollution Board has the necessary expertise to advice on this issue.

TWAD Board should be the nodal agency for decontamination process since it is the premier agency having necessary expertise to advice on this issue than the Pollution Board.

8.9.8 Restoration of Supply:

Following repair and decontamination of facilities, a fresh water sample will need to be retested and certified for public consumption.

8.10 Nuclear and Radiological Emergency Scenarios:

Since the districts and the adjacent district have no nuclear installation, the disaster on this front is NIL.

Chapter IX

Mainstreaming concerns into Developmental Plans / Programs and projects

Mainstreaming Disaster Management into the development planning process essentially means looking critically at each activity that is being planned, not only from the perspective of reducing the disaster vulnerability of that activity, but also from the perspective of minimizing that activity's potential contribution to the hazard.

Every development plan in the state would require incorporating elements of impact assessment, risk reduction, and adoption the **'Do No Harm'** approach. Measures such as urban planning and zoning, upgradation of building codes their enforcement, adoption of disaster resilient housing designs and flood proofing, response preparedness planning, insurance, establishment of early warning systems generating community awareness, creating technical competence and promoting research among engineers, architects, health experts will be taken on priority.

9.1 Inclusion of Disaster Risk Reduction (DRR) in Development Planning:

The current level of urbanization is likely to increase. Urbanization is inevitable and growing at a fast pace, urban settlements are bound to be confronted with problems of greater magnitude in terms of shelter options, cramped living spaces, Problems of transportation, access to facilities, services etc and above all the climate change, mainstreaming Disaster Risk Reduction (DRR) issues in development plans etc are to be interlinked vertically and horizontally for fail safe infrastructures in Tamil Nadu.

The major challenges which will be addressed are as follows:

9.1.1 Technical:

- Risk Identification & Assessment
- Vulnerability Assessment
- Identification and optimum utilization of local resources.
- Monitoring the DMP plans of all projects
- Integration of development plans with Disaster Management plan

9.1.2 Regulatory:

- Development of laws
- Up-gradation of Building Bylaws
- Building Inspection and compliance of BIS
- Soil Improvement measures

- Disaster Risk assessment as part of project planning
- Mandatory geological & geotechnical examination of all engineering programmes

9.1.3 Organizational:

Achieving greater Integration between state, District, Taluk, Block & Panchayat level governance through:

- Sensitizing professionals and people about DRR issues. Sensitization community and NGO's towards disaster mitigation and projecting DRR as new challenge for all ULBs and PRLS.
- Creating an enabling environment through capacity building of stakeholders,
- Use of information on hazard potential, incorporating earthquake resistant features in buildings and undertaking flood control measures, Integrating disaster vulnerability into land – use planning,
- Implementing regulatory measures in industrial zones such as land use plans, zonal development and layout plans
- Facilitating setting up of Disaster Management cells in industrial belts through Industrial Associations
- Generating preparedness and emergency management capacity at all levels.
- Manage and enhance the capacity of ULBs for Minimization the hazard risks and Establishing institutional framework
- Facilitating structural and non- structural interventions

9.1.4 Disaster Risk Reduction Initiatives:

- Mapping hazard prone areas at the block level in respect of earthquake, floods, landslides, drought, urban flood and other man made & environmental hazard.
- Devising appropriate zoning regulation.
- Implementation and enforcement of zoning regulations and building bye laws
- Vulnerability Assessment of buildings
- Feasibility study for retrofitting of residential and lifeline buildings
- Adoption of villages and communities by private project proponents for disaster preparedness and capacity building.

- DDMA's will ensure that all the disaster relief and recovery programmes and projects that originate from or are funded by any agency satisfy developmental aims and reduce future disaster risks.

Several ongoing programs will need to incorporate Disaster Risk Reduction components and that includes Tamil Nadu Village Habitations Improvement Scheme which aims to provide minimum basic infrastructure facilities for all habitations; the solar – powered greenhouse scheme; the Rural Building Maintenance and Renovation scheme; Housing schemes which include the India Awas Yojana; Mahatma Gandhi National Rural Employment Guarantee scheme; Pradan Mantri Gram Sadak Yojana and several other schemes. A brief look at some of these schemes and what integrating and convergence of Disaster Risk Reduction will entail is outlined below:

9.2 Indira Awas Yojana (IAY):

Inclusion of measure such as application of Hazard design in construction of IAY houses; appropriate sites for IAY housing as to avoid disaster prone locations; Development of model disaster resistant design for IAY houses and capacity Building of Rural masons on safe construction.

9.3 Mahatma Gandhi National Rural Employment Guarantee scheme (MGNREGS):

Mahatma Gandhi National Rural Employment Guarantee scheme was inaugurated in Sivaganga district on 02.02.2006 in Phase 1 districts. This scheme provides 100 days of unskilled employment per household in a year. There are 12 blocks, 445 panchayats and 811 clusters with 190391 registered Households under the scheme in the district. The wage rate to an unskilled worker has been increased to Rs.205 in the financial year 2017-18 from Rs.203 in the financial year 2016-17.

MGNREGS is a major drought mitigation measure as it provides an alternative source of rural income in the face of failing farm outputs. Government of india has provided 50 days of additional employment since drought was notified in all districts of Tamil Nadu in the year 2016-17. Due to this additional persondays and non availability of agriculture works, achievement of persondays in the district raised to 132% ie. 83.39 lakh against the target of 64.11 persondays .

The comparison chart of last 5 years is shown below

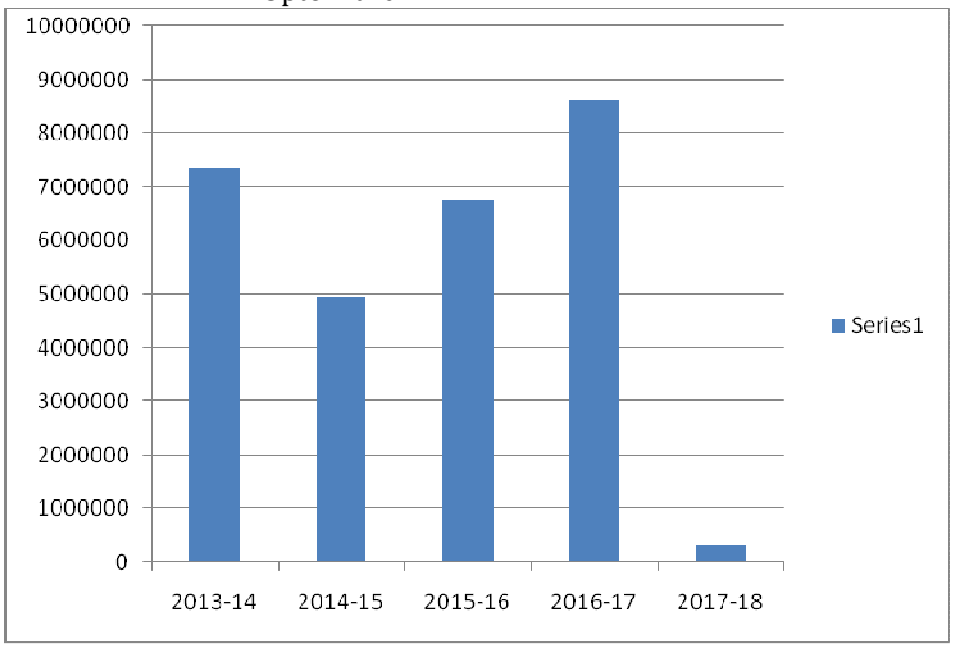
MGNREGA

Sivagangai District – year wise Persondays achievement

S. No	Year	Persondays
1	2013-14	7363266
2	2014-15	4954508
3	2015-16	6773758
4	2016-17	8638887
5	2017-18	304061

MGNREGA
Sivagangai District - Persondays Comparison

Upto March



Various category of works are implemented under the scheme, in which following drought mitigation works are implemented in 2016-17 financial year in the district:

1. **Desilting of MI tanks , Ooranies, Supply channel**: In 2016-17 finanacial year, 1023 MI tanks, ooranies and supply channel works were takenup for desilting at an estimate amount of Rs.11568.18 lakhs.

2. **MGNREGS convergence with PMKSY**: Deepening and renovation of MI tanks work has been taken up in 77 MI tanks in convergence with Pradhan Mantri Krishi Sinchayee Yojana at an estimate cost of RS.262.61 lakhs. In this work, MGNREGS provides 60% labour component ie.Rs.42.70 lakhs and 40% material component ie.Rs.27.02 lakhs and PMKSY provides over and above 40% material cost of MGNREGS ie.Rs.192.89 lakhs.

3. **Desilting of PWD supply channel:** 113.18 km of supply channel were identified and desilted against the target of 200km fixed for the district.
4. **Creation of water resources to individual land holders**:

    - **Farm Pond**: farm pond is dug in an individual farmers land to store rain water and to recharge the ground water table and nearby water sources. Some beneficiaries are also using it for fish rearing. In the fianancial year 2016-17, 292 nos. were fixed as target and in 2017-18, 350 is fixed as target for the district. so far, 76 no of works were takenup and works are in progress.

    - **Dug Well in individual farmers land and Group well in common land:** Dug well is provided to the individual small and marginal farmers at an unit cost of Rs.8.00 lakhs. Unit cost for group well is RS.12 lakhs. Target received for the district was 20 nos. but 28 no of dug well were taken up so far in the district.

In 2017-18 financial year, Natural resource management works are given priority under MGNREGS. The following works has been taken up under the scheme for this year.

- Desilting of 200km PWD supply channel.
- Recharge shaft around existing defunct borewell – 480 Nos.
- Check dams in Panchayat union supply channels- 80 Nos.
- Soak pit in pilot basis- 6500 nos.
- Desilting of 760km field channel in MI tanks, ooranies and ponds.
- Recharge pit in ponds/tanks/ooranies.

In sivagangai district, the physical and financial outlay for next 5 years under MGNREGS is shown below.

Physical and Financial Outlay for Five Years –MGNREGS

S .No	Description of work	Unit (Ha./ No.)	2018-2019		2019-2020		2020-2021		2021-2022		2022-2023		Total	
			Phy. (in Ha./ No.)	Fin. In Lakh	Phy. (in Ha./ No.)	Fin. In Lakh	Phy. (in Ha./ No.)	Fin. In Lakh	Phy. (in Ha./ No.)	Fin. In Lakh	Phy. (in Ha./ No.)	Fin. In Lakh	Phy. (in Ha./ No.)	Fin. In Lakh
1	2	3	11	12	13	14	15	16	17	18	19	20	21	22
1	Renovation of M.I. tanks & Desilting of water courses	2776 (Nos)	887	7375	980	8886.3	980	9775	980	10752	980	11827	4807	48616
2	Renovation of Ooranies	2243 (Nos)	324	2025	408	2752.1	324	2461	324	2706.7	324	2977	1704	12921
	TOTAL	**0**	**1211**	**9400**	**1388**	**11638**	**1304**	**12236**	**1304**	**13459**	**1304**	**14805**	**6511**	**61538**

9.4 Pradhan Mantri Gram Sadak Yojana:

The master plan for rural roads, the district rural road plan and identification of core network under the planning process of this scheme would need to explicitly address the disaster risk reduction concerns and accord priority to connect vulnerable habitations; The technical guidelines should explicitly provide for suitable protection and inclusion of disaster risk concerns explicitly provision of cross drainage, slope stabilization, work – especially in flood and landslide prone areas.

9.5 Sarva Shiksa Abiyan:

Development of a police paper on school safety; Introducing school safety as a part of the guidelines of SSA which is currently focusing on inclusive development; Developing structurally safe model designs for schools; Introducing school safety in the teacher's Training curriculum; Training of Rural Engineers appointed under SSA scheme as well as the SSA state coordinators; and training of masons in rural areas.

9.6 Rajiv Awas Yojanna:

As slum dwellers often become the most vulnerable community during disasters such as floods, fire, high wind speed – Rajiv Awas Yojana which is focusing on developing

slump free cities and capacity building and community mobilization can work towards community level disaster preparedness through this program. The Housing schemes to be implemented in cities need to incorporate hazard resistant features.

9.7 National Rural Health Mission:

The Health department will need to ensure that village Health Plan and the District Health Plan address the disaster risk reduction concerns in vulnerable habitations and vulnerable districts; provide training to health workers on disaster health preparedness and response; strengthen disease Health Surveillance system in rural areas; Ensure the structural safety of PHCs and other health care service delivery centers in rural areas; Arrange for training of doctors and hospital staff on mass casualty management and emergency medicine that are likely to occur during a disaster.

9.8 Kudimaramath Scheme

The Government of Tamil Nadu in G.O. No. 50 PWD Department dated10.3.2017 has issued administrative sanction for Rs.100 during 2016-17 for undertaking 40 works to the tune of Rs.3.93 Crore under the Kudimaramath Scheme for Public Works Department, for Saruganiar Basin Division and out of that 15 works have been completed and another 25 works are under progress. In the Manimuthar Basin Division, 20 works have been taken up under the Kudimaramath Scheme for the year 2016-17, of that 13 works have been completed and another 7 are under progress. Proposals for Rs. 3539.40 lakhs have also been prepared and submitted to the Government under the scheme. When these works are completed, the water bodies in Sivaganga District will definitely withstand flood related disasters in a better way.

9.9 De-silting of water bodies

In G.O.(Ms.) No. 50 Industries Department dated 27.04.2017 the Government have ordered to desilt tanks, kanmais, reservoirs, channals in order to store more rain water in the monsoon seasons, and as well as for strengthening of tank bunks. In Sivaganga 158 Public Works Department tanks and 2478 Panchayat Union Tanks have been notified for de-silting. The main purpose for de-silting is to strengthen the tank bunds and to distribute the fertile silt to the common public. While distributing the silt the first priority is to be given to the farmers who are doing agriculture, and second priority to the potters and the next priority to common man for agricultural as well as other domestic purposes.

When the de-silting process is completed, the bunds of water bodies will be strengthened so as to withstand natural as well as man-made disasters. It will also be useful to the farming community.

9.10 THAI Scheme

With the objective of equitable distribution of resources to all habitations so as to overcome the bottlenecks in the uneven distribution of resources and to provide

minimum basic infrastructure facilities to all the habitations, the Government introduced the "Tamil Nadu Habitations Improvement" (THAI) Scheme during the year 2011-12 so as to execute works for the period of five years from 2011-12 to 2015-16

Minimum basic requirements like water supply, street lights, Roads, Improvements to burial grounds, pathway to burial grounds, additional requirements like Anganwadi Centers, Public distribution shops, SHG Buildings, Threshing floor, play ground and other needy works were taken up under THAI Scheme.

With the aim of providing / upgrading certain essential infrastructure facilities in rural areas, it has been proposed to extend the THAI Scheme for another 5 years from 2016-17 to 2020-21 as THAI II.

The required funds for THAI Scheme -II will be apportioned from State Finance Commission Grant(SFC), Infrastructure Gap Filling Fund(IGFF) and pooled Assigned Revenue(SPAR) respectively.

Considering the fact that the rural population will also have an impact on the settlement pattern and infrastructural requirement of the Village Panchayats, it has been decided to allocate funds based on the number of habitations and population in the manner of giving 60% weightage to the total number of habitations and 40% weightage to the total rural population. Based on the above formula District wise / Block wise allocation of funds has been made.

The Village Panchayats / Habitations which are covered under THAI Scheme during the first year of implementation need not be taken up for work selection in the next year of in the subsequent years. By adopting this principle, the number of Village Panchayats / Habitations to be covered in each year will be equally distributed over the period of five years.

Since the basic requirements of all the Village Panchayats were fulfilled to the maximum extent, it is proposed to take up the following 2 category of works in the Village Panchayats under THAI Scheme II.

1. Improvements of MI Tanks
2. Basic Infrastructure and Amenities (including roads)

In respect of Sivagangai District component wise funds allotted for the implementation of THAI- II Scheme are as shown below:

S. No	Name of the District	No. of Village Panchayats	Rs. in Crore			
			Total Allocation	MI Tank	Roads	Basic Amenities
1.	Sivagangai	445	22.49	9.00	9.00	4.50

Out of the aforesaid two components, improvement of MI Tanks relate to "Mainstreaming of Disaster Management" under THAI Scheme.

Improvements of Minor Irrigation Tanks:

The main objective of the programme is to ensure comprehensive rehabilitation of Minor Irrigation Tanks which are under the control of Panchayat Union, so as to restore the tanks to their full capacity, increase ground water recharge, prevent surplus run off and breaches in the water bodies and also to regulate the storage of water for drinking and agricultural purposes, thereby ensuring sustainable drinking water supply and increasing the crop productivity and area irrigated.

As against the allocation of Rs. 9.00 Crores, to Sivagangai District 43 MI Tanks have been proposed and administrative sanction accorded for rehabilitation at the total estimate cost of Rs.790.09 Lakhs totally during the year 2016-17 towards Mainstreaming of Disaster Management under THAI-II Scheme. The block wise abstract is as shown below.

Sl.No.	Name of the Block	A.S. Accorded	
		No.of MI Tanks	Amount (Rs in Lakhs)
1	Sivagangai	5	61.11
2	Kalayarkovil	5	113.810
3	Manamadurai	3	59.740
4	Thiruppuvanam	3	58.700
5	Ilayangudi	4	85.440
6	Thiruppathur	3	54.120
7	Singampunari	3	45.910
8	Sakkotai	3	45.590
9	Kallal	4	66.970
10	Devakottai	5	93.740
11	Kannangudi	3	72.330
12	S.Pudur	2	32.630
	Total	**43**	**790.09**

THAI -II - Proposed works in 2016-17

S. No	Name of the work	No.of works	Remarks
1	Desilting, Deepening & Strengthening of MI tank	43	43 works (Total estimate amount - 787.09 lakhs) Tender in process

9.11 Coastal Disaster Risk Reduction Project (CDRRP)

Sivaganga District has no coastline. Hence Coastal Disaster Risk Reduction Project is NIL in respect of Sivaganga District.

9.12 Dry Land Farming

Dry land farming refers to an improved system of cultivation wherby maximum amount of water is conserved by soil at water management. It involves efficient system of soil and crop management in the regions of low land and uneven distributed rainfall.

9.12.1 Importance of Dry Land Farming

Considering the present rate of development of irrigation facilities and also water potentiality of the region, it is estimated that at any point of time 50% of cropped area in Sivaganga will remain under rainfed farming system. Such vast areas as of now consume hardly 25% of total fertilizer consumption. Due to poor level of management, crop productivity is also very low resulting socio-economic backwardness of the people.

9.12.2 Characteristics of Dry land Agriculture

Dry land areas may be characterized by the following features:

- Uncertain, ill-distributed and limited amount of rainfall
- Occurrence of extensive climatic hazards like drought, flood etc.
- Undulating soil surface
- Occurrence of extensive and large holdings
- Practice of extensive agriculture i.e. prevalence of mono cropping etc.
- Relatively large size of fields
- Similarity in types of crops raised by almost all the farmers of particular region.
- Very Low crop yield
- Poor market facility for the produce

- Poor economy of the farmer and
- Poor health of cattle as well as farmers

Since Sivaganga District is less water potential area, dry land farming will help the farmers in a big way if a detailed study is made and effective implementation is ensured.

9.13.1 Livestock Farm

The Livestock Research and Development Farm to an extent of 1907.32 Acres, has been functioning at Chettinadu in Sivaganga District, with the following objectives:

- Maintaining pure breed of Tharparkar
- To serve as a model and visual demonstration cum training centre for the farmers, extension workers, students of veterinary sciences, school students and others connected with animal husbandry activities.
- To probagate the fodder cultivation among the dairy farmers and to provide quality fodder seedlings to the farming community.
- To provide quality cross-bread Heifer calves, Buks and Rams for breeding to the farmers.

The District Livestock Farm, Chettinad has the total area of 1907.32 Acres, and fodder crops such us Co4, Co5, CoF29, Stylo, Africal tall maize, Cowpea, Velimasal, and agathi are being cultivated.

Under NADP 2016-17 Scheme PC23 Annual Fodder Sorghum was cultivated in 200 acres for certified seed production and so far 15 tons of seed have been produced. Fodder cultivated in the Farm, is being fed to the farm animals and 56,00,000 Co4 Slips were distributed to farmers under SDFS 2016-17, and 30,000 fodder seedlings were produced and distributed to the farmers of Sivaganga District during 2016-17.

As far as certified seed production and distribution aspect is concerned, 3400 Kgs of Cowpea EC 4216 certified seeds were produced and distributed to farmers. Vermicompost production activity is also taken up successfully. During 2016-17 10 tons of vermicompost had been produced and utilized for fodder cultivation in the District.

9.13.2 Propagation of Azolla:

Azolla is very rich in proteins, essential amino acids, vitamins and minerals . carbohydrates and oil contents in Azolla is very low. Thus the bio-composition of Azolla makes it one of the most economic and efficient feed substitutes.

More over Azolla can be easily propagate at low cost 10 to 15% of poultry feed is replaced by supplementing fresh Azolla in diet, thus considerably reducing the feed cost to the farmers.

Establishment of Azolla unit is one of the component in Native chicken hearing to beneficiaries like farmers as well as in "Small Scale Native Chicken Units" to the members of PVP

Materials Required: Plastic Tray, Superphosphate and Azolla inoculums

Harvesting and Feeding:

1. Azolla unit of 40 sq.ft will be sufficient for 250 birds and 20 sq.ft is sufficient for 100 birds.
2. From 1 sq.ft of Azolla unit upto 40 gms of Azolla can be harvested daily.
3. Azolla is feed at 100 to 150 gm per kg of chicken feed.

9.13.3 Project cost & Government Subsidy

The total cost required to establish Azolla unit is Rs.5,300/- for 40 sq.ft and Rs.2,200/- for 20 sq.ft. Among that 25% will be provided as State Government Subsidy to the farmers for Propagation of Azolla.

Propagation of Azolla performed in 1200sq.ft at District Livestock Farm, Chettinadu and about 30 by Azolla per day feed to the livestock like Cattle, Sheep and Goat. Training also given to the farmers for better cultivation practices.

9.14 Hydroponic Fodder by Low cost Hydroponic device:

1. It is a soil less fodder production technology by which different types of seeds like maize, horse gram, sawar etc., can be grown into hydrophonic fodder and feed to livestock such as cattle, buffalo, sheep, goat and poultry.
2. It required only minimal land and labour.
3. The low cost model consist of 8 rows each with handling capacity of 4 trays.
4. About 8 kg of fodder can be produced from 1.65 kg of maize seed.
5. As seed also comes along with fodder and sprout mat the whole fodder along with root and seed is utilized by the animals without wastage.

Procedure:

1. Select seeds with high germinating capacity and moisture less than 12%.
2. Place the seeds into tub and add water.
3. Wash the seed by string with stick and drain the water.
4. Add water and soak the seeds for 24 hrs.
5. Pack the soaked seed is to gunny bags.
6. Place these bags under shade (avoid keeping near/under dried sunlight)
7. Sprinkle water once in every 3 hours on the gunny bags.
8. Allow the seeds to sprout in the gunny bag itself for 1 day.
9. Transfer the sprouted seed from the gunny bags to the trays and spread them evenly upto a height of ½ inch with in the tray.
10. Rack the trays into the lower section of the device i.e., into the day/row

11. Sprinkles water for every 2 hours.
12. Shift the tray to the next row on every other day.
13. After completion of 8th day i.e., 8th row the fodder can be utilized for feeding animals.
14. Usually the growth period is 8 days in which the fodder grows to a maximum height of 25 to 35 cms.

Cultivation of hydroponic fodder performed at District Livestock Farm, Chettinad and cultivate about 25 kg fodder every day and feed to the farm animals and also provide awareness among the livestock owners by gives training to 100 farmers of integrated farming under State Balance Growth Fund (SBGF) scheme. Also, about 400 farmers of padamathur co-operative society is trained for the hydroponic fodder by the Veterinary Assistant Surgeon of Veterinary Dispensary, Padamathur for hydroponic cultivation. Training also given to the members of PVP by the Animal Husbandry Department officials for hydroponic cultivation.

9.15 District Watershed Development Agency

New creation of Water Harvesting structures like farm pond, new village pond, cattle pond, desilting of supply channels, deepening of oorani and deepening of kanmoi are executed on watershed basis with the guidance of Tamil Nadu Watershed Development Agency, Chennai.

The water source is newly created to the farmers by the formation of farmpond. In this district, the farmers have no sufficient water for agricultural usage. At the time of rainy season, heavy intensity of rainfall and run off occurs through the dry lands and develop soil erosion and drained into river without any usage of farmers. This unusable water from the catchment area of the watershed should be harvested by the construction of new farm pond in the farmers land. The farm pond is constructed in the patta land of the farmers from the selected watershed.

The work will be executed by the watershed committee with 10% of contribution amount is collected from individual beneficiary before the execution of work. The harvested water is utilized by the individual farmer for the supplementary irrigation only. The drip irrigation is irrigated by the source of farm pond. Hence the optimum level of production is harvested by the farmer. Hence the life status of the farmer is elevated to higher level.

9.16 Climate Change Adaptation Scheme:

Climate change adaptation is a response to global warming and climate change, that seeks to reduce the vulnerability of social and biological systems to relatively sudden change and thus offset the effects of global warming. Even if emissions are stabilized relatively soon, global warming and its effects will last many years, and adaptation will be

necessary to the resulting changes in climate. Adaptation is especially important in developing countries since those countries are predicted to bear the brunt of the effects of global warming. That is, the capacity and potential for humans to adapt (called adaptive capacity) is unevenly distributed across different regions and populations and developing countries generally have less capacity to adapt. Furthermore, the degree of adaptation correlates to the situational focus on environmental issues. Therefore, adaptation requires the situational assessment of sensitivity and vulnerability to environmental impacts. Adaptive capacity is closely linked to social and economic development. The economic costs of adaptation to climate change are likely to cost billions of dollars annually for the next several decades though the amount of money needed is unknown. The adaptation challenge grown with the magnitude and the rate of climate change.

Another response to climate change, known mitigation is to reduce greenhouse gas emissions and/or enhance the removal of these gases from the atmosphere. Even the most effective reductions in emissions, however, would not prevent further climate change impacts, making the need for adaptation unavoidable.

9.17 Effects of Global Warming:

The projected effects for the environment and for civilization are numerous and varied. The main aspect is an increasing global average temperature. The average surface temperature could increase by 3 to 10 degrees Faranheit by the end of the century if carbon emissions are not reduced. This causes a variety of secondary effects, namely, changes in patterns of precipitation, raising sea levels, altered patterns of agriculture, increased extreme weather events, the expansion of the range of tropical diseases, and the opening of new marine trade routes.

Potential effects include sea level rise of 110 to 770 mm between 1990 and 2100, repercussions to agriculture, possible slowing of the thermohaline circulation, reductions in the ozone layer, increased intensity and frequency of extreme weather events, lowering of ocean pH, and the spread of tropical diseases such as malaria and dengue fever.

Adaptation is handicapped by uncertainty over the effects of global warming on specific locations such as Indian Monsoon.

9.18 Status of Poly Green

In the present Scenario of perpetual demand for better quality vegetable, continuously shrinking land holdings, **Protected Cultivation** is the best choice for quality produce and efficient use of land and other resources.

Protected Cultivation means some level of control over plant microclimate to alleviate one (or) more abiotic stresses for optimum plant growth which can be achieved in **Naturally Ventilated Poly houses**. Crop yield can be several times higher than those under open field conditions. Production could be possible all through the year (or) part of the year as required. Quality of the produce is also superior and higher input use efficiencies are achieved.

Scope :

In Sivagangai district due to small land holdings and problematic agro climates there is a demand for cultivation of high value horticulture crops under poly house.

Establishment of Poly houses in Sivagangai District under various horticulture schemes

PROTECTED CULTIVATION – POLY GREEN HOUSE (Naturally Ventilated)

NATIONAL HORTICULTURE MISSION							
S. NO	**COMPONENT**	**SUBSIDY/ UNIT**	**TARGET**		**ACHIEVEMENT**		**No.of Beneficiaries**
			PHY	**FIN**	**PHY**	**FIN**	
1	GREEN HOUSE TUBULAR STRUCTURE 2014-15 (Fund received during 2016-17)	Rs. 468/Sqm	3000	14.025	3000	12.66	1No.
2	GREEN HOUSE TUBULAR STRUCTURE 2015-16	Rs. 468/Sqm	9000	42.075	9000	37.95	4Nos.
3	GREEN HOUSE TUBULAR STRUCTURE 2016-17	Rs. 468/Sqm	6000	28.050	6000	16.88	3 Nos. Subsidy released 5000 Sqm.
	TOTAL		**18000**	**84.15**	**18000**	**67.49**	
NMSA – RAINFED AREA DEVELOPMENT							
S. NO	**COMPONENT**	**SUBSIDY/ UNIT**	**TARGET**		**ACHIEVEMENT**		**No.of Beneficiaries**
			PHY	**FIN**	**PHY**	**FIN**	
1	GREEN HOUSE TUBULAR STRUCTURE 2016-17	Rs. 468/Sqm	6000	28.050	6000	16.88	2 Nos.
	TOTAL		**6000**	**28.050**	**6000**	**16.88**	
	Grand Total		**24000**	**112.20**	**24000**	**84.37**	**10 Nos**

The products which are expected to come to market from this projects are:

1. Coloured capsicum
2. Cucumber
3. Bitter Gourd
4. Other exotic vegetables

All these products have established market all over India. The beneficiaries initially plan to market these products in Gujarat, Mumbai and New Delhi. There will be a proposal to export many of the products to Middle East markets and Singapore.

9.19 IAMWARM Scheme:

The Government of Tamil Nadu has proposed to Rehabilitation and Modernization of Tanks and Supply channels in Lower Vaigai Sub Basin under TN IAMP (IAMWARM-II) with financial assistance of World Bank. Under this project, it is proposed to rehabilitate and modernize the following 6 tanks and 6 supply channels in Manamadurai and Ilayangudi taluks of Sivaganga District for an amount of Rs.136.05 lakhs.

1. Athanur tank and supply channel in Manamadurai Block.
2. Manamadurai tank and supply channel in Manamadurai Block.
3. Nathaporakki tank and supply channel in Manamadurai Block.
4. V. Karisalkulam tank and supply channel in Manamadurai Block.
5. Vethiyarendal tank and supply channel in Manamadurai Block.
6. Pidarendal tank and supply channel in Ilayangudi Block.

In the estimate it is proposed to reconstruction / repair works to damaged tank sluices, raising and strengthening tank bund and desilting of the supply channels.The administrative sanction for the above work is awaited. The work will be taken up during this financial year 2017-18. On completion of this work, the above six tanks and supply channels will be standarised and the agriculture productivity will be increased in 367.71 Hectares of land.

Chapter X

Financial Arrangements

10.1 Approach:

With the change of paradigm shift in DM from the relief –centric to proactive approach of prevention, preparedness, mitigation, response, relief, rehabilitation and reconstruction, the effort would be made to mainstream and integrate disaster risk reduction and emergency response in the development process, plans and programmes of the government at all levels. This would be done by involving all the stakeholders including Government Organizations, research and academic institutions, private sector, industries, Civil Society Organization and community. SDMA and DDMA will ensure mainstreaming of disaster risk reduction in the development agenda of all existing and new developmental programmes and projects which shall incorporate disaster resilient specifications in design and construction. Due weightage will be given to these factors while allocating resources.

As per the section (49) of the Disaster Management Act, 2005, every department of the state government shall make provisions in their annual budget for carrying out the activities and programmes set out in their disaster management plans. The planning department will be advised to make necessary budget allocation for meeting the disaster management requirements. Based on the requirements and the magnitude of the of the disasters estimate loss, expenditure involved for rescue and relief operations and rehabilitation programmes will be assessed and necessary budget allocation will be received through SDMA.

Chapter XI

11.1 MONITORING AND EVALUATION

The Hon'ble Ministers and Monitoring Officers while camping in this district are reviewing the preparedness of disaster risk reduction with the District Collector, and inter departmental officers.

11.2 LINKAGE WITH I.D.R.N

The India Disaster Resources Network web site is updated once in every three months.

11.3 Specific issues on various vulnerable groups

Sivaganga District, being less disaster prone area, being continuously monitored along with the line department officials when situations are arising.

11.4 Schedule of Mock Drills

During 2016 October, mock drill was conducted with the participation of the public. Disaster Reduction Day was also observed on 13.10.2016. Mock drill for 2017 will be conducted within one month's time.

Annexure-I

NAME AND DESIGNATION OF THE OFFICERS TO BE CONTACTED IN CASE OF EMERGENCY, THEIR OFFICE AND RESIDENTIAL ADDRESS WITH PHONE AND MOBILE NUMBERS (FROM COLLECTOR TO FIELD LEVEL OFFICERS)

Name and Designation	Office	Residence	Cell No.
District Collector, Sivaganga.	04575-241466	241455-241581 Fax.241455	9444182000
District Revenue Officer, Sivaganga	04575-241293	241402	9445000925
Personal Assistant to Collector(General) (I/c)	04575-241525	241588 Fax.241525	9445008149
PRO	04575-240370 240391/ 240370		9443749111
Sub Collector, Devakottai.	04561-272283	272289	9445000470
Revenue Divisional Officer, Sivaganga	04575-240243	242244	9445000471
Tahsildar, Sivaganga	04575-240232	240294	9445000650
Tahsildar, Manamadurai	04574-258017	258021	9445000651
Tahsildar, Ilayangudi	04564-265232	265234	9945000652
Tahsildar, Thiruppathur	04577-266126	266158	9445000647
Tahsildar, Karaikudi	04565-238307	225338	9445000648
Tahsildar, Devakottai	04561-272254	272345	9445000649
Tahsildar, Thiruppuvanam	04574-265099		9486483987
Tahsildar, Kalayarkovil	04575-232129	---	9486231284
Tahsildar, Singampunari	04577-242155	__	7598512071
S.T.(SSS) Thiruppuvanam	04574-265099		9788029386
S.T.(SSS) Kalayarkovil	--		9486231284
S.T.(CS) Sivaganga	240232	--	9445000347
TSO, Manamadurai	258017	--	9445000348
TSO, Thiruppuvanam	---	---	9487076294 9487208259
TSO, kalayarkovil	--	--	9443640595

			9344543431
TSO, Ilayangudi	265232	--	9445000349
TSO, Thiruppathur	266126	--	9445000352 8925160550
S.T.(CS)Karaikudi	238307	--	9445000351
TSO, Devakottai.	272254	--	9445000350 9443644227
S.T.(SSS) Sivaganga	240232	--	9524380511
S.T.(SSS) Manamadurai	258017	--	8973626634
S.T.(SSS), Ilayangudi	265232	--	9444263032
S.T.(SSS), Thiruppathur	266126	--	7502546316
S.T.(SSS), Karaikudi	238307		9486073577
S.T.(SSS), Devakottai	272254		9842608600
SDC(SSS) Sivaganga	04575-240391 to 240395	--	9445461749
SDC (SSI) Sivaganga	04575-240391 to 240395	--	9443204687
DBCWO	04575-240391 to 240395, 245008	--	9445477845
DADWO	04575-240391	--	
DSO	04575-241516	241399	9445000346
A.C.(Excise)	04575-240391	242355	9443555564
P.A (Legal)	---	----	9843484702

S.T.(ADW)Sivaganga	04575-245386	--	9443684543
S.T.(ADW) Devakottai	04561-273370	--	9487611331
ST NH-1 Sivagangai	---	----	8695555022
ST NH-2, Thiruppathur	----	----	9965275567

ST NH-1, Manamadurai	----	----	9962402939
ST NH-2, Manamadurai	---	---	9443799920
ST SIPCOT-1, Arasanoor	----	----	9842271095
ST SIPCOT-2, Arasanoor	---	----	9487076294
Z.D.T.Sivaganga	04575-240232	----	9487920081
Z.D.T.Okkur	04575-240232	---	9443474995
Z.D.T.Kalayarkoil	04575-232129	---	9443640595
Z.D.T.Maravamangalam	04575-232129	-----	9486568466
Z.D.T. Manamadurai	04574-258017	----	8098399090
Z.D.T. Thirupuvanam	04574-265099, 265094	----	9786659505
Z.D.T. Ilayangudi	04564-265232	----	9976050998
Z.D.T.Karaikudi	04565-238307	----	9486672009
Z.D.T.Sakkottai	04565-238307	-----	9488481299
Z.D.T.Devakottai	04561-272254	-----	9443005008
Z.D.T.Tiruppattur	04577-266126	------	7868953073
Z.D.T.Singampunari	04577-266126	---	9442757309

Z.D.T.Saligramam	04564-265232	----	8870289237

CONTACT NUMBERS OF THE OFFICERS OF THE ELECTRICITY BOARD, TWAD BOARD, FIRE AND RESCUE SERVICES, POLICE DEPARTMENT

TNEB			
S.E.TNEB, Sivaganga	240666, 240606		9445853070 9443341609
E.E.(TNEB) Sivaganga	240616		9445853111
A.E.(TNEB)(Town)Svg	240333		9445853076
A.E.E(TNEB)Sub-station	240286		9445853126
A.E.-(TNEB)Sub-station	240286	9445853137 9445853136	9486074363 9003735959
A.D (TNEB), Sivaganga Development, &PRO	240666		9445853061
E.E(TNEB), Thiruppathur	04577 - 266034		9445853131
E.E(TNEB), Karaikudi	04565 - 256353		9445853090
E.E.Manamadurai(TNEB)	04574-258023	9445853080	9445853111
A.E. (TNEB)Ilayangudi	04564-265918	-	9445853103
TWAD			
S.E.TWAD, Sivaganga	04575-240481, 240482		9443013265 9443613558
E.E.TWAD, Sivaganga	04575-240314	9445240583	9865912557
A.E.E.TWAD(RWSS)Svg	240314		9159667441
E.E.Cauvery water, Sivaganga	245072	9442205913	9865912557
E.E TWAD(Storage), Karaikudi	04565-233003		9442111222
A.E (Irrigation), Thiru--ppuvanam		7373034016	9486554135,

SIVAGANGA DISTRICT FIRE AND RESCUE SERVICE DETAILS

Divisional Fire Officer Sivaganga -- 9445086229

Asst.Dvl.Fire Officer, Sivaganga -- 9443452583

Divisional Fire Office -- 04575-240201, 9445086221

Sl. No.	Station Address	Station Number	Cell No.
1.	Station Officer, Fire and Rescue Services Collectorate, Sivaganga	04575-240960 04575-240301	9445086243 9488564466
2.	Station Officer Fire and Rescue Services Manamadurai	04574-258599	9445086235 9965594101
3.	Station Officer Fire and Rescue Services Thiruppathur	04577-266245	9445086244 9865416957
4.	Station Officer Fire and Rescue Services Singampunari-IC	04577-242225	9445086242 9445086244
5.	Station Officer Fire and Rescue Services Karaikudi	04565-221101	9445086234 9442092012
6.	Station Officer Fire and Rescue Services Devakottai.	04561-272200	9445086232 9442111535i

OTHER DEPARTMENTS

RURAL DEVELOPMENT			
Project Diector, DRDA	04575-242002, 240388	240429	7373704227
Project Officer(M.T.)	04575-240962	--	9445034189
Personal Assistant to Collector (Pan.Dev.)	04575 – 240389	240401	7402608350
A.D.(Panchayat)	04575-240283	--	7402608351
A.D.(Audit)	243199		7402608352
P.A.(Small Savings)	240391 to 95 240591		7402608355
P.A.(Noon Meal)	244533		9976505234
APO, Infra-1	----	---	7402608336
APO, Infra-2	---	-----	7402608338
APO, WE	-------	------	7402608339
APO, H&S	-------	------	7402608337
AEE(R&B-1)	------	--------	7402608383
AEE(R&B-2)	------	----	7402608342
Secretary, Dist. Panchayat	240952		7402608353
Dist.Panchayat Chairman	240952		-----
Huzur Saristadar(PD)	240391		7402608408
B.D.O. (Supt)DRDA	---	---	7402608384
E.E Roads	243839	---	7373704587
BLOCK DEVELOPMENT OFFICERS			
	Land line Telephone Numbers	BLOCK PANCHAYAT	VILLAGE PANCHAYAT
BDO, Sivaganga	240272, 246902	7402608368	7402608356

BDO, Kalaiyarkoil	232225	7402608357	7402608366
BDO, Manamadurai	04574-258016	7402608358	7402608370
BDO, Thiruppuvanam	04574-265224	7402608359	7402608371
BDO, Ilayangudi	04565-265236	7402608360	7402608372
BDO, Thiruppathur	04577-266139	7402608365	7402608377
BDO, Singampunari	04577-242128	7402608369	7402608378
BDO, S.Pudur	04577-244201	7402608367	7402608379
BDO, Kallal	04565-284221	7402608375	7402608363
BDO, Sakkottai	04565-282239 04565-282739	7402608364	7402608376
BDO, Devakottai	04561-272224	7402608361	7402608373
BDO, Kannankudi	04561-274228	7402608362	7402608374
MUNICIPALITY			
Commissioner, Sivaganga	04575-241292 241253		9994697123
Commissioner, Karaikudi	04565-238133, 238201	238134	9444217450
Commissioner, Devakottai	04561-272282		7401086451
PWD			
S.E. PWD/WRO, Sivaganga	240487		9443144688
E.E.PWD.Lower Vaigai Basin, Sivaganga	240304		
E.E.PWD.Saruganiyar, Sivaganga	240276	240280	9443917963
E.E.PWD. Manimutharu Devakkottai	04561-272263		9442103535
E.E.PWD, (Buildings)	240871, 230728		9487272515, 9488526934
SDO, Survey (Buildings)			9443147115

A.E.PWD, (Electricals)	240361		9487938787
E.E.PWD/WRO, Lower Vaigai Basin, Paramakudi	04564-231354		9884027488
E.E.(PWD) Ex-zamin Tanks Karaikudi	230271	233277	9486905884
E.E.Spl.Project Division, Sivaganga	243730		
E.E.Spl.Project Division Manamadurai	269677		9442654980
MINES			
A.D.Mines (I/C)	04575-244971 240391 to 95	9003423074	9842474419 7305902034 9443110300
D.D.Mines	240391 to 95	-	9842474419
FISHERIES	240848		
FOREST	240438		
AAVIN KARAIKUDI			7402710813
TRANSPORT DEPARTMENT			
R.T.O. Inspector, Sivaganga	240339		9443469720
G.M.TNSTC, Karaikudi	04565-238055		9487898157
D.M.TNSTC, Sivagangai	240325		9487898090
B.M.TNSTC, Karaikudi	04565-240325		9487898110
A.E.Govt.Workshop	240175		9994794320
R.T.O.Karaikudi	04565-227879		9444360155
EDUCATION DEPARTMENT			
C.E.O. Sivaganga	240408		7373002891
CEOS.S.A. Sivaganga (i/c)	243298		9788858968
D.E.O. Sivaganga	241855		7373002893

D.E.E.O.Sivaganga	240460		9750982786
D.E.O.Devakottai	04561-272892		7373002896

HIGHWAYS DEPARTMENT			
D.E.(highways)	04575-240240		9443571200 9443341824
A.D(Highways) Tiruppathur	-	9787702116	9790126446
A.D.(Highways) Devakottai	-		9443019958 9787702116
A.D.(Highways) Sivaganga	04575-240240		9443013563
A.D.(Highways) Karaikudi	04565-232420		9443380684 9787702116
A.D.(Highways) Manamadurai	04574-269085		7708351276 9842374130
HEALTH DEPARTMENT			
J.D.(Health)Sivaganga	240403		9444982678
D.D.(Health)Sivaganga	240524		7339493001
D.D.(T.B)Sivaganga	242434		9443567787
D.D (MEDICAL), Sivaganga	243781		9840118361
Family welfare, Sivaganga	240549		9443501974
JD, Superintendent (Medical)	240403		9842123040
AGRICULTURE			
J.D.(Agri)Sivaganga	240409		9442090537
P.A.(Agri)Sivaganga	240395 Ext.260		9486507949
E.E.(Agri)Sivaganga	240213		9443046696
D.D.(Horticulture) Sivaganga	246161, 240009		9443495389

A.D.(Horticulture) Sivaganga	242065		9443017979
A.D.(Statistic) Sivaganga	244018		9445458141
A.D.(Statistic) Devakottai			9445488142
DD.(Statistic) SIvagangai			9445548084
ANIMAL HUSBANDRY			
J.D. and Regional Director, Animal Husbundary Sivaganga	240415	243323	9445001128
Dy.Director (AH)	240415		9445032523
TOWN PANCHAYAT			
Assistant Director(T.P.) Sivaganga	243046		8883100139
Kottaiyur	04565-276076		8883100536
Puduvayal	04565-282727		8883100541
Kandanur	04565-282044		8883100535
Pallathur	04565-283683		8883100540
Thiruppathur	04577-266295		8883100544
Singampunari	04577-242939		8883100542
Nerkuppai	04577-245411		8883100539
Manamadurai	04574-268237		8883100537
Thiruppuvanam	04574-265391		8883100543
Ilayangudi	04564-265246		8883100533
Nattarasankottai	04575-234300		8883100538
Kanadukathan	04565-283583		8883100534

CONTACT NUMBER OF RELIEF COMMISSIONER OFFICER, CHENNAI AND GOVERNMENT REVENUE DEPARTMENT @ SECRETARIAT

Designation	**Phone Numbers**
The Secretary, Revenue Department	044 – 25671556

Secretariat, Chennai – 9.	
The Principal Commissioner and Commissioner of Revenue Administration Chepauk, Chennai – 5.	044 – 28523299
The Joint Commissioner (NC) Revenue Administration and Disaster Management and Mitigation Department, Chepauk, Chennai – 5.	044- 28544249

LIST OF TELEPHONE NUMBERS.

S.No	Designation	Phone Number (Office/Res)	E-mail Address
1.	DISTRICT COLLECTOR	OFF- 04575 - 241466	collrsvg@tn.nic.in
		RES- 04575 - 241455	
2.	DRO. SIVAGANGA	04575 - 240419	drosvg.tnsvg@nic.in
3.	PA (G) COLLECTOR	04575-241525	pag.tnsvg@nic.in
4.	PÁ TO COLLECOR (P.D)	04575-240389	papd.tnsvg@nic.in
5.	RDO, SIVAGANGA	04575-240243, 242244	rdo.tnsvg@nic.in
6.	RDO, DEVAKOTTAI	04561-272283, 272289	subcollrdvk.tnsvg@nic.in
7.	JDHS, SIVAGANGA	04575- 240403	jdahsvga@rediffmail.com
8.	DDHS, SIVAGANGA	04575-240524	dphsvg@tn.nic.in, ddhealth.tnsvg@tn.nic.in
9.	TAHSILDAR, SIVAGANGA	04575-240232	tahr.tnsvg@nic.in
10.	TAHSILDAR, ILAYANGUDI	04564-265232	tahrily.tnsvg@nic.in

11.	TAHSILDAR, KARAIKUDI	04565-238307	tahrkkd.tnsvg@nic.in
12.	TAHSILDAR, MANAMADURAI	04574-258017	tahrmnm.tnsvg@nic.in
13.	TAHSILDAR, DEVAKOTTAI	04561-277254	tahrdvk.tnsvg@nic.in
14.	TAHSILDAR, THIRUPATTHUR	04577-266216	tahrtpr.tnsvg@in.in
15.	MUNICIPALITY, SIVAGANGA	04571- 241253	commr.sivagangai@tn.nic.in
16.	MUNICIPALITY, KARAIKUDI	04565-238201, 222201	commr.karaikudi@tn.nic.in
17.	MUNICIPALITY, DEVAKOTTAI	04561- 272282	commr.devakkottai@tn.nic.in
18.	BDO - SIVAGANGA	04575-240272	bdosvg.tnsvg@nic.in
19.	BDO - THIRUPPUVANAM	04564-265224	bdotvn.tnsvg@nic.in
20	BDO - MANAMADURAI	04574-250016	bdomnm.tnsvg@nic.in
20.	BDO - ILAYANGUDI	04564-265236	bdoily.tnsvg@nic.in
21.	BDO - KALAYARKOVIL	04575-232225	bdokvl.tnsvg@nic.in
22.	BDO - SINGAMPUNARI	04577-242128	bdospi.tnsvg@nic.in
23.	BDO - THIRUPPATHUR	04577-266139	bdotpr.tnsvg@nic.in
24.	BDO - KALLAL	04565-284221	bdokal.tnsvg@nic.in
25.	BDO - SAKKOTTAI	04565-282239	bdoskt.tnsvg@nic.in
26.	BDO - KANNANKUDI	04561-274228	bdoknd.tnsvg@nic.in

27.	BDO - S. PUDHUR	04577-244201	bdospr.tnsvg@nic.in
28.	BDO - DEVAKOTTAI	04561-272224	bdodvk.tnsvg@nic.in

TELEPHONE NUMBERS & E-MAIL ID OF THE PRIMARY HEALTH CENTER

SINGAMPUNERI BLOCK				
1	Piranmalai	04577	246106	svg-pmalai.tnphc@nic.in
2	Mallakottai	04577	295339	svg-mkottai.tnphc@nic.in
3	M.Soorakudi	04577	293302	svg-soorakudi.tnphc@nic.in
4	Eriyur	04577	260038	-
S.PUDUR BLOCK				
5	V.Pudur	04577	244464	svg-pudurv.tnphc@nic.in
6	Pulithipatti	04577	294328	svg-ppatti.tnphc@nic.in
THIRUPPATHUR BLOCK				
7	Nerkuppai	04577	245182	svg-nerkuppai.tnphc@nic.in
8	Keelasevalpatti	04577	295327	svg-kspatti.tnphc@nic.in
9	Thirukostiyur	04577	295288	svg-kostiyur.tnphc@nic.in
10	Sevenipatti	04577	295326	svg-sevinipati.tnphc@nic.in
KALLAL BLOCK				
11	Sembanur	04565	284408	svg-sambanoor.tnphc@nic.in
12	Kandramanickam	04577	295365	svg-kmanickam.tnphc@nic.in
13	Maruthangudi	04577	295339	svg-mgudi.tnphc@nic.in
14	Kundrakudi	04577	295325	svg-kdkudi.tnphc@nic.in

15	S.R. Pattinam	04565	285303	---
16	Panankudi	04575	292424	---
SAKOTTAI BLOCK				
17	Puduvayal	04565	282180	svg-puduvayal.tnphc@nic.in
18	Peerkalaikadu	04565	291160	svg-pkkadu.tnphc@nic.in
19	Kottaiyur	04565	283797	svg-kottaiyur.tnphc@nic.in
20	O.Siruvayal	04565	210455	svg-sirivayal.tnphc@nic.in
KANNANGUDI BLOCK				
21	Kannankudi	04561	274216	svg-knkudi.tnphc@nic.in
DEVAKOTTI BLOCK				
22	Thiruvegampet	04561	267400	svg-tvpet.tnphc@nic.in
23	Velayuthapattinam	04561	291627	svg-vpattinam.tnphc@nic.in
24	Shanmuganathapuram	04561	295850	svg-snpuram.tnphc@nic.in
25	Kulamangalam	04561	202633	svg-kgalam.tnphc@nic.in
26	Monni karmangudi	04561	295851	svg-mkkudi.tnphc@nic.in
MANAMADURAI BLOCK				
27	Muthanendal	04574	267220	svg-mutanendal.tnphc@nic.in
28	Periyakottai	04574	201593	svg-pkottai.tnphc@nic.in
29	Thanjakkore	04574	205445	svg-thanjakoor.tnphc@nic.in
30	Kombukkaranendal	04574	291348	svg-kknendal.tnphc@nic.in

KALAYARKOIL BLOCK				
31	Kalayarkovil	04575	232620	svg-kkoil.tnphc@nic.in
32	Maravamangalam	04575	235270	svg-mmangalam.tnphc@nic.in

33	Satharasankottai	04575	238300	svg-sakottai.tnphc@nic.in
34	Nattarasankottai	04575	234400	svg-nakottai.tnphc@nic.in
35	Kalayarmangalam	04575	293068	svg-kmangalam.tnphc@nic.in

36	Paganeri	04575	292590	svg-paganeri.tnphc@nic.in
THIRUPPUVANAM BLOCK				
37	Poovanthi	04574	265591	svg-poovanthi.tnphc@nic.in
38	Palayanur	04574	205455	svg-palayanoor.tnphc@nic.in
39	Thiruppuvanam	04574	265690	svg-tpuvanam.tnphc@nic.in
40	Konthagai	will ph 0452	2465059	svg-konthagai.tnphc@nic.in
SIVAGANGA BLOCK				
41	Keelapoongudi	04575	233124	svg-kpoongudi.tnphc@nic.in
42	Idayamelur	04575	293070	svg-edayamelur.tnphc@nic.in
43	Arasanur	04575	201592	svg-arasanoor.tnphc@nic.in
44	Thamarakki	04575	293069	svg-thamarakki.tnphc@nic.in
ILAYANGUDI BLOCK				
45	Salaigramam	04564	263365	svg-sgramam.tnphc@nic.in
46	Thayamangalam	04564	291546	svg-tmangalam.tnphc@nic.in
47	Sooranam	04564	291547	svg-sooranam.tnphc@nic.in
48	Munaiventri	04564	261332	---

Police contact numbers

Sl.NO	Rank	Name of the Officers	Office Phone No.	Cell No.
1)	IGP, South Zone	Dr.S.Murugan I.P.S,	0452-252296	9444049224
2)	DIG, Madurai Range	Tr.Anandkumar somani, IPS,	2531317 (O) (SAO) 2539539 (R) (F)	8122505500
3)	DIG, Ramnad Range	Tr.Kapilkumar C.Saratkar, IPS	04567-230780	9498149498 9650297865
3)	SP, Sivaganga	Tr.T.Jeyachandran, IPS.	04575-241386	9443477225

			04575-240307	9498111119
4)	SP, Ramnad	Tr.T.Manivannan, MA	04567-231380	9003582233 9498111133
4)	ADSP, PEW	----	04575-241587	----
5)	ADSP, Headquarters	Tr.RA.Thanihaivelu	04575-240436	9498103040
6)	DSP, Sivagangai	Tr.T.Mangaleswaran	04575-240242	8300001515
7)	DSP, karaikudi	Tr.G.Karthickeyan	04565-238044	9498191222 9443615541
8)	DSP, Thiruppathur	Tr.A.Murugan	04577-266213	9498105547
9)	DSP, Devakottai	Tr.G.Baskaran	04561-273574	9443356633
10)	DSP, Manamadurai	Tr.R.Sankar	04574-269886	9498179890
11)	DSP, DCRB	Tr.Murugesan	04575-240436	9498169600
12)	DSP, DCB	Tr.Tr.Pandiselvan	04575-240445	9498185479
13)	DSP, ALGSC	Tr.C.Ravichandran	04575-243737	9488294611
14)	DSP, A.R	----	04575-240217	----
15)	S.B. Inspector	Tr.P.T.Subash	04575-240307 240427	8300015948 9443289259
16)	SB Inspector Ramnad	Tr.Bala murugan	04567-232110	9498104840
17)	IGP., South Zone Inspector	Tr.PM.Rameshprabu	0452-2522596	9498188199
18)	SB CID. Inspr Sivaganga	Tr.A.Raja	04575-241430	8300002059 9442104355
19)	"Q" Branch Inspr Sivaganga	Tr.Chandrakumar	04575-240517	8300001509 9444400168
20)	DIG Camp Supdt.	Tr.Seenivasan	04567-230780	9443288545

Sivaganga District Inspectors Phone Numbers

Sl.No	Name of the Police Station	Name of the Officers	Police Station Phone NO	Cell NO
SIVAGANGAI SUB DIVISION				
1)	Sivagangai Town	Tr.Mohan	04575-240228	8300010999

2)	Sivagangai Town Crime	Tr.Seenivasan	04575-240228	9443421857
3)	Sivagangai Taluk	Vacant	04575-240428	--
4)	Kalaiyarkoil	Tr.Kalyankumar	04575-230222	8300039916
5)	Ilayankudi	Tr.Balaji	04564-265265	9498184818
6)	Salaigramam	Tr.Kannadasan	04564-263231	8300016736
7)	AWPS Sivaganga	Tmt.M.Mareewari	04575-240185	9498189807
8)	Control Room Sivagangai	Tr.Mariyappan	04575-240920	9677530123
9)	Traffic Sivaganga	Tr.Selvam	--	9498139384
KARAIKUDI SUB DIVISION				
10	Karaikudi South	Vacant	04565-234616	--
11	Karaikudi South Crime	Vacant	04565-234616	--
12	Karaikudi North	Vacant	04565-238448	--
13	Karaikudi North Crime	Vacant	04565-238448	--
14	Karaikudi Town Crime	Tmt.Devaki	04565-232788	8300000351
15	Pallathur	Tmt.Nagalakshmi	04565-283252	8300012358
16	Sakkottai	--	04565-282278	8300018088
17	Kundrakudi	Tr.Ravindran	04577-264400	8300020695
18	AWPS Karaikudi	Tmt.Subbulakshmi	04565-232241	8300011478
19	Karaikudi Traffic	Tr.Rathinam	04565-236949	8300002223
THIRUPPATHUR SUB DIVISION				
20	Tiruppathur TN	Tr.Rajasekar	04577-266121	9442499394
21	Thirukostiyur	Tr.Saravana Ravi	04577-265231	8300013076
22	Nerkuppai	Tr.Murugadasan	04577-245133	8300011888
23	S.V.Mangalam	Tr.Ravichandran	04577-242144	8300000533
24	Singampunari	Tr.Pon.Ragu	04577-242110	8300036103
25	S.S.Kottai	Tr.Ramesh	04577-247167	9498190445
26	Ulagampatti	Tr.Krishnamurthi	04577-244398	9498189101

27	AWPS/TPR	Tmt.Saratha	04577-266600	8300057274
28	Traffic Singampunari	Vacant	--	--
DEVAKOTTAI SUB DIVISION				
29	Devakottai Town	Vacant	04561-272275	--
30	Devakottai Taluk	Tr.Kumaran	04561-272215	8300004800
31	Devakottai Crime	Tr.Kazhangiyam	04561-272215	9498139670
32	Kallal	Tr.Sathuramesh	04565-284236	8300020995
33	AWPS, Devakottai	Tmt.Priyamalini	04561-262487	7598037931
34	Traffic, Devakottai	Tr.Giristobar Thambiraj	--	9444259398
MANAMADURAI SUB DIVISION				
35	Manamadurai	Tr.Md.Barakathullah	04574-268535	8300002300
36	Manamadurai crime	Tr.Raja Singh	04574-268535	8300012444
37	Tiruppachetty	Vacant	04574-266230	--
38	Thiruppuvanam	Tr.Pitchaipandian	04574-265227	9442160886
39	Poovanthi	Tr.Muthukumar	04574-205243	9498179756
40	AWPS Manamadurai	Tmt.Amirdham	04575-268987	9498183093
41	Traffic Manamadurai	Tr.R.Raj	--	9498140860
UNITS				
42	Special Branch	Tr.P.T.Subash	04575-240307	9443289259
43	DCB	Tr.Sundaramanickam	04575-240445	8300063438
44	PEW, Sivaganga	Tr.Gnanaraj	04575-240382	9498188453
45	DCRB	Tr.Mookan	04575-240436	9498188883
46	ALGSC	Tmt.Vijaya	04575-243737	9498103944
47	RI AR., Company	Tr.Arumugam	04575-240217	8300000708
48	RI., AR, MT	Tr.Malaichamy	04575-240217	8300001581
49	SJ & HR	Tr.K.Manigandan	04575-240559	9498184499
50	Control Room(VR)	Tmt.Malavizhi	--	8300019194
51	Control Room(VR)	Tmt.Kavitha	--	9498182189

Annexure –II

Floods

What to do before a flood

To prepare for a flood, you should;

- Avoid building in flood prone areas unless you elevate and reinforce your home.
- Elevate the furnace, water heater, and electric panel if susceptible to flooding
- Install "check valves" in sewer traps to prevent floodwater from backing up into the drains of your home.
- Contact community officials to find out if they are planning to construct barriers (levels, beams and floodwalls) to stop floodwater from entering the homes in your area
- Seal the walls in your basement with waterproofing compounds to avoid seepage

If a flood is likely to hit your area, you should:

- Listen to the radio or television for information
- Be aware that flash flooding can occur. If there is any possibility of a flash flood, move immediately to higher ground. Do not wait for instructions to move.
- Be aware of streams, drainage channels, canyons, and other areas known to flood suddenly. Flash floods can occur in these areas with or without such typical warnings as rain clouds or heavy rain.

If you must prepare to evacuate, you should:

- Secure your home, If you have time, bring in outdoor furniture, move essential items to an upper floor.

- Turn off utilities at the main switches or valves if instructed to do so. Disconnect electrical appliances. Do not touch electrical equipment if you are wet or standing in water.

If you have to leave your home, remember these evacuation tips:

- Do not walk through moving water. Six inches of moving water can make you fall. If you have to walk in water, walk where the water is not moving. Use a stick to check the firmness of the ground in front of you.
- Do not drive into flooded areas. If floodwaters rise around your car, abandon the car and move to higher ground if you can do so safely. You and the vehicle can be quickly swept away.

HEAT WAVES:

Heat Wave conditions can result in physiological strain, which could even result in death.

To minimize the impact during the heat wave and to prevent serious ailment or death because of heat stroke, you can take following measures:

Extreme positive departures from the normal maximum temperature result in a heat wave during the summer season. The rising maximum temperature during the pre – monsoon months continues till June and in very rare cases till July. Heat waves, apart from causing potential fatal condition among people may also cause death of birds, poultry and cattles.

Early Warning and Indicators of heat wave:

In response to the devastating mortality and morbidity of recent heat-wave events, many countries have introduced heat – wave early warning systems. Heat- wave early warning are designed to reduce the avoidable human health consequences from heat – waves through timely notification of prevention measures to vulnerable populations. India Meteorological Department has developed criteria for Heat waves based on temperature at stations and is issuing weather warning forecasting on the level of Heat waves likely to prevail in the regions for 5 days at a time. The Regional Meteorological Centre (RMC) in Chennai has been publishing weather projections for TamilNadu on its website, keeping people informed with regular updates of projections of average temperatures for a week ahead for every district in the state. Such information can provide timely warning to the public to take adequate precautions to prevent being affected by the heat wave and thus mitigate the disaster.

During Disaster:

- Healthcare professionals will need to advise on heat –related illnesses to reduce mortality and morbidity.
- Public need to be made aware on how to be protected against extreme heat wave conditions.

- Do's and Don'ts on heat – related illnesses must be widely publicized in press, television and social media.
- Education institutions may need to rework the timings to lessen exposure to the heat wave.
- Local school and colleges will need to equip teachers with knowledge on heat protection tips.
- Awareness needs to be built constantly – LED Screen in public places can display temperatures and rolling forecasts.
- Stockpiling of ORS is necessary in primary Health Care centers.
- Making good drinking water available to the public in Bus stands and other public places is necessary. Public minded citizens, Clubs, Associations, Educational Institutions, religious places and the like may be encouraged to provide simple shelters in public places that will have drinking water.

Do's & Dont's:

- Avoid going out in the sun, especially between 12.00 noon and 3.00 p.m.
- Drink sufficient water and as often as possible, even if not thirsty
- Wear lightweight, light-colored, loose, and porous cotton clothes. Use protective goggles, umbrella/hat, shoes or chappals while going out in sun.
- Avoid strenuous activities when the outside temperature is high. Avoid working outside between 12 noon and 3 p.m.
- \While traveling, carry water with you.
- Avoid alcohol, tea, coffee and carbonated soft drinks, which dehydrates the body.
- Avoid high-protein food and do not eat stale food.
- If you work outside, use a hat or an umbrella and also use damp cloth on your head, neck, face and limbs
- Do not leave children or pets in parked vehicles
- If you feel faint or ill, see a doctor immediately.
- Use ORS, homemade drinks like lassi, torani (rice water), lemon water, buttermilk, etc.
- Keep animals in shade and give them plenty of water to drink.
- Keep your home cool, use curtains, shutters or sunshade and open windows at night.
- Use fans, damp clothing and take bath in cold water frequently.

Tips For Treatment of a Person Affected by a Sunstroke:

- Lay the person in a cool place, under a shade. Wipe her/him with a wet cloth/wash the body frequently. Pour normal temperature water on the head. The main thing is to bring down the body temperature.

- Give the person ORS to drink or lemon sarbat/torani or whatever is useful to rehydrate the body.
- Take the person immediately to the nearest health centre. The patient needs immediate hospitalization, as heat strokes could be fatal.

Acclimatization:

People at risk are those who have come from a cooler climate to a hot climate. You may have such a person(s) visiting your family during the heat wave season. They should not move about in open field for a period of one week till the body is acclimatized to heat and should drink plenty of water. Acclimatization is achieved by gradual exposure to the hot environment during heat wave.

EARTHQUAKE:

DO's & Don'ts:

What to do Before an Earthquake:

- Repair deep plaster cracks in ceilings and foundations. Get expert advice if there are signs of structural defects.
- Anchor overhead lighting fixtures to the ceiling.
- Follow BIS codes relevant to your area for building standards
- Fasten shelves security to walls.
- Place large or heavy objects on lower shelves.
- Store breakable items such as bottled foods, glass, and china in law, closed cabinets with latches.
- Hang heavy items such as bottled and mirrors away from beds, settees, and anywhere that people sit.
- Brace overhead light and fan fixtures.
- Repair defective electrical wiring and leaky gas connections. These are potential fire risks.
- Secure water heaters, LPG cylinders etc., by strapping them to the walls or bolting to the floor.
- Store water heaters, LPG cylinders etc., by strapping them to the walls or bolting to the floor.
- Identify safe places indoors and outdoors like,
- Under strong dinning table, bed

- Against an inside wall
- Away from where glass could shatter around windows, mirrors, pictures, or where heavy bookcases or other heavy furniture could fall over
- In the open, away from buildings, trees, telephone and electrical lines, flyovers and bridges
- Know emergency telephone numbers (such as those of doctors, hospitals, the police, etc)
- Educate yourself and family members

Have a disaster emergency kit ready:

- Battery operated torch with extra batteries
- Battery operated radio
- First aid kit and manual
- Emergency food (dry items) and water (packed and sealed)
- Candles and matches in a waterproof container
- Knife
- Chlorine tablets or powdered water purifiers
- Can opener
- Essential medicines
- Cash and credit cards
- Thick ropes and cords
- Sturdy shoes

Develop an emergency communication plan:

- In case family members are separated from one another during an earthquake (a real possibility during the day when adults are at work and children are at school), develop a plan for reuniting after the disaster.
- Ask an out-of-state relative or friend to serve as the 'family contact' after the disaster; it is often easier to call long distance. Make sure everyone in the family knows the name, address, and phone number of the contact person.

Help your community get ready:

- Publish a special section in your local newspaper with emergency information on earthquake. Localize the information by printing the phone numbers of local emergency services officers and hospitals
- Conduct week-long series on locating hazards in the home.
- Work with local emergency services and officials to prepare special reports for people with mobility impairment on what to do during an earthquake.
- Provide tips on conducting earthquake drills in the home.
- Interview representatives of the gas, electric, and water companies about shutting off utilities.
- Work together in your community to apply your knowledge to building codes, retrofitting programmes, hazard hunts, and neighborhood and family emergency plans.

What to do During an Earthquake:

Stay as safe as possible during an earthquake. Be aware that some earthquakes are actually foreshocks and a larger earthquake might occur. Minimize your movements to a few steps that reach a nearby safe place and stay indoors until the shaking has stopped and you are sure exiting is safe.

If Indoors:

- DROP to the ground; the COVER by getting under a sturdy table or other piece of furniture; and HOLD ON until the shaking stops. If there is no table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building.
- Protect yourself by staying under the lintel of an inner door, in the corner of a room, under a table or even under a bed.
- Stay away from glass, windows, outside doors and walls, and anything that could fall, (such as lighting fixtures or furniture).
- Stay in bed if you are there when the earthquake strikes. Hold on and protect your head with a pillow, unless you are under a heavy light fixture that could fall. In that case, move to the nearest safe place.
- Use a doorway for shelter only if it is close proximity to you and if you know it is a strongly supported, load bearing doorway.
- Stay inside until the shaking stops and it is safe to go outside, research has shown that most injuries occur when people inside buildings attempt to move to a different location inside the building or try to leave
- Be aware that the electricity may go out or the sprinkler systems or fire alarms may turn on.

If Outdoors:

- Do not move from where you are. However, move away from buildings, trees, streetlights, and utility wires.
- If you are in open space, stay there until the shaking stops. The greatest danger exists directly outside buildings; at exists; and alongside exterior walls, flying glass, and falling objects.

If in a moving vehicle:

- Stop as quickly as safety permits and stay in the vehicle. Avoid stopping near or under buildings, trees, overpasses, and utility wires.
- Proceed cautiously once the earthquake has stopped. Avoid roads, bridges, or ramps that might have been damaged by the earthquake.

If trapped under debris

- Do not light a match.
- Do not move about or kick up dust.
- Cover your mouth with a handkerchief or clothing.
- Tap on a pipe or wall so rescuers can locate you. Use a whistle if one is available. Shout only as a last resort. Shouting can cause you to inhale dangerous amounts of dust.

Annexure III

Enclosure G.O.Ms.No.380.Revenue Department Dated: 27.10.2015

REVISED LIST OF ITEMS AND NORMS OF ASSISTANCE FROM STATE DISASTER RESPONSE FUND (SDRF) AND NATIONAL DISASTER RESPONSE FUND (NDRF)

Sl.No	Items	Norms of Assistance
1	2	3
1	**GRATUTIOUS RELIEF**	
	a)Ex-gratia payment to families of deceased persons	**Rs 4.00 lakh** per deceased person including those involved in relief operations or associated in preparedness activities, subject to certification regarding cause of death from appropriate.
	b) Ex-gratia payment for loss of a limb or eye(s)	**(i) Rs.59, 100/-** per person, when disability is between 40% and 60% (ii) **Rs.2.00 lakh** per person when the disability is more than 60%. Subject to certification by a doctor from a hospital or dispensary of Government, regarding extent and cause of disability.
	C) Grievous injury requiring hospitalization	(i) **Rs.12, 700/-** per person requiring hospitalization more than a week **(**ii**) Rs.4, 300/-** per person requiring hospitalization for less than a week

	d)Clothing and utensils/ household goods for families whose houses have been washed away/fully damaged/severely inundated for more than two days due to a Natural Calamity	**Rs.1800**/- per family for loss of clothing **Rs.2000**/- per family for loss of utensils/household good.
	e)Gratuitous Relief for families whose livelihood is seriously affected.	Rs.60/- per adult and Rs.45/- per child, not housed in relief camps. The Tahsildar shall verify and prepare a list of those affected and identify the beneficiaries. Period of providing gratuitous relief will be as per assessment of State Executive Committee and the Central Team (in case of NDRF). The default period of assistance will be upto 30 days, which may be extended upto 60 days in the first instance, if required, and subsequently upto 90 days in case of drought/ pest attack. Depending on the ground situation, the State Executive Committee can extended the time period beyond the prescribed limit subject to the stipulation that expenditure on this account should not exceed 25% of SDRF allocation for the year.
2	**SEARCH AND RESCUE OPERATIONS.** a)Cost of search and rescue measures / evacuation of people affected / likely to be affected	As per actual cost incurred, assessed by State Executive Committee and recommended by the Central Team (in case of NDRF) By the time if the search and rescue operations ate over before the visit of the Central Team, then the State Executive Committee will assess/recommend actual /near actual cost.
	b) Hiring of boats/essential equipments for carrying immediate relief and saving lives.	As per actual cost incurred, assessed by State Executive Committee and recommended by the Central Team(in case of NDRF)
3	**RELIEF MEASURES** a)Provision for temporary accommodation, food, clothing, medical care, etc., for people affected/ evacuated and	A package of 10 KG rice, one saree and one dhoti, one litre of kerosene and Rs.1000/- to the families evacuated from their houses and moved to shelters. As per assessment of need by State Executive

	sheltered in relief camps.	Committee and recommendation of the Central Team(in case of NDRF) for a period up to 30 days. The State Executive Committee would need to specify the number of camps, their duration and the number of persons in camps. In case of continuation of a calamity like drought or widespread devastation caused by earthquake or flood etc., this period may be extended to 60 days, and upto 90 days in cases of severe drought. Depending on the ground situation, the State Executive Committee can extend the time period beyond the prescribed limit subject to the stipulation that expenditure on this account should not exceed 25% of SDRF allocation for the year. Medical care may be provided from National Rural Health Mission (NRHM).
	B) Air dropping of essential supplies.	As per actual, based on assessment of need by State Executive Committee and recommendation of the Central Team(in case of NDRF) The quantum of assistance will be limited to actual amount raised in the bills by the Ministry of Defence for airdropping of essentials supplies and rescue operations only.
	c) Provision of emergency supply of drinking water in rural areas and urban areas	As per actual cost, based on assessment of need by Executive Committee and recommended by the Central Team(in case of NDRF) up to 30 days and may be extended upto 90 days in case of drought. Depending on the ground situation, the State Executive Committee can extend the time period beyond the prescribed limit subject to the stipulation that expenditure on this account should not exceed 25% of SDRF allocation for the year.
4	**CLEARANCE OF AFFECTED AREAS** a) Clearance of debris in public areas.	As per cost, within 30 days from the date of start of the work, based on assessment of need by State Executive Committee for the assistance to be provided under SDRF and as per assessment of the Central team for assistance to be provided under NDRF.

	b) Draining off flood water in affected areas	As per actual cost, within 30 days from the date of start of the work, based on assessment of need by State Executive Committee for the assistance to be provided under SDRF and as per assessment of the Central team(in Case of NDRF)
	c) Disposal of dead/ bodies carcases	As per actual based on assessment of need by State Executive Committee and recommendation of the Central Team(in case of NDRF.
5.	**AGRICULTURE**	
	Assistance to farmers	
A	a) Assistance for land and other loss	
	b) Desilting of agricultural land(where thickness of sand / silt deposit is more than 3" to be certified by the competent authority of the State Government)	**Rs.12, 200/- per hectare**. (Subject to the condition that no other assistance /subsidy has been availed of by /is eligible to the beneficiary under any other Government Scheme)
	c) Removal of debris on agricultural land in hilly areas.	
	d) De-silting/ Restoration / repairs of fish farms.	
	e) Loss of substantial portion of land caused by landslide, avalanche change of course of rivers.	**Rs.37, 500/-per hectare** whose ownership of the land is legitimate as per the revenue records.
B	Input subsidy (where crop loss is 33% and above) a) For agriculture crops, horticulture crops and annual plantation crops	**Rs.7410/- per hectare** for crops other than paddy in rainfed areas and restricted to sown areas. **Rs.13, 500/- per hectare** for crops in assured irrigated areas, subject ot minimum assistance not less than Rs.1000 and restricted to sown areas.

	b) Perennial crops	**Rs.18, 000/- per hectare** for all types of perennial crops subject to minimum assistance not less than **Rs.2000**/- and restricted to sown areas.
	c) Sericulture	**Rs.7, 410/- per hectare** for Eri, Malberry, Tussar. **Rs.6, 000/-** per hectare for Muga.
	d) Paddy	**Rs.13, 500/- per hectare** subject to minimum assistance not less than Rs.1000 and restricted to sown areas.
6	**ANIMAL HUSBANDRY** i) Replacement of milch animals, draught animals or animals used for haulage.	**Milch animals:-** **Rs.30, 000**/-Buffalo/Cow/Yak/Mithun etc., **Rs.3, 000**/- Sheep/Goat/Pig **Draught Animals:-** **Rs.25, 000/-**Camel/Horse/Bullock etc. **Rs. 16, 000**/- Calf/Donkey/Pony/Mule. **Poultry:-** **Poultry @ Rs.100/- per bird.** Note: Relief under these norms is not eligible if the assistance is available from any other Government Scheme, e.g. loss of birds due to Avaian Influenza or any other diseases for which the Department of Animal Husbandry has a separate scheme for compensating the poultry owners.
	ii) Provision of fodder/ feed concentrates including water supply and medicines in cattle camps.	Large animals-**Rs.70/- per day** Small animals-**Rs.35/-per day** Period for providing relief will be as per assessment of the State Executive Committee (SEC) and the Central Team (in case of NDRF). The default period for assistance will be upto 30 which may be extended upto 60 days in the first instance and case of severe drought upto 90 days. Depending on the ground situation the

		State Executive Committee can extend the time period beyond the prescribed limit, subject ot te stipulation that expenditure on this account should not exceed 25% of SDRF allocation for the year.
	iii) Transport of fodder to cattle outside cattle camps	As per actual cost of transport, based on assessment of need by State Executive Committee and recommendation of the Central Team (in case of NDRF) consistent with estimates of cattle as per Livestock Census.
7	**FISHERY**	
	i)Assistance to Fishermen for repair/replacement of boats, nets-damaged or lost -Boat -Dugout-canoe -Catamaran -Net (This assistance will not be provided if the beneficiary is eligible or has availed of any subsidy/assistance, for the instant calamity, under any other Government Scheme)	i) Replacement of fully damaged/ lost wooden catamaran with a wooden catamaran, a full subsidy will be of **Rs.32, 000/- (inclusive of net)** ii) For repair/ rebuilding of partially damaged catamaran **Rs.10, 000/-unit**. iii) For replacement of fully damaged/lost wooden/FRP vallam, the percentage of susidy assistance will be enhanced from 35% to 50% of the total cost subject to maximum subsidy of **Rs.75, 000**/- calculated at a unit cost of **Rs.1.5 lakhs(inclusive of engine and net**) i) For partially damaged FRP Vallam at the rate of Rs.**20, 000/- per unit.** ii) For replacement of fully damaged mechanized fishing boats, the subsidy to be paid will be 35% of total cost, restricted to a maximum subsidy of Rs.**5 lakhs per boat.** iii) For repairs of partially damaged mechanized fishing boats, the subsidy will be provided at 60% of the assessed value of the damages restricted to a maximum subsidy of **Rs.3 Lakhs per boat.** iv) For replacement of Gill nets for Catamaran **Rs.10, 000/- per unit**. Repair of OBM/IBE engines –**Rs.5,**

		000/- per engine.
	ii) Input subsidy for fish seed farm	**i) Rs.8, 200/-per hectare** (This assistance will not be provided if the beneficiary is eligible or has availed of any subsidy/ assistance, for the instant calamity under any other Government Scheme, except the one time subsidy provided under the Scheme of Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture)
8	**HANDICRAFTS / HANDLOOM ASSISTANCE TO ARTISANS** i)For replacement of damaged tools / equipments	**Rs. 4, 100/-** per artisan for equipments – subjects to certification by the competent authority designated by the Government about damage and its replacement.
	ii)For loss of raw material / goods in process/finished goods	**Rs. 4, 100/-** per artisan for raw material (subject to certification by the competent authority designated by the State Government about loss and its replacement).
9	**HOUSING** a) Fully damaged/ destroyed houses/ severely damaged Pucca house	i) **Rs. 95, 100/- per house** in **plain areas.** ii) **Rs. 1, 01, 900/- per house** in **hilly areas** including Integrated Action Plan (IAP) Districts
	b) Partially damaged Houses Pucca (other than huts) where the damage is at least 15%	**Rs.5, 200/- per house**
	c) Damaged/ destroyed huts	Fully Damaged Hut – **Rs.5, 000/- per hut** Partially Damaged Hut **– Rs.4, 100/- per hut** and hut and **10.k.g rice** for each case of damaged huts.
	d) Cattle shed attached with house	**Rs.2, 100/- per shed**

10	**INFRASTRUCTURE** Repair / restoration (of immediate nature) of the damaged infrastructure 1.Roads&bridges 2.Drinking water supply works 3.Irrigation 4.Power (only limited to immediate restoration of electricity supply in the affected areas) 5.Schools 6.Primary Health Centres 7. Community assets owned by Panchayat Sectors such as Telecommunications and Power (except immediate restoration of power supply). Which generate their own revenue and also undertake immediate repair / restoration works from their own funds / resources are excluded.	**Activities of immediate nature:** Illustrative lists of activities which may be considered as works of an immediate nature are given as **Annexure II.** **Assessment of requirements**: Based on assessment of need, as per State's costs/rates/schedules for repair, by State Executive Committee and recommendation of the Central Team (in case of NDRF) As regards repair of roads, due consideration shall be given to Norms for Maintenance of Roads in india, 2001, as amended from time to time, for prepares of roads affected by heavy rains/ floods, Cyclone, landslides, sand dunes, etc., to restore traffic For reference, these norms are -**Normal and Urban areas:** Upto 15% of total of Ordinary Repair (OR) and Periodical Repair (PR) -**Hills:** Upto 20% of total of OR and PR. In case of repair of roads assistance will be given based on the notified Ordinary Repair (OR) and Periodical Renewal (PR) of the State. In case OR and PR rate is not available, then assistance will be provided @Rs. 1 lakh/km for State Highway and Major District Road and @Rs. 0.60 lakh/km for rural roads. The condition of "State shall first use its provision under the budjet for regular maintenance and repair" will no longer be required, in view of the difficulties in monitoring such stipulation, though it is a desirable goal for all the States. In case of repair of Bridges and Irrigation works. assistance will be given as per the schedule of rates notified by the concerned States. Assistance for micro irrigation scheme will be provided @Rs. 1.5lakh per damaged scheme. Assistance for restoration of medium and large irrigation projects will also be given for the embankment portions, on par with the

		case of similar rural roads, subject to the stipulation that no duplication would be done with any ongoing schemes. Regarding repairs of damaged drinking water schemes, the eligible damaged drinking water structures will be eligible for assistance @Rs. 1.5 lakh/damaged structure. Regarding repair of damaged primary and secondry schools, primary health centres. Anganwadi and community assets owned by the Panchayats, assistance will be given @ Rs.2 lakh/damaged structure. Regarding repair of damaged power sector, assistance will be given to damaged conductors, poles and transformers upto the level of 11 kv. The rate of assistance will be @ Rs. 4000/poles, Rs.0.50 lakhs per km of damaged conductor and Rs.1.00 lakh per damaged transformer.
11	Procurement of essential search, rescue and evacuation equipments including communication equipments etc., for response to disaster.	Expenditure is to be incurred from SDRF only (and not from NDRF) as assessed by State Executive Committee(SEC) -The total expenditure on this item should not exceed 10% of the annual allocation of the SDRF
12	Capacity Building	-Expenditure is to be incurred from SDRF only (and not from NDRF) as assessed by State Executive Committee(SEC) -The total expenditure on this item should not exceed 5% of the annual allocation of the SDRF.

13	State specific disasters within the local context in the State, which are not included in the notified list of disasters eligible for assistance from SDRF/NDRF, can be met from SDRF within the limit of 10% of the annual funds allocation of the SDRF.	-Expenditure is to be incurred from SDRF only (and not from NDRF) as assessed by State Executive Committee(SEC) -The norm for various items will bee the same as applicable to other notified natural disasters, as listed above or -IN these cases, the scale of relief assistance against each item for "local disaster" should not exceed the norms of SDRF. -The flexibility is to be applicable only after the State has formally listed the disasters for inclusion and notified transparent norms and guidelines with a clear procedure for identification of the beneficiaries for disaster relief for such local disasters' with the approval of State Executive Committee (Provision of relief assistance to local disasters to be sanctioned as per norms and guidelines notified by GOTN)

Illustrative list of activities identified as of an immediate nature

1	**Drinking water Supply**	i) Repair of damaged platforms of Hand pumps/Ring wells/Spring-trapped chambers/ Public stand posts, cisterns. ii) Restoration of damaged stand posts including replacement of damaged pipe lengths with new pipe lengths, cleaning of clear water reservoir (to make it leak proof) iii) Repair of damaged pumping machines, leaking overhead reservoirs and water pumbs including damaged intake-structures, approach gantries/jetties.
2	**Roads:**	Filling up of breaches and potholes, use of pipe for creating waterways, repair and stone pitching of embankments. i) Repair of breached culverts. ii) Providing diversions to the damaged/washed out portions of bridges to

		restore immediate connectivity. i) Temporary repair of approaches to bridges /embankments of bridges., repairs of causeways to restore immediate connectivity, granular subbase, over damaged stretch of roads to restore traffic.
3	**Irrigation:**	i) Immediate repair of damaged canal structures and earthen/masonry works of thanks and small reservoirs with the use of cement, sand bags and stones. ii) Repair of weak areas such as piping or rat holes in dam walls/ embankments. iii) Removal of vegetative material/ building material / debris from canal and drainage system. iv) Repair of embankments of minor, medium and major irrigation projects.
4	**Health**	Repair of damaged approach roads, buildings and electrical lines of PHCs/Community **Heath** Centres.
5	**Community assests of Panchayat**	a) Repair of village internal roads b) Removal of debris from drainage/sewerage lines c) Repair of internal water supply lines d) Repair of street lights e) Temporary repair of primary schools, Panchayat ghars, community halls, anganwadi etc.
6	**Power**	Poles/Conductors and transformers upto 11KV

The assistance will be considered as per the merit towards the following activities:-

	Items/Particulars	**Norms of assistance will be adopted for immediate repair**
i	Damaged primary school building Higher secondary/middle college and other educational institutions buildings	**Upto Rs.1.50 lakh/unit** Not covered
ii	primary health Centre	**Upto Rs.1.50 lakh/unit**
iii	Electric poles and wires etc	Normative cost (Upto Rs.4000 per pole and Rs.0.50 lakh per km)
iv	Panchayat ghars/Anganwadi/Mahila Mondal/Yuva Kendra/ community hall	Upto 2.00 Lakh/Unit
v	State Highways/Major District road	Rs. 1.00 lakh/km *
vi	Rural road/bridge	Rs.0.60 lakh/km *
vii	Drinking water scheme	Upto 1.50 lakh/unit
viii	Irrigation sector: Minor irrigation schemes/canal	Upto Rs.1.50 lakh/scheme
	Major irrigation scheme	Not covered
	Flood control and anti Erosion Protection work	Not covered
ix	Hydro power Project/HT Distribution systems/ Transformers and sub stations	Not covered
x	High Tension Lines(above 11kv)	Not covered

xi	State Government Buildings viz departmental/office building, departmental/residential quarters, religious structures, patwarkhana, Court premises, play ground, forest bungalow property and animal/bird sanctuary etc.,	Not covered
xii	Long terms/permanent Restoration work incentive	Not covered
xiii	Any new work of long term nature	Not covered
xiv	Distribution of commodities	Not covered (However, there is a provision for assistance as GR to families in dire need of assistance after a disasters)
xv	Procurements if equipments/machineries under NDRF	Not covered
xvi	National Highways	Not covered (Since GOI born entire expenditure towards restoration works activities)
xvii	Fodder seed to augment fodder production	Not covered

Annexure-IV

Minimum Standards for Relief Camp:

According to section 19 of the DM act 2005, the State Authorities shall lay down detailed guidelines for providing standards of relief to persons affected by disaster in the State. Some of the points to be considered for a relief camp are as follows.

- Relief shelters and rehabilitation camps shall be set up in order to accommodate people affected by a disaster. The camp shall be temporary in nature, with basic necessities. People in the camp shall be encouraged to return to their respective accommodation once the normalcy is returned.
- The factures like terrain, climatic conditions at the site of disaster etc., will also impact the retirement and ability of the administration and other stakeholders to deliver relief. These constraints should also be kept in view while prescribing minimum standards of relief.
- The State/District Administration shall take necessary steps to pre-identify locations/buildings like local schools, anganwadi centers/cyclone shelters/community centers/marriage halls etc which can be used as Relief Shelters where people can be accommodated in case of disaster in that area. In such centers, necessary facilities like sufficient number of toilets, water supply, generated with fuel for power back up during disasters shall be ensured.
- In the relief centers, basic lighting facilities shall be catered to accommodate the victims. In mountainous areas, minimum covered area shall be relaxed due to lack of available flat land/built up area. Special care shall be taken for safety and privacy of inmates, especially for women, widows and children. Special arrangements should be made for differently-abled persons, old and medically serious patients.
- Relief centers shall be temporary in nature and be closed as soon as normalcy returns in the area.
- Sufficient number of sites based on population density shall be identified as relief centers and earmarked well in advance at the time of planning and development of a Metro/city/town.
- Milk and other dairy products shall be provided for the children and lactating mothers.
- Sufficient steps shall be taken to ensure hygiene at community and camp kitchens.
- Sufficient quantity of water shall be provided in the relief camps for personal cleanliness and hand wash.

- Separate toilet and bath area be catered for women and children. Hand wash facility in toilets should be ensured. Steps may be taken for control of spread of diseases. Dignity kits for women shall be provided with sanitary napkins and disposable paper bags with proper labeling.
- Drainage or spillage from defecation system shall not run towards any surface water source or shallow ground water source.
- Mobile medical teams shall visit relief camps to attend the affected people. Steps shall be taken to avoid spread of communicable diseases.
- If the relief camps are extended over a long time, then necessary arrangement may be made for psychosocial treatment.
- In each camp, a separate register shall be maintained for entering the details of women who are widowed and for children who are orphaned due to the disaster.
- Special care shall be given to widows and orphans who are separated from their.

Annexure-V

INDIAN RED CROSS SOCIETY

First Responders

S.NO	Name of the Volunteer	Father's Name	Class	Blood Group	Contact No	Permanent Address
1.	RM.Uma Priyadharshini	C.T.Ramasamy	III-B.COM	B+	8110826745	18, Lakshmi Bhavanam, O.A.St, Pallathur-630107
2.	S.Elavarasi	Sargunaraja	III-B.COM	AB+	9629644994	572(2), Keelaiyapatti, Thiruppathur(TK), Siravayal.
3.	S.Kaleeswari	K.Subbiah	III-B.COM	B+	9442432891	13-4/12, Kasiya Pillai St, K.Velangudi
4.	K.Pavithra	K.Karuppiah	III-B.COM	A+	9788429031	2, Marudhu Pandian Nagar, 4th Street, Karaikudi.
5.	A.Alagu	C.Arumugam	III-B.COM	B+	9585189364	121, Athangudi Road, Nangapatti.
6.	A.Nandhini	A.Mallika	III-B.COM	A+	8098735563	26/1, Yembal Road, Arimalam-622501, Pdukkottai Dt.
7.	N.Saranya	VR.Nachiappan	III-B.COM	A+	9943975871	38, Vellar St, Kothari, Pallathur.
8.	S.Suganthi	K.Selvaraj	III-B.COM	O+	8098525804	Neemani, Mithravayal, Karaikudi.

III B.Sc.,(Zoology)

S.NO	Name of the Volunteer	Father's Name	Class	Blood Group	Contact No	Permanent Address
9.	S.Aishwarya	M.Selvaraj	III B.Sc., Zoology	B+	8525083089	134, Neivasalpatti, Vanniyampettai(PO), Thirumayam(TK), Pudukkottai(Dt)
10.	S.Lavanya	A.Subbiah	III B.Sc., Zoology	B+	9943375180	1042, Thallampatti, Vadakattupatti, Thirumayam(TK), Pudukkottai(Dt)
11.	S.Suba Lakshmi	KR.Subramaniyam	III B.Sc., Zoology	B-	9786149794	993/3, Kulathupatti, Thirumayam(TK), Pudukkottai(Dt)

12.	M.Sivagami	S.Manikkam	III B.Sc., Zoology	A+	8608130287	198, S.Manikkam, LF Road, Kanadukathan.
13.	M.Malaiyarasi	KR.Murugan	III B.Sc., Zoology	B+	7639230953	19, Vasantha Malikai, South Street, Kottaiyur.
14.	C.Selvi	RM.Chidambaram	III B.Sc., Zoology	B+	9626285628	26, Maravar Street, Alagapuri, Kottaiyur(PO)
15.	S.Durga Devi	A.Sabapathi	III B.Sc., Zoology	A+	9095838009	Nehru Nagar, 1st Street, Vairavarpuram, Karaikudi.
16.	S.Manjula	R.Soali Vasan	III B.Sc., Zoology	B+	7871719459	415, Perumal Kovil St. Rathakottakai, Kandanoor-630104
17.	R.Elakkiya	C.Ramanthan	III B.Sc., Zoology	O+	9626871676	Vasuki, South Vandal, VAndal(PO), Ilayangudi(TK), Sivagangai(Dt)
18.	K.Jagatheeswari	K.Rajenthiran	III B.Sc., Zoology	O+	9688413986	Seiyanam, Mimisal(PO) Puduttai-614621
19.	C.Kavitha	R.Chellaiya	III B.Sc., Zoology	A+	7639309533	1/561, Valaiyur St, Sokkanathanpuram, K.Alakapuri.
20.	N.Meenal	D.Natarajan	III B.Sc., Zoology	A+	9585189546	206, Santhaipettai St, Kanadukathan-630103

II B.Com.,

S.NO	Name of the Volunteer	Father's Name	Class	Blood Group	Contact No	Permanent Address
21.	S.Arunmozhi	S.Saikumar	II B.COM	A-	8760606805	333, Ambedkar Nagar, Koothalalur(PO), Koothalalur.
22.	K.Pandi Selvi	K.Kumar	II B.COM	A1-	8110860927	90/10, Municipal St, Idaiyur St, Karaikudi.
23.	K.Thanga Roja	V.Kumaresan	II B.COM	B+	7548887158	15, Seenivasan Pillai Compound, Ganesapuram, Karaikudi-630001

24.	C.Karthiga	M.Chandran	II B.COM	A1+	9976921012	34/35, Chellappa Chettiar St, Karaikudi.
25.	K.Abinaya	AL.Kalliya perumal	II B.COM	A1B+	9786397309	2/21, Yathava St, Ilanchavoor.
26.	A.Sathya	V.Arugam	II B.COM	B+	8940210999	12-5-106, Raiway Station Road, Kottaiyur.
27.	G.Subbulakshmi		II B.COM			
28.	S.Sonia	L.Subramanian	II B.COM	A+	8098604993	365, Kongan St, Pudupatti(PO), Pudukkottai(Dt)
29.	K.Ananthi	G.Kathiresan	II B.COM	B+	9976590618	Vanniyar 11th Street, Mela Pallivasal, Puduvayal
30.	S.Kathika	KR.Solayan	II B.COM	B+	7639227827	AM.V.V.Street, Pallathur.
31.	A.Usha	KR.Adaikkalam	II B.COM	O+	9842619767	130/K, Chettipatti, Rayavaram(PO), Thirumayam(TK), Pudukkottai(Dt)
32.	C.Pandi Meenal	A.Chellaiah	II B.COM	O+	9442959383	3/56, Malukkupatti, Panangudi.
33.	S.Swathi Priya	V.Subramanian	II B.COM	A+	8940895823	18, Komutti St, Nemathanpatti, Sivagangai(Dt)
34.	S.Selvi	S.Sekar	II B.COM	O+	9159773679	33, Mutharaiyar St, Kothari.
35.	M.Pavithra	RS.Mathavan	II B.COM	O+	9482891417	56, Paapa Orani, Senjai, Karaikudi.
36.	P.Ramya	V.Pandi	II B.COM	AB+	9585314594	Sirugambaiyar, Velaiyapuram(PO) Ramnad.
37.	SP.Marimuthu	A.Subramanian	II B.COM	A+	8056339260	33, 34 Puduvayal Main Road, Kandanur.
38.	V.R.Muthulakshmi	SP.Veerasekar	II B.COM	A+	8098392581	2C Nadarajapuram North Street, Puduvayal.
39.	R.Sathya	N.Ravindran	II B.COM	AB-	9715080923	100 Matha Kovil St, Kulathur(PO), Karaikudi(TK)
40.	G.Meenatchi	V.Ganeshan	II B.COM	B+	9626258097	147, Thiruvelangudi, Palavankudi(PO),

						Sivagangai(Dt)
41.	M.Seethalakshmi	PL.Muthupandian	II B.COM	O+	9943474688	944, Mala Street, Kothamangalam.
42.	M.Malathi	N.Meyyar	II B.COM	O+	8973536910	Pudhuvayal Main Road, Kandanur.
43.	N.Sara	S.Nallamuthu	II B.COM	O+	9698622596	32A, Andakkudi, Avadakottai(PO), Sivagangai(Dt)
44.	S.Mangaiyarkarasi	Subbiah	II B.COM	O+	9976767136	3/13, East Street, Opp to Old Rise mill, Palavankudi.
45.	V.Thenmozhi	VR.Vellaisamy	II B.COM	O+	9788054201	Krishna Nagar, Periyavengaka Vayal, Puduvayal.
46.	S.Solai Muthu	V.Selvamani	II B.COM	B+	9487404846	9, Mutharaiyar Theru, Kothari.
47.	A.Muthu Laksmi	SP.Andiyappan	II B.COM	B+	8883926491	Door 5, Kavul Kollai St, Puduvayal.
48.	R.Nandhini	SP.Rajendran	II B.COM	A+	9486014414	32, Padasalai St, Pallathur.

II M.Sc., (Mathematics)

S. NO	Name of the Volunteer	Father's Name	Class	Blood Group	Contact No	Permanent Address
49.	AR.Nagajothi	N.Arunachalam	II M.Sc., Maths	B+	808247966	25 East Street, Pudhuvayal Main Road, Kandanur-630104
50.	S.Pandiselvi	N.Selvaraj	II M.Sc., Maths	B+	9486611161	Karumariyamman Nagar, Hero Show Room Near, Siva Complex, Pallathur.
51.	C.Annai Therasa	S.Chinnappan	II M.Sc., Maths	A1+	9965765943	11-4/8, M.M.Compound, Narasimma Achiar St, Kottaiyur-630106
52.	M.Priya	AL.Malaikolunthu	II M.Sc., Maths	O+	9943009587	225-A, Ayingudi, Rayavaram(PO), Thirumayam(TK), Pudukkottai(Dt)
53.	M.Karthika	P.Muthu	II M.Sc., Maths	B+	9786383314	Kottaikadu, Thirukkolakudi(PO, Thiruppathur(TK), Sivagangai(Dt)

54.	S.Jayalakshmi	K.Saminathan	II M.Sc., Maths	B+	9345720751	3/1266, N.G.G.O.Colony, Naresh Kuptha St, Kalanivasal, Karaikudi.
55.	T.Sasikala	V.Thangaraj	II M.Sc., Maths	B+	9788129919	1, Subash Geam Bazal, Diglipur Port Blair, North Andaman-744202
56.	S.Suriya Perdisia	S.Sivakumar	II M.Sc., Maths	O+	9965744895	Veliyakkottai, A.R.Mangalam(PO), Thiruvadanai(TK), Ramnad(Dt)
57.	K.Mthumeenal	M.Kathiresan	II M.Sc., Maths	B+	9750938881	896, Mooraiyur, West Street, Thiruppathur(TK), Sivagangai(Dt)
58.	D.Nivethitha	S.David Rowi Rogr	II M.Sc., Maths	O+	9047838650	1/55, Parambai Road, R.S.Mangalam, Ramnad(Dt)
59.	M.Minipriya	M.Marthandan	II M.Sc., Maths	O+	7708278744	Kannapan Chettiyar St, Puduvalavu, Paganeri, Sivagangai(Dt)
60.	A.Faith	J.Anthony Raj	II M.Sc., Maths	AB+	9626678852	58/2, Amaradakki(North), Amaradakki(PO), Avudaiyar Koil(TK), Pudukkottai(Dt)
61.	C.Thiraya Bharathi	K.Chinnaiah	II M.Sc., Maths	B+	9865278876	Gandhi Nagar, Peyanpatti, O.Siruvayal(PO), Karaikudi(TK), Sivagangai(Dt)
62.	M.Indirani	C.Mani	II M.Sc., Maths	O+	9659776120	Seppavayal, Kurungalur(PO), Avudaiyar Koil(TK), Pudukkottai(Dt)

III B.Sc., (Chemistry)

S.NO	Name of the Volunteer	Father's Name	Class	Blood Group	Contact No	Permanent Address
63.	S.Iswarya	Al.Sekar	III B.Sc., Che.	B+	9047394428	9-2/15(4) Mutharaiyar St, Kothari, Pallathur.
64.	S.Iswarya	S.Satha Sivam	III B.Sc., Che.	O+	9750104992	31, Bharathiyar St, Kalanivasal, Karaikudi.
65.	R.Magesh	S.Raju	III B.Sc., Che.	AB+	8489888123	9-2/7-1, Mutharaiyar North St, Kothari, Pallathur.
66.	N.Manimekalai	A.Nachiyappan	III B.Sc., Che.	AB+	9787143978	3/845, Kurinji Nagar, Keelasevalpatti, 630205
67.	K.Sangeetha	AL.Karuppaiya	III B.Sc., Che.	O+	9786848482	D.No.22/9, 4 "A" Bangalow St, Narayanapuram, Pallathur.
68.	K.Ramya	K.Kannan	III B.Sc., Che.	O+	9788097753	Valangudi, Thondi(PO), Thiruvadanai(TK), Ramnad(Dt)
69.	P.Mariyammal	C.Panneerselvam	III B.Sc., Che.	A+	9786752781	D.No.22/9, 4 : "A" Bangalow St, Narayanapuram, Pallathur.
70.	UL.Ulagu Meenal	OL.Ulagappan	III B.Sc., Che.	O+	7639951858	703, Murugappa St, Kothamangalam, Sivagangai(Dt)
71.	K.Kalaivani		III B.Sc., Che.			
72.	G.Vaishnavi	P.Ganesan	III B.Sc., Che.	A+	9943944061	3-58, Enappatti, Pulivalam(PO), Thirumayam(TK), Pudukkottai(Dt)
73.	K.Raji	K.Kiliraj	III B.Sc., Che.	A+	9787303086	4/3-1, Samipatti, Sengottaipatti(PO), Kamuthi(TK), Ramand(Dt)

III B.Sc., (Maths)

S.NO	Name of the Volunteer	Father's Name	Class	Blood Group	Contact No	Permanent Address
74.	Kalpana	V.Thondiman Ilanthiraiyan	III B.Sc., Maths	B+	9942091890	181, Umayal Illam, Church IV St, TT.Nagar, Karaikudi.
75.	T.Sriveeraselva Lakshmi	M.Thirunavukkarasu	III B.Sc., Maths	O+	7373165069	146/A, Thiruvalluvar Nagar, Peyanpatti, Karaikudi.
76.	R.Karthika	V.Ramasamy	III B.Sc., Maths	B+	8098512905	3/217, Barthibanur, Paramakudi(TK)
77.	R.Sangeetha	K.Raman	III B.Sc., Maths	AB+	9976436766	2/295, NEW Street, Parthibanur, Paramakudi(TK)
78.	K.Preethiga	A.Kottaisamy	III B.Sc., Maths	AB+	9787050057	28/18, Rakki Apt, Challapa Chettiar St, N.Pudur, Karaikudi
79.	N.Ponnalagu	SP.Nelli	III B.Sc., Maths	B+	9597564515	1/104, Keelatheru, Vadakudi(PO), Pallathur.
80.	V.Nandhini	T.Vellaisamy	III B.Sc., Maths	B+	9600613020	22, Nattar Layout Manner Nagar West, Arumuga nagar, Karaikudi.
81.	M.Menaka	M.Moorthy	III B.Sc., Maths	O+	9751593747	442, South Street, Sembanur(PO), Sembanur, Sivagangai(Dt)
82.	P.Priyanka	Paramasivan	III B.Sc., Maths	A+	7094581991	2/291, Vinayagar Nagar, Kallal, Sivagangai(Dt)
83.	K.Ranjitha	K.Kottisamy	III B.Sc., Maths	A+	9965960131	2/48, Ariyankottai, Paramakudi(TK), Ramnad(Dt)
84.	R.Anitha	S.Ravikumar	III B.Sc., Maths	B+	9047968491	Sri Rakatchi Amman Illam, Sanaveli(PO), Thiruvadanai(TK), Ramnad(Dt)

85.	C.Dhanalakshmi	D.Chinnaiya	III B.Sc., Maths	AB+	9597242821	3/220, Parthibanur, Nelmadhur(PO), Paramakudi(TK), Ramnad(Dt)
86.	A.Manonmani	A.Arunachalam	III B.Sc., Maths	O+	8903531261	733, Murugappa St, Kothamangalam, Siavagangai(Dt)

Annexure-VI

List of Agricultural Machinery available in the Office of Executive Engineer(AE), Agricultural Engineering Department, Sivagangai.

Sl.No.	Name of Machinery	Present Condition	Custodian Officer	Contact No.	Make / Model
1.	Buildozer 50-98	Working	Asst.Exe.Engr., Sivagangai	9655767204	Bharat
2.	Buildozer 50-136	Admitted in Govt workshop for BDM	Asst.Exe.Engr., Karaikudi	9443685325	Bharat
3.	Tractor TN59G 0209	Working	Asst.Exe.Engr., Sivagangai	9655767204	MF 245
4.	Tractor TN63G 0374	Working	Asst.Exe.Engr., Sivagangai	9655767204	MF 245
5.	Tractor TN63G 0527	Admitted in Govt workshop for TOH	Asst.Exe.Engr., Sivagangai	9655767204	SAME 70E
6.	Tractor TN 55G 0210	Woking	Asst.Exe.Engr., Karaikudi	9443685325	MF 245

Details of Equipments

Sl.No	Details	Lorry	Bull Dozer	JCB	Tractors	Powersaw	Saw	Crow bar	Labour	Axe	Pans	Manvetty	Sand (cum)	Sand Bags	Wooden poles	Generator	Pumpset
1.	Available with Department	2	-	-	-	-	12	35	277	9	120	85	-	1000	600	-	-
2.	Identified and to be hired if necessary	7	5	10	10	5	36	-	-	11	45	50	120	-	-	5	5
	Total	**9**	**5**	**10**	**10**	**5**	**48**	**35**	**277**	**20**	**165**	**135**	**120**	**1000**	**600**	**5**	**5**

Annexure-VII

Chart of the Sendai Framework for Disaster Risk Reduction

2015-2030

Scope and purpose
The present framework will apply to the risk of small –scale, frequent, and infrequent, sudden and slow-onset disasters. caused by natural or manmade hazards as well as related environmental, technological and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors.
Expected outcome
The substantial reduction of disaster risk and losses in live. Livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons. Business, communities and countries.
Goal
Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.
Targets
Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015
Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015
Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030
Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030
Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020
Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030

Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030			
Priorities for Action			
There is a need for focused action within and across sectors by States at local, national, regional and global levels in the following four priority areas.			
Priority 1	**Priority 2**	**Priority 3**	**Priority 4**
Understanding disaster risk	Strengthening disaster risk governance to manage disaster risk	Investing in disaster risk reduction for resilience	Enhancing disaster preparedness for effective response, and to Build Back Better in recovery, rehabilitation and reconstruction

Disaster Risk Management

Pre-disaster activities				**Post-disaster activities**	
Risk Identification	**Mitigation**	**Risk transfer**	**Preparedness**	**Emergency response**	**Rehabilitation - reconstruction**
Hazard assessment (frequency, magnitude, location)	Structural and non-structural works and actions	Insurance, reinsurance of public infrastructure and private assets Financial market instruments (catastrophe bonds, weather-indexed hedge funds) public services with safety regulation(e.g. energy, water, transportation)	Warning systems, communication systems, protocols	Humanitarian assistance	Rehabilitation, reconstruction of damaged critical infrastructure
Vulnerability assessment (population and assets exposed)	Land-use planning and building codes		Contingency planning (utility companies, public	Clean-up, temporary repairs and restoration of services	Macroeconomic and budget management (stabilization, protection of

			services)		social expenditures)
Risk assessment (function of hazards and vulnerability)	Financial incentives for preventive behavior		Networks of emergency responders (local, national)	Damage assessment and identification of priorities for recovery	Revitalization of affected sectors (e.g. exports, tourism, agriculture)
Hazard monitoring and forecasting (space-time modeling, scenario building)	Education, training and awareness about risks and prevention	Financial protection strategies	Shelter facilities, evacuation plans	Mobilization of recovery resources (public-multilateral, insurance)	Incorporation of risk management in reconstruction processes

ABBREVIATIONS

AAI	-	Airport Authority of India
AERB	-	Atomic Energy Regulatory Board
AF	-	Armed Forces
ASSZ	-	Andaman Sumatara Subduction Zone
BARC	-	Bhabha Atomic Research Center
BBB	-	Building Back Better
BBC	-	British Broadcasting Corporation
BDO	-	Block Development Officer
BIS	-	Bureau of Indian Standards
BMPTC	-	Building Material & Technology Promotion Council
BPR	-	Bottom Pressure Recorder
CBDM	-	Community Base Disaster Management
CBDRM	-	Community Base Disaster Risk Management
CBO	-	Community Based Organization
CBRN	-	Chemical, Biological, Radiological and Nuclear
CII	-	Confederation of Indian Industry
CMG - DAE	-	Crisis Management Group – Department of Atomic Energy
CMP	-	Crisis Management Plan
CMWSSB	-	Chemical Metropolitan Water Supply and Sewerage Board
CRA	-	Commissioner of Revenue Administration
CSC	-	Common Service Centers
CWC	-	Central Water Commission
DCG	-	District Crisis Group

DDMA	-	District Disaster Management Authority
DDMP	-	District Disaster Management Plan
DEOC	-	District Emergency Operations Center
DRO	-	District Revenue Officer
DRR	-	Disaster Risk Reduction.
E&F	-	Environment & Forest Department
EAP	-	Emergency Action Plan
ECS	-	Electronic Clearance System
ERC	-	European Research Council
EWS	-	Early Warning System
GoI	-	Government of India
GSI	-	Geological Survey of India
GVK- EMRI	-	Ganapati Venkata Krishnanreddy – Emergency Management and Research Institute.
HADP	-	Hill Areas Development Programme
HFL	-	Highest Flood Level
HQ	-	Head Quarters
IAS	-	Indian Administrative Service
IAY	-	Indira Awas Yojana
ICT	-	Information and Communication Technology
IDRN	-	India Disaster Resource Network
IFS	-	Indian Forest Service
IITM	-	India Institute of Technology Madras
IMD	-	India Meteorological Department
INCOIS	-	Indian National Centre for Ocean Information Service
IOC	-	Intergovernmental Ocean Information Service

IPS	-	Indian Police Service
ITEWC	-	Indian Tsunami Early Warning Center
LCG	-	Local Crisis Group
LED	-	Light Emitting Diode
MAH	-	Major Accident Hazard
MGNREGS	-	Mahatma Gandhi National Rural Employment Guarantee Scheme
MSIHC	-	Manufacture, Storage and Import of Hazardous Chemicals
MW	-	Mega Watts
NCC	-	National Cadet Corps
NCMC	-	National Crisis Management Committee
NDRF	-	National Disaster Response Force
NEC	-	National Executive Committee
NEOC	-	National Emergency Operations Center
NGO	-	Non – Governmental Organization
NIOT	-	National Institute of Ocean Technology
NRHM	-	national Rural Health Mission
NRSC	-	National Remote Sensing Center
NSS	-	National Service Scheme
NYKS	-	Nehru Yuva Kendra Sangathan
ORS	-	Oral Rehydration Salts
PA	-	Public Addressing
PWD	-	Public Works Department (Water Resource Department)
RD&PR	-	Rural Development & Panchayat Raj Department
RMC	-	Regional Meteorological Centre

RTO	-	Regional Transport Officer
RTSP	-	Regional Tsunami Service Provider
SDMA	-	State Disaster Management Authority
SDMP	-	State Disaster Management Plan
SDO	-	Sub Divisional Officer
SDRF	-	State Disaster Response Fund
SEC	-	State Executive Committee
SEOC	-	State Emergency Operations Center
SHG	-	Self Help Groups
SOP	-	Standard Operating Procedure
SP	-	Superintendent of Police
SSA	-	Sarva Shiksa Abiyan
TANGEDCO	-	Tamil Nadu Generation and Distribution Corporation
TEL	-	Tamil Nadu Explosives Limited
TN	-	Tamil Nadu
TNEB	-	Tamil Nadu Electricity Board
TNPCB	-	Tamil Nadu Pollution Control Board
TNSDMA	-	Tamil Nadu State Disaster Management Agency
TNWRD	-	Tamil Nadu Water Resources Department
TSP	-	Tamil Nadu Special Police
TWAD	-	Tamil Nadu Water Supply and Drainage Board
UNESCO	-	United Nations Educational, Scientific and Cultural Organization
VAO	-	Village Administrative Officer
WPs	-	Water Purification System